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BUILDING A 100 PERCENT CLEAN ECONOMY: THE CHALLENGES FACING FRONTLINE COMMUNITIES

HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

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C O N T E N T S

WITNESSES

SUBMITTED MATERIAL

[1] The report has been retained in committee files and also is available at https://docs.house.gov/meetings/IF/IF18/20191120/110247/HHRG-116-IF18-20191120-SD003.pdf.

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[2] The information has been retained in committee files and also is available at https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=110247.

BUILDING A 100 PERCENT CLEAN ECONOMY: THE CHALLENGES FACING FRONTLINE COMMUNITIES

WEDNESDAY, NOVEMBER 20, 2019

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:00 a.m., in the John D. Dingell Room 2123, Rayburn House Office Building, Hon. Paul Tonko (chairman of the subcommittee) presiding.

Members present: Representatives Tonko, Clarke, Peters, Barragán, Blunt Rochester, Soto, Schakowsky, Matsui, McNerney, Ruiz, Dingell, Pallone (ex officio), Shimkus (subcommittee ranking member), Rodgers, McKinley, Johnson, Long, Mullin, Carter, Duncan, and Walden (ex officio).

Also present: Representative Rush.

Staff present: Jacqueline Cohen, Chief Environment Counsel; Adam Fischer, Policy Analyst; Anthony Gutierrez, Professional Staff Member; Rick Kessler, Senior Advisor and Staff Director, Energy and Environment; Brendan Larkin, Policy Coordinator; Mel Peffers, Environment Fellow; Mike Bloomquist, Minority Staff Director; Jerry Couri, Minority Deputy Chief Counsel, Environment and Climate Change; Margaret Tucker Fogarty, Minority Legislative Clerk/Press Assistant; Bijan Koohmaraie, Minority Counsel, Consumer Protection and Commerce; Tim Kurth, Minority Chief Counsel, Consumer Protection and Commerce; Ryan Long, Minority Deputy Staff Director; Mary Martin, Minority Chief Counsel, Energy, and Environment and Climate Change; Brandon Mooney, Minority Deputy Chief Counsel, Energy; Kate O'Connor, Minority Chief Counsel, Communications and Technology; Brannon Rains, Minority Legislative Clerk; Peter Spencer, Minority Senior Professional Staff Member, Environment and Climate Change; and Nate Wilkins, Minority Fellow, Communications and Technology.

Mr. TONKO. The Subcommittee on Environment and Climate Change will now come to order.

I recognize myself for 5 minutes for the purpose of an opening statement.

OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Our efforts to confront the climate crisis must address historic environmental injustices. A just and equitable transition is nec-

essary, but recent assessments of ongoing Federal environmental justice efforts show that much more work must be done.

Low-income communities, communities of color, and indigenous peoples already suffer disproportionate harm from the effects of pollution, and they are often at the greatest risk from the consequences of climate change.

Frontline communities and high pollution in climate-exposed areas are dealing with unsafe drinking water, harmful air pollutants, and other toxic chemical threats. In recent years, we have witnessed flooding, and severe storms disrupt coal ash pits, Superfund sites, CAFOs, and chemical facilities, all of which can put nearby communities at risk.

These toxic hazards are likely to be exacerbated in the future, as we experience more and increasingly extreme weather events. Just this week, GAO released a report finding 60 percent of Superfund sites are located in areas vulnerable to the effects of climate change.

Cleaning up and increasing the resilience of these sites should be a priority for comprehensive climate action. It will also create public health benefits and economic opportunities in these given communities. A just and equitable transition also requires giving everyone a seat at the table.

Our climate policies must make sure no person or neighborhood is left behind. That means meaningful community involvement in environmental policy, developing and implementing community-driven solutions by seeking engagement and participation with people that have been too often ignored or, indeed, bypassed.

I look forward to hearing how our efforts to confront climate change can also promote this approach to incorporate more community-driven solutions and broader efforts to promote environmental protection.

[The prepared statement of Mr. Tonko follows:]

PREPARED STATEMENT OF HON. PAUL TONKO

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A just and equitable transition is necessary.

But recent assessments of ongoing Federal environmental justice efforts show that much more work must be done.

Low-income communities, communities of color, and indigenous peoples already suffer disproportionate harm from the effects of pollution and are often at the greatest risk from the consequences of climate change.

Frontline communities in high-pollution and climate-exposed areas are dealing with unsafe drinking water, harmful air pollutants, and other toxic chemical threats.

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I look forward to hearing how our efforts to confront climate change can also promote this approach to incorporate more community-driven solutions in broader efforts to promote environmental protection.

I thank our witnesses for being here today, and I yield the remaining time to the vice chairman of the subcommittee and a leader on environmental justice in Congress, Dr. Ruiz.

Mr. TONKO. I thank our witnesses for being here today, and I yield the remaining time to the vice chair of the subcommittee and a leader on environmental justice in Congress, Dr. Ruiz.

Mr. RUIZ. Thank you. Thank you, Chair Tonko. And thank you to the witnesses here today.

Environmental justice is an issue near and dear to me and my district. I grew up in a poor farm worker community in a trailer my first few years of my life, and I have experienced living in underdeveloped, underserved communities with a lot of environmental hazards.

Now, as a physician, I have treated children with asthma exacerbated by air pollution, diagnosed serious health problems that resulted from exposure to environmental waste and toxins in the community that I grew up in. And the fact is that low-income and rural communities are more likely to suffer these health problems because they are more likely to be exposed to these environmental injustices.

There is research to prove it. Environmental justice is a real issue. A study published in the New England Journal of Medicine found that exposure to fine particulate matter increased the risk of deaths for individuals in Medicaid, Medicare, and communities of color and poor populations, more than the rest of the population.

Another study published in the Health Affairs' Public Health Journal found that rural and low-income communities tend to be disproportionately affected with adverse health conditions by environmental hazards.

I also have the stories of my constituents to prove it. Schools, like the ones in Thermal, California, and the Coachella Valley Unified School District—my alma maters—in my district were forced to shut their doors for a week because of students exposed to smoke from a company that was never permitted to function, burning mulch in the open area, and individuals now who are without drinking water because arsenic was found in their water. And this must end.

So we must ensure that every person in America has access to clean water to drink and clean air to breathe. It is not a privilege just for the affluent few. It is a common good and a right for everyone, and we must protect underserved communities from decisions that allow unscrupulous, irresponsible companies to come in, pollute the environment, and then leave without any accountability.

And if it happens, we must make sure we develop mechanisms to hold polluters accountable, ensure proper consultation with vulnerable communities, and strengthen mitigation and cleanup plans that follow a public health approach.

This is why I have introduced the most comprehensive environmental justice bill, H.R. 3923, the Environmental Justice Act of

2019, which requires agencies to consider the environmental justice implications of their programs, policies, and activities, helping ensure that we protect our communities, empower them to hold bad accounts accountable, and to protect vulnerable populations.

And I look forward to working with members of this committee on commonsense solutions to address environmental injustices.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes Mr. Shimkus, ranking member for the Subcommittee on Environment and Climate Change, for 5 minutes for his opening statement, please.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. Good morning, Mr. Chairman, and thank you for the time. We want to welcome our two panels. We have been working hard on this committee and the full committee, so if we—so please be patient with us as we try and get through this morning.

The focus of today's hearing, as the majority explained in a hearing memo, is "to examine environmental justice and the impact of climate change and extreme events on legacy toxic exposures." And there is also a lot packed into this subject and into the topic of environmental justice generally.

Environmental justice is often associated, as we all know, with complex circumstances involving local social, economic, and governmental factors. These factors and their real impact on people, which many of us witness in our own districts, present practical challenges that go well beyond the jurisdiction of this panel, and in many cases the Federal Government.

However, our policy work on air quality and safe drinking water, various forms of environmental cleanup and community revitalization, or on what is necessary to more fully address future hazards and climate risks should aim to prioritize the most pressing problems as well as aim to have a positive impact on all communities, regardless of race, income, or location.

Today's hearing will help answer questions about the specific roles of the EPA and how its various missions and programs ensure implementation of the principles of environmental justice, defined by the Agency as the fair treatment and meaningful involvement of all people and communities with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

The first panel today features a broad perspective of the Government Accountability Office on the state of Federal policies and testimony from two key officials at the EPA responsible for implementing environmental justice policies and programs, and ensuring compliance with civil rights laws.

As the GAO observes, EPA along with other Federal agencies have been working to identify and address environmental justice issues for more than 25 years. EPA, for its part, has served at the center of this effort, convening the Federal Interagency Working Group and developing a number of initiatives in that Agency to promote environmental justice in communities and measuring progress on this front.

A core feature of environmental justice programs should be to ensure communities have the information and know how to participate in governmental activities. So it would be helpful to hear more about how EPA encourages collaboration from the Federal to the State and Tribal level, to the community level, on environmental issues.

We should examine how EPA's environmental justice office provides community assistance through grants and other resources and the impacts of that assistance. We should understand how the office promotes its policies through EPA's other program offices and regulations, such as the Safe Drinking Water Act and its related funding programs.

We have benefited from improvements we enacted into law last Congress. EPA has the expertise to identify risks and to inform and put risk in perspective for communities. I would like to understand the role of EPA's environmental justice screening tool and the uses and limits of this program for environmental justice initiatives.

EPA's land revitalization programs serve as an important mission to improve environmental quality and the economic prospects for communities. Last year, this committee strengthened and reauthorized the Brownfields Program, and I would like to hear EPA's progress on this front and what other community revitalization initiatives it is exploring.

As we look to environmental justice issues and climate risk, we should not lose sight of the role that robust local economic development can provide, especially for those who have seen industries and employment opportunities leave their communities.

We will hear important perspectives from our second panel today. I would like to highlight two witnesses who can help widen our focus on the benefits of economic revitalization and development and the challenges facing local and county governments.

Mr. Pat Ford will speak to the challenges faced by small local economic development agencies and how EPA's brownfields programs provide much-needed economic leverage for community economic development, and what that means for economically disadvantaged communities in particular.

Ms. Melissa Cribbins, a member of the Coos County, Oregon, Board of Commissioners, and speaking on behalf of the National Association of Counties, will outline challenges counties face addressing environmental issues, providing opportunities for economic development, and ensuring the resources to provide the infrastructure and services necessary for communities' health and welfare.

Thank you all for being here, and I look forward to the information and a very constructive hearing. With that, Mr. Chairman, I yield back my time.

[The prepared statement of Mr. Shimkus follows:]

PREPARED STATEMENT OF HON. JOHN SHIMKUS

The focus of today's hearing, as the majority explains in the hearing memo, is to examine environmental justice and the impact of climate change and extreme events on legacy toxic exposures.

And there is also a lot packed into subject and into the topic of environmental justice generally.

Environmental justice is often associated, as we all know, with complex circumstances involving local social, economic, and governmental factors. These factors, and their real impacts on people—which many of us witness in our own districts—present practical challenges that go well beyond the jurisdiction of this panel, and in many cases the Federal Government.

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Thank you all, and I look forward to an informative, constructive hearing.

Mr. TONKO. The gentleman yields back.

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

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

Mr. PALLONE. Thank you, Chairman Tonko. Today we continue our series of climate change hearings aimed at developing comprehensive legislation to achieve a 100 percent clean economy by 2050, and this hearing focuses on the important issue of environmental justice and the ways that climate change is exacerbating disparities and access to a clean and safe environment.

It is unfortunate, but inescapable, that where you live in this country determines the extent of the environmental health risks that you face. Air pollution, contaminated sites, waste disposal sites, and drinking water violations all impact overburdened communities.

A recent report found that more than 2 million Americans lack access to safe drinking water and sanitation. It also finds that race is the strongest predictor of access to safe drinking water. Native Americans are less likely to have a reliable drinking water supply than any other group, and this is simply not acceptable.

And climate change is only making things worse. According to the GAO, nearly two-thirds of the sites on the Superfund National Priority List are in areas that may be impacted by climate change effects, such as flooding, storm surges, wildfires, and sea level rise.

We have already seen the results. Toxic floodwaters carry pollutants from Superfund sites in the wakes of recent hurricanes, including Maria, Harvey, and Michael. And all of this disproportionally and adversely affects environmental justice communities. These communities are rural and urban. They are located in large cities and small and are found all over the country. These environmental justice communities include communities of color, coastal communities, low-income communities, and the common thread is that they do not have equal access to a safe and healthy environment.

Executive Order 12898 requires agencies across the Government to make addressing environmental justice part of their mission. And to meet that requirement, the EPA established the Office of Environmental Justice. Today, on our second panel, we will hear from the former head of the EPA office about what more can be done to strengthen environmental justice efforts at the EPA.

But, unfortunately, a recently released GAO study found that more must be done across agencies to measure progress and ensure they are addressing environmental justice. The author of that report will also testify today, along with the current EPA staff.

Another recent report by the U.S. Commission on Civil Rights found EPA has acted too slowly in response to complaints under Title VI of the Civil Rights Act and has failed to involve and protect communities from the dangers of coal ash. The Commission was unable to send someone to testify in person, but we welcome their written testimony.

We will also have the privilege today to hear from several frontline communities being impacted by legacy pollution and climate change. We will hear firsthand accounts from Puerto Rico, North Carolina, and Louisiana, and it is critically important that we hear

from impacted communities as we work towards legislation to fight climate change and address environmental justice.

And I just want to thank all of the witnesses for being here. I thank Chairman Tonko for calling this and the other hearings we are having.

I don't know if anybody else wants my time. If not, I will yield back, Mr. Chairman.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Today we continue our series of climate change hearings aimed at developing comprehensive legislation to achieve a 100 percent clean economy by 2050. This hearing will focus on the important issue of environmental justice, and the ways that climate change is exacerbating disparities in access to a clean and safe environment.

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A recent report found that more than 2 million Americans lack access to safe drinking water and sanitation. It also finds that race is the strongest predictor of access to safe drinking water. Native Americans are less likely to have a reliable drinking water supply than any other group. This is not acceptable.

And, climate change is making matters worse. According to the Government Accountability Office, nearly two-thirds of sites on the Superfund National Priority List are in areas that may be impacted by climate change effects such as flooding, storm surges, wildfires, and sea-level rise. We have already seen the results. Toxic floodwaters carried pollutants from Superfund sites in the wakes of recent hurricanes, including Maria, Harvey, and Michael.

All this disproportionally and adversely affects environmental justice communities. These communities are rural and urban. They are located in large cities and small and are found all over the Nation. These environmental justice communities include communities of color, coastal communities, and low-income communities. The common thread for these communities is that they do not have equal access to a safe and healthy environment.

Executive Order 12898 requires agencies across the government to make addressing environmental justice part of their mission. To meet that requirement, the Environmental Protection Agency (EPA) established the Office of Environmental Justice. Today, on our second panel, we will hear from the former head of that EPA office, about what more can be done to strengthen Environmental Justice efforts at EPA.

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I thank all the witnesses for taking the time to be here today, and I thank the subcommittee chairman for calling this hearing.

Mr. TONKO. The chairman yields back.

The Chair recognizes Mr. Walden, our ranking member of the full committee, for 5 minutes for his opening statement, please.

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

Mr. WALDEN. Thank you very much, Mr. Chairman. Good morning, and good morning to our witnesses and guests.

Today's hearing seeks to examine the challenges of climate change risks and how they may intensify existing economic and environmental risks in our Nation's vulnerable communities. It is a good hearing to have, Mr. Chairman.

Communities around the Nation at various times must confront flooding, extreme weather, forest fires, other events, and if these communities do not have the ability to prepare for, respond to, or recover from those events, the human harm and economic costs are breathtaking.

Almost exactly 2 years ago, as chairman of the full committee, I led a bipartisan delegation, including Mr. Pallone, Mr. Shimkus, Ms. DeGette, on this panel, to review the response and recovery efforts in Puerto Rico, following the devastating hurricanes that season. The island's already decrepit electrical infrastructure was wiped out. Longstanding governance issues and other Federal and local challenges delayed recovery, which led to the longest-lasting power outage in American history, and all of the resulting misery and harm from that lack of energy.

The heart-wrenching bottom line was communities on the island did not have the adaptive capacity or resources to withstand and rapidly recover from the direct hit of a major hurricane.

We have worked to improve the situation there, but I expect we will hear this morning that a lot more needs to be done, and that the environmental problems have intensified. Mr. Chairman, I would suggest that we repeat a trip down to Puerto Rico to see firsthand. We learned a lot when we went.

The lack of resources and lack of planning are common issues we must confront when preparing for future risks. This is more urgent for so-called frontline communities, those that are economically disadvantaged and have environmental burdens and limited resources to provide for those in need.

Our goal here should be to ensure economically disadvantaged communities have the tools and resources to help address local environmental risks, and the resources to ensure compliance with environmental standards and provide resilience to future hazards. We must focus on preparation and adaptation.

The ingredients for accomplishing this come from policies that encourage and foster economic growth and that ensure communities have the information, practices, and resources to address their unique and specific needs.

We will hear today on the second panel from Pat Ford, an expert in economic development, who will talk about his experience on how EPA and the Department of Commerce programs can help resurrect economic hope and address environmental concerns in economically disadvantaged frontline communities. His experience helping towns suffering from industrial collapse and loss of tens of thousands of manufacturing jobs, and all the social and health impacts that come from that, speaks to the promise of economic revitalization in these communities.

The approaches here apply to communities with all manner of economic and environmental strain. In my own State of Oregon, years of mismanagement or lack of management on our Federal forests have exacerbated the damage and health impacts from wildfires. Meanwhile, mills closed, jobs disappeared, communities were left without the resources to provide essential services. And, again, we have worked to address these issues at the Federal level, but, heavens, there is so much more we need to do.

We will hear from Melissa Cribbins from Coos County, Oregon, who will speak to the challenges of that region and what they have been recovering from, economic decline, and how they must balance local environmental concerns and the need for jobs and economic resources necessary to provide for their community members.

And, of course, on our first panel, we should sort through the EPA how its programs and assistance targeted to ensure environmental justice helps answer the needs for these frontline communities.

Mr. Chairman, whether to address climate change risks or current economic and environmental risks, our focus should be on practical steps to increase the economic and adaptive capacities of these communities and of our country. We demonstrated this in our bipartisan work to reauthorize the EPA's Brownfields Program in the last Congress, which you were a big part of.

Let's identify other bipartisan programs that leverage local knowledge, innovation, and economic health, and let's make sure disadvantaged communities have access to all of the tools and programs offered by EPA and other agencies to make lives better and safer for their residents.

Mr. Chairman, again, thank you for holding this hearing. There is a lot of work we can do together in this space, and I yield back the balance of my time.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

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The ingredients for accomplishing this come from policies that encourage and foster economic growth and that ensure communities have the information, practices, and resources to address their specific needs.

We will hear today on the second panel from Pat Ford, an expert in economic development, who will talk from his experience how EPA and Department of Commerce programs can help resurrect economic hope and address environmental concerns in economically disadvantaged, frontline communities. His experience helping towns suffering from industrial collapse and loss of tens of thousands of manufacturing jobs, and all the social and health impacts from that, speaks to the promise of economic revitalization in these communities.

The approaches here apply to communities with all manner of economic and environmental strain. In my own State of Oregon, years of mismanagement on our Federal forests have exacerbated the damage and health impacts of wildfires. Meanwhile, mills closed, jobs disappeared, and communities are left without the resources to provide essential services. Again, we have worked to address these issues at the Federal level, but there remain local circumstances that will require local solutions.

Melissa Cribbins, from Coos County, Oregon, can speak to the challenges of a region that has been recovering from economic decline, and how they must balance local environmental concerns and the need for jobs and economic resources necessary to provide for their community members.

And of course, on our first panel, we should sort through with EPA how its programs and assistance targeted to ensure environmental justice helps answer the needs for those frontline communities.

Mr. Chairman, whether to address climate change risks or current economic and environmental risks, our focus should be on practical steps to increase the economic and adaptive capacity of these communities, and the Nation.

We demonstrated this in our bipartisan work to reauthorize EPA's Brownfields Program in the last Congress. Let's identify other bipartisan programs that leverage local knowledge, innovation, and economic health. And let's make sure disadvantaged communities have access to all the tools and programs offered by EPA and other agencies to makes lives better for their residents.

Thank you, and I yield back.

Mr. TONKO. Thank you. The gentleman yields back.

The Chair would like to remind Members that, pursuant to committee rules, all Members' written opening statements shall be made part of the record.

I now will introduce our witnesses for the first panel. We have, let's see, starting to my far left, Ms. Lillian Sotolongo Dorka, Director of the External Civil Rights Compliance Office with United States Environmental Protection Agency. Seated next to her we have Ms. Helena Wooden-Aguilar, Deputy Associate Administrator, Office of Policy, with the United States Office of—Environmental Protection Agency. And then, finally, Mr. Alfredo Gómez, Director, Natural Resources and Environment, with the United States Government Accountability Office.

Thank you to each and every one of you for joining us.

Before we begin, I would like to explain the lighting system. In front of you are a series of lights. The light will initially be green at the start of your opening statement. The light will turn yellow when you have 1 minute remaining. Please begin to wrap up your testimony at that point. The light will turn red when your time has expired.

At this time, the Chair will now recognize Mr. Gómez, I believe, for—oh, OK. I am sorry. We are going to start with Ms. Dorka. You are recognized for 5 minutes, please.

STATEMENTS OF LILIAN SOTOLONGO DORKA, DIRECTOR, EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE, OFFICE OF GENERAL COUNSEL, ENVIRONMENTAL PROTECTION AGENCY; HELENA WOODEN-AGUILAR, DEPUTY ASSOCIATE ADMINISTRATOR, OFFICE OF POLICY, ENVIRONMENTAL PROTECTION AGENCY; AND J. ALFREDO GÓMEZ, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

STATEMENT OF LILIAN SOTOLONGO DORKA

Ms. SOTOLONGO DORKA. Good morning, Chairman Tonko, Ranking Member Shimkus, and distinguished members of the subcommittee.

My name is Lilian Sotolongo Dorka, and I am the Director of EPA's External Civil Rights Compliance Office. I have been working in the civil rights enforcement arena for over 30 years and consider it my life's work. Prior to coming to EPA in December of 2014, I worked with the U.S. Department of Education's Office for Civil Rights for over 27 years, serving in various roles, including as a senior counsel to the Assistant Secretary for Civil Rights for over 10 years.

I thank you for the privilege of appearing before you today and look forward to sharing information about ECRCO's civil rights role, our recent accomplishments, and our commitment to ensuring that the promise of EPA's mission—the protection of human health and the environment—is available to all persons in the United States, regardless of race, color, national origin, disability, sex, or age.

ECRCO enforces several Federal civil rights laws, and we do this by investigating and resolving complaints, discrimination complaints, developing policy, conducting proactive compliance initiatives and reviews, and providing technical assistance to recipients and outreach to communities.

EPA has made significant strides in achieving its external civil rights mission through the hard work and dedication of our civil rights staff. Over the past 3 years, we have keenly focused our energy and resources on the management of the complaint docket, including addressing in full our docket of overaged cases, and markedly improving our case processing times for our new cases.

We have undertaken these improvements while continuously emphasizing the quality and effectiveness of our complaint resolutions and achieving successful outcomes for recipients as well as communities they serve.

EPA's nondiscrimination regulation has strict timeframes that for years we were not meeting, and we were faced with a sizeable docket of overaged cases. As an example, by the end of 2016, we had 61 complaints pending in various stages. Most had missed all regulatory deadlines. In 2017, we received 24 more complaints, further increasing the number of unresolved cases.

This was a pivotal time for our office that called for strategic and transformational efforts. First, we developed foundational tools critical for any civil rights office, but a first for our office: a strategic plan, case resolution manual, and the compliance toolkit.

We made sure that all ECRCO staff, and our critical internal EPA partners and stakeholders, were fully trained on these documents, which we shared with our external customers by making them publicly available on our website.

Finally, our office began to make full use of all available tools, such as informal resolution of complaints, which is specifically authorized in our regulation. By December 2018, EPA had completely cleared its docket of overdue jurisdictional decisions, as well as by November of 2019 we have resolved all overaged complaints that require preliminary findings.

Moving forward, we have implemented stringent accountability measures for all of our processes, and they have yielded results. While in 2017 we issued jurisdictional decisions within the required 20 days in only 12 percent of our complaints, we are currently meeting this requirement in 100 percent of our cases. And our new cases are exceeding our internal performance measures on timeliness.

We are also acutely focused on proactive compliance assistance. We partner with all of our EPA stakeholders, including the Office of Environmental Justice, to leverage already-existing lines of communication and collaboration with recipients and communities. Our efforts have coordinated with EJ programs on a number of occasions with respect to the investigation and resolution of complaints, especially where the EJ program has worked with the relevant communities prior to the civil rights complaints.

Within the last fiscal year alone, we proactively engaged over 40 State and local agencies and organizations as well as Tribes across EPA's offices.

Finally, we have focused our resources on developing and strengthening our external civil rights workforce to ensure that they are empowered with the knowledge, skills, and tools that they need to carry out our mission and accomplish our long-lasting and effective civil rights results.

Thank you, and I look forward to your questions.

[The prepared statement of Ms. Sotolongo Dorka follows:]

TESTIMONY OF
LILIAN SOTOLONGO DORKA
DIRECTOR, EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL
U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT AND
CLIMATE CHANGE

November 20, 2019

Good morning, Chairman Tonko, Ranking Member Shimkus, Chairman Pallone, Ranking Member Walden, and distinguished members of the Subcommittee.

My name is Lilian Sotolongo Dorka and I am the Director of the U.S. Environmental Protection Agency's (EPA) Office of General Counsel's (OGC) External Civil Rights Compliance Office (ECRCO). I have been working in the civil rights enforcement arena for over 30 years and consider it my life's work. Prior to coming to EPA in 2014, I worked for the U.S. Department of Education's Office for Civil Rights since 1987, where I served in various legal, management and public relations and press capacities, including, most recently, as the Senior Counsel to the Assistant Secretary for Civil Rights for over 10 years.

I thank you for the privilege of appearing before you today and look forward to sharing information with you about ECRCO's civil rights role, ECRCO's recent accomplishments, and our commitment to ensuring that the promise of EPA's mission – the protection of human health and the environment – is available to all persons in the United States, regardless of race, color, national origin, disability, sex or age. ECRCO is responsible for enforcing several federal civil

rights laws that together prohibit discrimination on the bases of race, color, national origin (including limited English proficiency), disability, sex, and age, in programs or activities that apply for or receive financial assistance from EPA. ECRCO investigates and resolves external complaints, develops policy, conducts proactive compliance initiatives and reviews, and provides technical assistance to recipients and outreach to communities.

EPA has made significant strides in achieving its external civil rights mission through the hard work and dedication of committed civil rights staff. Over the past three years, ECRCO has keenly focused its energy and resources on effectively managing its complaint docket, including addressing in full its docket of unresolved/overaged cases and markedly improving its case processing times for new cases. ECRCO has undertaken these efficiency improvements while continuously emphasizing the quality and effectiveness of its complaint resolutions and achieving successful outcomes for recipients and the communities they serve.

EPA has faced past challenges in addressing a sizeable docket of overaged cases. EPA's nondiscrimination regulation requires that after we acknowledge receipt of a complaint, we make a jurisdiction determination within 20 days to decide whether we will accept the complaint for investigation or reject it. Additionally, the regulation requires that for complaints accepted for investigation and that remain under investigation, our office issue preliminary findings within 180 days. For years, EPA had a significant number of overaged cases. As an example, by the end of 2016, we had 61 cases pending in various stages – most of which had missed all of the regulatory deadlines. In 2017, we received 24 additional complaints, further increasing the significant number of unresolved cases.

This was a pivotal time for our office that called for significant strategic and transformational efforts. To effectively meet our civil rights mission, we put a plan in place for addressing overaged cases in a prompt and effective manner. The first step was to develop foundational accountability tools, critical for any federal civil rights office, and a first for our office. In FY 2017, we finalized three critical documents: (1) A Strategic Plan for our office that includes measurable goals to address strategic docket management, proactive compliance and technical assistance program, and develop and strengthen our staff through training, core competencies assessments and providing essential tools and resources; (2) a Case Resolution Manual that provides clear guidance to staff about how to process a complaint from start to finish; and (3) a Compliance Toolkit ("Toolkit"), which explains the application of the federal civil rights laws and the civil rights legal standards used in investigating and resolving civil rights complaints.

We made sure all ECRCO staff, as well as other critical internal EPA stakeholders in headquarters and our regions, were fully trained on these documents. In addition, we recommitted to our pledge of transparency and to timely and effective communication with our external customers - our recipients, complainants and communities -- by making all of these documents publicly available on our website, along with copies of all our case letters of finding and resolution agreements, to facilitate a better understanding of EPA's civil rights program.

Finally, but perhaps most notably, our office began to make full use of resolution tools available to us, such as the informal resolution of complaints specifically authorized in our regulation. EPA's regulation requires that it seek the cooperation of EPA recipients in securing compliance with the federal civil rights laws and that we attempt to resolve complaints informally whenever

possible. To that end, we began to more vigorously pursue voluntary informal resolution agreements with recipient agencies as quickly and effectively as possible and were able to resolve many of our overage cases through informal resolution. We also invested considerable resources in resolving cases through Alternative Dispute Resolution (ADR) which yielded comprehensive ADR Settlement Agreements between complainants and recipients and has helped to bring communities together.

We have seen these transformational efforts yield real and impactful results. By December 2018, EPA had completely cleared its docket of all overdue jurisdictional determinations and as of November 2019, we have resolved all overaged complaints that required preliminary findings.

Moving forward, EPA has implemented stringent accountability measures for all of its processes, including tracking critical process points with strict internal timeframes to ensure that we adhere to required regulatory timeframes for complaint processing and investigation and that informal resolution occurs promptly and without undue delay. EPA's progress in meeting its stated goal of becoming a model civil rights agency is noteworthy. For example, whereas in FY 2017 EPA issued jurisdictional review decisions within the 20 days required by the regulation in only 12% of our complaints, we are currently meeting this requirement in 100% percent of our complaints.

Since clearing our overaged cases, all of our "new cases" are meeting or exceeding our internal performance measures on timeliness. We currently have two cases awaiting jurisdictional review, three currently under investigation and five cases, including a compliance review, that

are being resolved with informal resolution agreements. Again, all of these are proceeding within regulatory timeframes as well as in keeping with our own internal performance measures.

Further, through skillfully crafted Informal Resolution Agreements between EPA and state and local agencies, we continue to obtain enforceable results and benefits for recipients and communities alike; while substantively addressing the civil rights issues raised in the complaints without the need for formal findings which often requires resource intensive and time-consuming investigations. EPA currently has 14 cases in monitoring as a result of entering into informal resolution agreements with various with state and local recipient agencies. When informal resolution is not possible, EPA is committed to conducting thorough investigations and issuing preliminary findings within the regulatory deadlines.

Along with its focus on complaint processing and docket management, EPA is acutely focused on proactive compliance assistance measures with its federal funding recipients. EPA does so by partnering with our EPA Headquarters and Regional Offices, including the Office of Environmental Justice (OEJ), to leverage already existing lines of communication and collaboration with state and local recipients. For example, within the last fiscal year alone, EPA proactively engaged approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA regional offices. Through technical assistance and training, we have cooperatively assisted state and local recipient agencies in strengthening the effectiveness of their civil rights programs, such as through implementing nondiscrimination coordinator positions and grievance procedures required by EPA's regulations and developing language and disability access policies and procedures.

Also, in resolving complaints over the last three years, EPA's proactive efforts have included the routine integration of foundational nondiscrimination program requirements, including procedural safeguards required by EPA's regulations and access for persons with disabilities and limited-English proficiency, into the resolution of all pending complaints. As a result, through complaint resolutions, EPA's efforts have resulted in the implementation of robust civil rights programs at over 30 different state and local recipient agencies.

In FY 2018 and into FY 2019, ECRCO undertook an initiative with EPA's Region 1 (New England) Office, which brought together ECRCO and Regional Counsel and EJ staff, along with state civil rights and EJ representatives from the six New England states, for multiple trainings and discussions. From this initiative, EPA has identified replicable "promising practices" for building strong and effective nondiscrimination programs that it can share with states and local agencies in other regions across the nation. Going forward, ECRCO has interest from two other EPA regions for similar training for their respective states (nine in total). From a national perspective, EPA anticipates that civil rights complaints and concerns that otherwise would be elevated to EPA at the federal level are more likely to be handled effectively by state recipients through robust state civil rights programs that provide prompt and fair resolution of civil rights complaints.

An additional proactive initiative is ECRCO's continued coordination and collaboration with EPA's environmental justice program. The agency-wide sharing of knowledge and experience in

identifying and responding to community concerns serves to strengthen both EPA's civil rights and environmental justice efforts.

ECRCO has coordinated with EPA's environmental justice program on a number of occasions with respect to the investigation and resolution of civil rights complaints brought under Title VI of the Civil Rights Act, especially where EPA's environmental justice program has worked with the relevant communities prior to the filing of a civil rights complaint. In addition, ECRCO has participated in meetings and conferences sponsored by EPA's environmental justice program to provide training and technical assistance to approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA Regions, on how to proactively address civil rights obligations.

This past May, ECRCO, through the Office of Environmental Justice, was invited to present at the National Environmental Justice Advisory Council (NEJAC) meeting to share information about EPA's civil rights role, accomplishments, and its commitment to ensuring that the promise of EPA's mission - the protection of human health and the environment - is available to all persons in the United States, regardless of race, color, national origin, disability, sex or age.

Also, annually for the past four years, the U.S Department of Justice has invited ECRCO to present and train at the National Environmental Justice Conference and Training Program in Washington, D.C. on such topics as limited-English proficiency, Title VI enforcement and updates on EPA's program and initiatives. These initiatives accomplish our strategic plan goals to address issues of strategic significance in civil rights areas and provide an efficient and

effective vehicle for providing states and other recipients, as well as communities, with important compliance information and assistance.

Finally, during the last three years, EPA focused its resources on developing and strengthening our EPA external civil rights workforce to ensure that our civil rights staff are engaged, motivated and empowered with the knowledge, skills, and tools they need to carry out EPA's civil rights mission. To this end, we have developed and continue to improve and implement a Competency Framework which promotes the development of a highly effective, performance-based organization. This Framework organizes the observable knowledge, skills and abilities that impact the quality of civil rights case investigation and case management. The Framework outlines the critical competencies needed by all staff at the appropriate levels of proficiency to accomplish EPA's civil rights mission as a "high performing organization." It also provides the opportunity to identify, acknowledge, and emphasize staff strengths as well as identify opportunities for growth and development through an individual development plan for each ECRCO staff member.

In addition, we continue to engage in a "One EPA" approach to fulfilling our agency's civil rights mission. ECRCO continues to work closely with experts across EPA to leverage the EPA-wide expertise, and technical support needed to address civil rights compliance. While ECRCO retains the primary authority and responsibility for carrying out the civil rights program, we can count on the commitment and support of a network of Deputy Civil Rights Officials (DCROs) throughout EPA. ECRCO engages frequently with staff in program and regional offices,

including EJ staff, on individual case matters to exchange information regarding specific programmatic, policy, regulatory, technical or scientific information relevant to cases.

ECRCO, its staff, and its internal partners are committed to fulfilling our civil rights mission and to the continuous improvement of our processes and procedures to make sure they support robust, effective, and efficient docket management. We continue to develop and hone reference and management tools that provide aspirational guidelines for achieving timely and effective processing of cases. In addition, we continue to seek opportunities for proactive engagement with recipients as well as communities – partnerships that will yield long-lasting and effective civil rights results.

As my testimony demonstrates, EPA has made substantial forward progress in accomplishing its external civil rights mission. Nevertheless, EPA's accomplishments are often overlooked and instead we are too frequently evaluated on outdated critiques and reports, including by the U.S. Commission on Civil Rights (USCCR or Commission). Although we have not yet reviewed the final report – "Are Rights Reality," we did have an opportunity to review a draft. On June 18, 2019, EPA provided USCCR with extensive comments and proposed edits to that draft. In transmitting our comments and proposed edits, we expressed concern about the significant number of inaccuracies, inconsistencies and misrepresentations about ECRCO.

As we expressed in writing to the Commission on August 22, 2019, EPA has been fully cooperative and engaged with USCCR throughout its process to ensure that we have provided complete and factually accurate information, including my in-person testimony

before the Commission on November 2, 2018, when many other agencies did not appear. Accordingly, given our transparency about past challenges and our significant forward strides, we feel it is imperative for USCCR, and other organizations, to report on EPA's civil rights program in a way which is credible, grounded in fact and based on a clear understanding of the legal framework within which EPA operates.

Thank you again for the opportunity to appear before you today. I am happy to take any questions you may have.

Mr. TONKO. Thank you very much.

And, Ms. Wooden-Aguilar, you are now recognized for 5 minutes, please.

STATEMENT OF HELENA WOODEN-AGUILAR

Ms. WOODEN-AGUILAR. Good morning, Chairman Tonko, Ranking Member Shimkus, Chairman Pallone, and Ranking Member Walden, and other distinguished members of the subcommittee.

My name is Helena Wooden-Aguilar, and I am the Deputy Associate Administrator for the Office of Policy at the U.S. Environmental Protection Agency. My responsibility as the career lead in the Office of Policy is to work with our EPA colleagues to support Agency priorities and enhance decision making throughout EPA.

I have served at EPA for more than 15 years in several roles related to environmental justice and civil rights, including as the deputy civil rights official in the Office of the Administrator. I appreciate the opportunity to testify on EPA's work to fulfill the purpose of Executive Order 12898 and achieve our core mission of protecting human health and the environment, including for vulnerable and overburdened communities across the United States.

The role of EPA in environmental justice is rooted in Executive Order 12898 and is still in effect today. The Executive order directs covered executive department and agency, including EPA, to promote and achieve environmental justice as a part of its mission. This year marks the 25th anniversary of the executive order.

Some of our recent accomplishments in this area include the following. The elevation of the Office of Environmental Justice into the Office of Policy and within the Office of the Administrator. This move strengthened and complemented our environmental justice work with the activities of our Office of Community Revitalization, which is also located in the Office of Policy.

This decision was motivated by this administration's interest in placing the Office of Environmental Justice in a position that would maximize the agency's ability to improve coordination across EPA's programs and with our Federal partners.

We also launched the Environmental Justice and Community Revitalization Council, also known as EJCRC, to provide high-level, cross-agency direction and decision making for environmental justice priorities. The EJCRC focuses on advancing the use of community-driven solutions across the Agency to achieve tangible results in communities by building upon EPA's current investments, expertise, and partnerships.

EPA's own strategic plan recognizes that a strengthened community-driven approach will make EPA a better partner and more responsive to the needs of the communities in the work we do daily, including communities in opportunity zones, thereby fostering economic growth and environmental protection. Opportunity zones are economically distressed areas that may be eligible for preferential tax treatment to encourage new economic development and job creation.

Under this administration, the Office of Environmental Justice has continued to administer our Environmental Justice Grants Program with an emphasis on new grantees. And in fiscal year 2019, we prioritized resiliency and emergency response.

Also, in fiscal year 2019, EPA provided more than $60 million in brownfield grants funding to communities across the country to assess, clean up, and redevelop underutilized properties.

The Office of Environmental Justice also partners with the External Civil Rights and Compliance Program. For example, together we have provided training and technical assistance to approximately 40 State agencies and organizations and Tribes across all 10 EPA regions on how to proactively address civil rights obligations and environmental justice.

In addition to the EPA-led work across our programs and regions, we continue to engage with external partners to address environmental justice. Two forums for this engagement include our National Environmental Justice Advisory Committee, to which we just appointed new members today, and the Environmental Justice Interagency Working Group, or IWG, which includes more than a dozen Federal departments and agencies. EPA serves as the chair to the IWG and takes this responsibility seriously.

Over the past 2 years, we have been engaged with the Government Accountability Office, or GAO, on their review of EPA's executive branch's fulfillment of the purpose of the Executive order. We appreciate the GAO's report last month that included recommendations to strengthen the IWG.

EPA is committed to assisting vulnerable and overburdened communities. Thank you again for the opportunity to appear before you, and I am happy to take any questions.

[The prepared statement of Ms. Wooden-Aguilar follows:]

TESTIMONY OF
HELENA WOODEN-AGUILAR
DEPUTY ASSOCIATE ADMINISTRATOR
OFFICE OF POLICY
U.S. ENVIRONMENTAL PROTECTION AGENCY
HEARING ONENVIRONMENTAL JUSTICE AND CIVIL RIGHTS

BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

November 20, 2019

Good Morning Chairman Tonko, Ranking Member Shimkus, Chairman Pallone, Ranking Member Walden, and other distinguished members of the Subcommittee.

My name is Helena Wooden-Aguilar and I am the Deputy Associate Administrator for the Office of Policy at the U.S. Environmental Protection Agency. My responsibility as the career lead in the Office of Policy is to work with our EPA colleagues to support agency priorities and enhance decision-making throughout EPA's programs.

I have served at EPA for more than 15 years in several roles related to environmental justice and civil rights, including as the Deputy Civil Rights Official in the Office of the Administrator. I appreciate the opportunity to testify on EPA's work to fulfill the purpose of the Executive Order 12898 and achieve our core mission of protecting human health and the environment, including for vulnerable and overburdened communities across the United States.

Overview of Office of Environmental Justice

The role of EPA in environmental justice is rooted in Executive Order 12898, *Federal Actions to*

Address Environmental Justice in Minority Populations and Low-Income Populations, which is still in effect today. Executive Order 12898 directs each covered executive department and agency, including EPA, to promote and achieve environmental justice as part of its mission.

This year marks the 25th anniversary of the Executive Order. Some of our more recent accomplishments in this area include the following:

The elevation of the Office of Environmental Justice into the Office of Policy within the Office of the Administrator. We took this step last year to ensure that environmental justice is considered throughout all EPA programs. This move strengthened and complemented our environmental justice work with the activities of our Office of Community Revitalization (formerly the Office of Sustainable Communities), which is also located in the Office of Policy. This decision was motivated by this Administration's interest in placing the Office of Environmental Justice in a position that would maximize the agency's ability to improve coordination across EPA's programs and with our federal partners.

We also launched the Environmental Justice and Community Revitalization Council, also known as EJCRC, to provide high-level, cross-agency direction and decision-making for environmental justice priorities. The EJCRC focuses on advancing the use of community-driven solutions across the agency to achieve tangible results in communities by building upon EPA's current investments, expertise, and partnerships.

EPA's Strategic Plan recognizes that a strengthened community-driven approach will make EPA a better partner and more responsive to the needs of the communities in the work we do daily.

We will continue to provide technical assistance and meaningful engagement to economically distressed communities, including Opportunity Zones, thereby fostering economic growth and environmental protection. Opportunity Zones are a tool that environmental justice communities could use to leverage private investment in economically distressed communities, bringing both economic revitalization and environmental improvement.

I am pleased to highlight that, in late October, EPA announced the selection of 26 organizations to receive a total of $5.1 million in Brownfields grants for environmental job training programs across the country. All 26 organizations will serve communities located in Opportunity Zones. In addition, our Brownfields program provided substantial grant funding to help communities revitalize brownfields sites, recognizing that putting these properties back into use creates many economic and environmental benefits throughout communities. In FY 2019, EPA provided more than $60 million in Brownfields grant funding to communities across the country to assess, clean up and redevelop underutilized properties.

Under this Administration, EPA's Office of Environmental Justice has issued $3.9 million in grants in the form of Small Grants and Collaboration Problem Solving Cooperative Agreements. In FY2019, EPA prioritized projects focused on disaster resiliency and emergency preparedness. Sixteen of the FY 2019 EJ grantees are leading projects focused on building the resilience of their local communities to these natural disasters. Earlier this month, on November 5th, EPA awarded $1.5 million in grants to 50 organizations across the country working to address environmental justice challenges in their communities. Fifty percent of those grants will support

communities located in Opportunity Zones.

Just last week, on November 13th, EPA announced the availability of $1.2 million under the Environmental Justice Collaborative Problem-Solving program. These funds will be distributed to ten community-based organizations nationwide working to address environmental justice issues in underserved and overburdened communities. This grants program requires that communities work in collaboration with multiple partners from different stakeholder categories such as local government, business and industry, and academia. EPA will be accepting applications from interested organizations until February 7, 2020.

The Office of Environmental Justice also partners with the External Civil Rights and Compliance Program, or ECRCO. For example, we have coordinated with ECRCO on several occasions with respect to the investigation and resolution of civil rights complaints brought under Title VI of the Civil Rights Act. Both the Office of Environmental Justice, along with ECRCO, together have provided training and technical assistance to approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA Regions, on how to proactively address civil rights obligations and environmental justice.

GAO Recommendations and Implementation

EPA serves as the chair of the Federal Interagency Working Group on Environmental Justice, also referred to as the EJ IWG. In this role, we facilitate collaboration among federal departments and agencies.

Over the past two years, we have been engaged with the Government Accountability Office on their review of EPA and the Executive Branch's fulfillment of the purpose of Executive Order 12898. Past GAO recommendations have been very helpful in supporting our efforts to continually increase our knowledge and capacity to advance environmental justice in agency programs and activities.

Their most recent effort focused on EPA's role as the chair of the EJ IWG, and on the activities of EJ IWG member agencies to integrate environmental justice into their programs and activities. We have very much appreciated the level of engagement, communication, and thoroughness we experienced with GAO staff throughout their work.

We agree that implementation of these recommendations will help strengthen the ability of the EJ IWG and its member agencies to strategically prioritize, measure, and evaluate their success at integrating environmental justice considerations into their programs and activities. EPA will provide leadership during this process and all decisions and products will be the result of a collaborative process involving all EJ IWG members. We aim to complete this work by the end of Fiscal Year 2020.

Conclusion

EPA recognizes that the EJ IWG still has work to do, and we are committed to addressing the recommendations made by the GAO. With EPA at the helm, I am confident that we will be able to address all the open recommendations and concerns identified by the GAO.

In addition to the highlights I have shared today, our core work in environmental justice continues and the progress could not be achieved without our dedicated and talented staff here at the EPA who are working hard to improve outcomes in communities across the country and ensure that they have a cleaner, healthier and more prosperous future.

Thank you again for the opportunity to appear before you today. I am happy to take any questions you may have.

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Mr. TONKO. Thank you very much.

And now we will move to recognize Mr. Gómez for 5 minutes, please, to provide your opening statement.

STATEMENT OF J. ALFREDO GÓMEZ

Mr. GÓMEZ. Chairman Tonko, Ranking Member Shimkus, and members of the subcommittee, good morning. I am pleased to be here today to discuss our September 2019 report on environmental justice efforts.

It has already been noted that environmental justice seeks to address the disproportionally high distribution of health and environmental risks among low-income and minority communities, and it does this by seeking their fair treatment and meaningful involvement in environmental policy.

The 1994 Executive order directed 11 Federal agencies to identify and address environmental justice issues related to their activities and establish an interagency working group to coordinate their efforts. In 2011, these agencies and five others signed a memorandum of understanding recommitting to planning and reporting on environmental justice efforts.

Today, I will discuss the actions that agencies have taken to address environmental justice issues, their progress in identifying and addressing these issues, and the working group's efforts to coordinate environmental justice activities.

Most agencies that are members of the Interagency Working Group reported taking some actions to identify and address environmental justice issues. For example, this includes the EPA mapping tool to identify low-income and minority communities exposed to health or environmental risks.

Also, several agencies, such as EPA and the Departments of Justice, Homeland Security, and the Interior, developed policies or guidance to analyze environmental justice issues during environmental reviews or enforcement activities. Several agencies have taken actions to help build community capacity. For example, since 1994, the EPA has awarded more than $24 million in environmental justice grants to over 1,400 organizations with communities.

So, while agencies have been taking actions, their progress towards environmental justice is difficult to gauge, and this is because most do not have updated strategic plans and have not reported annually on their progress or developed methods to assess progress. As they agreed to do in the 2011 MOU, most of the agencies developed environmental justice strategic plans, but only six have updated them more recently.

Also, most agencies have not established measures for assessing progress towards their goals. The working group has not provided guidance to help agencies with such measures or assessments. Performance measures are important for tracking progress in achieving goals and are a key element of effective strategic planning.

So turning to the working group and its coordination of Federal activities, we found that the working group has coordinated to some extent. For example, it has developed committees such as the Rural Communities and Goods Movements committees. It has also

developed guidance in such areas as including environmental justice in agencies' NEPA analyses.

However, the working group is not carrying out several functions in the 1994 Executive order. This is because the working group's organizational documents do not contain clear strategic goals that are aligned with the Executive order. Clear strategic goals to carry out the Executive order could enhance the group's strategic direction for intergovernmental environmental justice efforts.

Further, participation in the working group and its committees has been mixed. Eleven of the 16 agencies have not chaired or cochaired one of the nine committees. Participation of relevant agencies is important to the success of collaborative efforts such as the Interagency Working Group.

So, in total, we made 24 recommendations, including that agencies update their environmental justice strategic plans and report on progress annually. We recommended that EPA consult with other working group members to provide guidance on methods or measures to address progress in achieving their environmental justice goals. We also recommended that EPA and other agencies set strategic goals to guide the overall Federal effort to carry out the Executive order.

In conclusion, incorporating environmental justice into Federal agencies' policies, programs, and activities is a long-term and wide-ranging effort. Federal agencies have made some headway in developing tools and coordinated policies. Strategic planning and reporting with meaningful measures can help them make and track progress.

So, Chairman Tonko, Ranking Member Shimkus, this concludes my statement, and I am happy to answer questions.

[The prepared statement of Mr. Gómez follows:]

United States Government Accountability Office

Testimony

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ENVIRONMENTAL JUSTICE

Federal Agencies Could Benefit from a Strategic Approach to Assess Progress

Statement of J. Alfredo Gómez,
Director, Natural Resources and Environment

Chairman Tonko, Ranking Member Shimkus, and Members of the Subcommittee:

Thank you for the opportunity to discuss our report on federal environmental justice efforts.[1] Environmental justice seeks to address the disproportionately high distribution of health and environmental risks among low-income and minority communities by seeking their fair treatment and meaningful involvement in environmental policy.[2] In 1994, Executive Order 12898 directed 11 federal agencies to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.[3] The executive order also directed the agencies to each establish an environmental justice strategy and create a working group of federal agencies to coordinate federal environmental justice efforts. In 2011, 16 federal agencies signed a memorandum of understanding (MOU) agreeing to participate in federal efforts in this area as members of the Interagency Working Group on Environmental Justice and to issue annual progress reports on their efforts.[4]

However, research continues to indicate a nationwide problem concerning how environmental and health risks disproportionately affect minority and low-income communities. For example, a 2018 study in the American Journal of Public Health found that minority and low-income

[1]GAO, *Environmental Justice: Federal Efforts Need Better Planning, Coordination, and Methods to Assess Progress*, GAO-19-543 (Washington, D.C.: Sept. 16, 2019).

[2]The Environmental Protection Agency describes environmental justice as seeking the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In practice, this would mean that all communities enjoy the same degree of protection from environmental and health hazards and equal access to decision-making processes.

[3]Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (Feb. 11, 1994).

[4]The 16 agencies are the Environmental Protection Agency, General Services Administration, Small Business Administration, and Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, Transportation, and Veterans Affairs. These include the 11 agencies originally named in the executive order and five additional agencies that opted to participate. The Council on Environmental Quality of the Executive Office of the President also signed the 2011 MOU.

communities in most states and counties across the country are disproportionately exposed to facilities that emit harmful air pollution (e.g., industrial or waste disposal facilities).[5]

My statement today will focus on (1) actions the working group agencies have taken to address environmental justice issues related to their missions, (2) the agencies' progress in identifying and addressing environmental justice issues related to their missions, and (3) interagency working group efforts to help agencies coordinate federal environmental justice efforts under the executive order.

My statement is based on the findings from our September 2019 report on federal efforts to carry out the 1994 Executive Order.[6] To perform the work for our report, we reviewed the executive order and 2011 MOU, agency funding data, and agency and interagency working group documents; interviewed agency officials and environmental justice stakeholders; attended an environmental justice conference; and visited two sites with environmental justice issues (Oakland, California, and Richmond, California).[7] Additional information on our scope and methodology can be found in the report.

We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Together, Executive Order 12898 and the 2011 MOU include eight areas that agencies' environmental justice efforts should address, as appropriate, including promoting enforcement of all health and

[5]Ihab Mikati, Adam F. Benson, Thomas J. Luben, Jason D. Sacks, and Jennifer Richmond-Bryant, "Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status." American Journal of Public Health vol. 108, no. 4 (2018): 480-485.

[6]GAO-19-543.

[7]We selected these sites because they had minority and low-income populations with environmental and health concerns.

environmental statutes in areas with minority populations and low-income populations and ensuring public participation.[8]

Executive Order 12898 did not create new authorities or programs to carry out federal environmental justice efforts. As a result, federal environmental justice efforts seek to use existing federal laws, programs, and funding to address environmental and health problems that disproportionately burden minority and low-income communities, such as exposure to environmental pollutants.

Such existing laws include the following:

- **Environmental laws.** Several environmental laws regulate pollutants in the air, water, or soil and generally require a regulated facility to obtain permits from EPA or a state. For example, under the Clean Air Act, EPA, along with state and local government units and other entities, regulates air emissions of various substances that harm human health. These laws also authorize the issuance of administrative orders, among other things, to require cleanup of contamination.
- **NEPA**. Under NEPA, federal agencies must evaluate the environmental impacts of their proposed major federal actions using an environmental assessment or a more detailed environmental impact statement, with some exceptions.
- **Civil Rights Act of 1964.** Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination based on race, color, or national origin in programs or activities that receive federal financial assistance. To carry out and enforce the provisions of the act, federal agencies have developed programs to receive and investigate allegations of discriminatory actions taken by recipients of federal funding.

[8]The other six areas are (1) improving research and data collection relating to the health of and environment of minority populations and low-income populations; (2) identifying differential patterns of consumption of natural resources among minority populations and low-income populations (e.g., subsistence fishing or hunting); (3) implementing the National Environmental Policy Act (NEPA); (4) implementing Title VI of the Civil Rights Act of 1964, as amended; (5) considering impacts from climate change; and (6) considering impacts from commercial transportation and supporting infrastructure (goods movement).

Working Group Agencies Reported Taking Some Environmental Justice Actions, with Limited Resources

Most working group member agencies reported planning and implementing some actions to identify and address environmental justice issues. Some examples of key activities include the following:

- **EPA mapping tool.** In 2015, EPA released its Environmental Justice Mapping and Screening Tool (EJSCREEN), a web-based mapping tool that includes environmental and demographic data at a local level. Users can identify potential exposure to environmental pollutants and related health risks across different communities. Officials from the Department of Justice told us they regularly use EJSCREEN to help determine whether cases involve environmental justice issues.
- **Incorporating environmental justice in NEPA analyses.** At least 13 agencies provided examples of efforts to consider environmental justice in their NEPA analyses. At the Department of the Interior (DOI), departmental policy requires all bureaus to include consideration of environmental justice in the NEPA process, and some bureaus have developed their own guidance for doing so. For example, DOI's 2015 National Park Service NEPA Handbook requires that the agency's environmental analyses discuss and evaluate the impact of proposals on minority and low-income populations and communities. The Department of Homeland Security also issued an agency-wide directive on NEPA implementation in 2014, and the accompanying 2014 NEPA instruction manual included public involvement requirements for populations with environmental justice issues.
- **Data initiative and reports on chemical exposure.** At the Department of Health and Human Services (HHS), the Centers for Disease Control and Prevention (CDC) built a National Environmental Public Health Tracking Network, which brings together health and environmental data from national, state, and city sources. The CDC also developed a National Report on Human Exposure to Environmental Chemicals—a series of reports that uses biomonitoring to assess the U.S. population's exposure to environmental chemicals.

As we reported in September 2019, for fiscal years 2015 through 2018, 11 of the 16 member agencies of the working group reported supporting environmental justice efforts through existing related program funding and staffing resources (i.e., resources not specifically dedicated to environmental justice, such as for civil rights or environmental programs). EPA and the Department of Energy (DOE) dedicated resources specifically for environmental justice efforts in their budgets. In fiscal year

2018, EPA provided about $6.7 million and DOE provided about $1.6 million.

Progress toward Environmental Justice Is Difficult to Gauge

Agencies' progress in identifying and addressing environmental justice issues related to their missions is difficult to gauge because most of the agencies do not have updated strategic plans and have not reported annually on their progress or developed methods to assess progress.

Most Agencies Have Strategic Plans with Goals but Have Not Recently Updated Them

As we reported in September 2019, 14 of the 16 agencies issued environmental justice strategic plans after they signed the 2011 MOU agreeing to develop or update such plans. Of the 14 agencies that issued their plans, 12 established strategic goals in these plans. Six of the 14 agencies further updated their plans in 2016 or 2017, and another agency published updated priority areas on its website. The Department of Defense (DOD), which issued a plan in 1995, has not updated it since, and the Small Business Administration (SBA) has never issued a plan. DOD officials said that the agency has not prioritized environmental justice efforts. SBA officials said the agency is uncertain whether it has a role in implementing environmental justice and they were reviewing whether SBA should continue its membership in the working group.[9]

The 2011 MOU directs agencies to update their strategic plans periodically, and leading practices for strategic planning suggest that strategic plans should be updated every 4 years.[10] We have previously reported that strategic planning serves as the starting point and foundation for defining what an agency seeks to accomplish, identifying the strategies it will use to achieve desired results, and then determining how well it succeeds in achieving goals and objectives.[11] In our

[9]Because SBA has never issued a strategic plan, in our September 2019 report, we recommended that SBA complete its assessment of whether to participate in the 1994 Executive Order and the 2011 Memorandum of Understanding, and, if appropriate, develop an environmental justice strategic plan.

[10]The Government Performance and Results Act Modernization Act of 2010 requires that federal agencies update their strategic plans every 4 years. We have previously reported that the act's requirements also can serve as leading practices for strategic planning at lower levels within federal agencies. See, for example, GAO, *Coast Guard: Actions Needed to Enhance Performance Information Transparency and Monitoring*, GAO-18-13 (Washington, D.C.: Oct. 27, 2017).

[11]GAO, *Agencies' Strategic Plans under GPRA: Key Questions to Facilitate Congressional Review,* GAO/GGD-10.1.16 (Washington, D.C.: May 1, 1997).

September 2019 report, we recommended that eight agencies update their environmental justice strategic plans. Four agencies agreed, three did not state if they agreed or disagreed, and one disagreed. Education stated that it does not believe this is the most appropriate course of action for the department or an efficient use of resources, but we continue to believe they should implement the recommendation.

Most Agencies Have Not Consistently Issued Progress Reports and Do Not Have Methods to Assess Progress

As we reported in September 2019, 12 of the 16 agencies developed environmental justice strategic plans with strategic goals, but most of the agencies have not shown clear progress toward achieving these goals and the purpose of the executive order. It is difficult to gauge the agencies' progress for three primary reasons:

1. **The agencies have not comprehensively assessed how environmental justice fits with their overall missions.** Seven of the 14 agencies that developed environmental justice strategic plans assessed and discussed how their environmental justice efforts aligned with their overall missions after 2011. However, the other seven agencies did not clearly show how their efforts aligned with their missions. We recommended that EPA, as chair of the working group, should develop guidance for the agencies on what they should include in their environmental justice strategic plans. EPA agreed with this recommendation.
2. **The agencies have not consistently issued annual progress reports.** Fourteen agencies issued at least one progress report after 2011, but most have not issued such reports every year, as they agreed to do in the 2011 MOU. The departments of Homeland Security and Justice issued progress reports every year from 2012 through 2017. The General Services Administration issued progress reports every year through 2015 and then issued one progress report covering fiscal years 2016 through 2018. Several other agencies consistently reported in the first few years after 2011 but then stopped issuing reports. DOD and SBA have not issued any progress reports.

   We have found that annual program performance reports can provide essential information needed to assess federal agencies' performance and hold agencies accountable for achieving results.[12] We recommended that 11 agencies report on their progress annually.

[12]GAO, *Managing For Results: Enhancing Agency Use of Performance Information for Management Decision Making*, GAO-05-927 (Washington, D.C.: Sept. 9, 2005).

Five of the agencies agreed with this recommendation, one partially agreed, three did not state if they agreed or disagreed, and two said they did not agree. Education stated that it does not believe this is the most appropriate course of action for the department or an efficient use of resources, and DOD stated that it did not see a tangible benefit to additional reporting. We continue to believe that they should implement the recommendation.

3. **Most agencies have not established methods for assessing progress toward goals.** The agencies' progress reports generally describe the environmental justice activities they conducted but do not include any methods to assess progress (e.g., performance measures). For the 14 agencies that issued at least one progress report since 2011, we reviewed the most recent report and found that each report contained information on activities that agency undertook over the previous year. However, our analysis showed that most of the agencies had not established a method that would allow them to assess their progress toward their environmental justice goals, such as tracking performance measures or milestones.[13] Of the 16 agencies that signed the 2011 MOU, four—the Departments of Agriculture (USDA), Health and Human Services (HHS), and DOI and EPA—have established performance measures or milestones for their environmental justice efforts. Of these four, HHS and EPA have reported on their progress toward achieving their performance measures or milestones. The other 12 agencies have not established any performance measures or milestones.

   The executive order directs the working group to provide guidance to agencies in developing their environmental justice strategies. However, the working group has not provided such guidance on methods to assess and report on environmental justice progress, according to EPA officials. According to these officials, EPA is still pursuing its own agency-wide performance measures. We recommended that EPA, as chair of the working group, develop

[13]According to Office of Management and Budget (OMB) guidance, performance measures are a means of evaluating efficiency, effectiveness, and results. The guidance also describes different types of these measures, including outcome measures—indicating an agency's progress toward achieving the intended results of its efforts—and output measures—usually expressed quantitatively and describe the level of activities that will be provided over a period of time (e.g., the number of meetings held or the number of people trained). See Office of Management and Budget, Circular No. A-11, Part 6, Federal Performance Framework: Strategic Planning, Annual Performance Plans and Reports, Priority Goals, Performance Reviews, Customer Experience, and Program and Project Management (Washington, D.C.: June 2018).

guidance or create a committee of the working group to develop guidance on methods the agencies could use to assess progress toward their environmental goals. EPA agreed with this recommendation.

Working Group Has Coordinated to Some Extent but Does Not Have a Strategic Approach or Full Participation

We found that the interagency working group has coordinated to some extent but does not have a strategic focus or full participation by all the federal agencies. Executive Order 12898 directed the working group to coordinate in seven functions, including to assist in coordinating data collection and examine existing data and studies on environmental justice.[14] In 2016, the working group released its *Framework for Collaboration*, which describes how it planned to provide guidance, leadership, and support to federal agencies in carrying out environmental justice efforts. The working group has collaborated to develop and issue guidance on several topics, participated in a variety of public meetings to provide information and opportunities for communities to discuss environmental justice issues, and coordinated ways in which the 16 member agencies and the Council on Environmental Quality (CEQ) could assist communities. For example, the working group created nine committees, including on Native American and Indigenous Peoples, Rural Communities, and Climate Change, based on the seven functions in the executive order and on public input, to help carry out its environmental justice responsibilities under the executive order.[15] Officials from 13 member agencies agreed to either chair or become members of one or more committees.

[14]The other five functions are (1) provide guidance to federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations,(2) coordinate with, provide guidance to, and serve as a clearinghouse for each federal agency as it develops an environmental justice strategy, in order to ensure consistent administration, interpretation, and enforcement of programs, activities, and policies, (3) assist in coordinating research by, and stimulating cooperation among, EPA, the Department of Health and Human Services (HHS), the Department of Housing and Urban Development (HUD), and other agencies conducting certain research, data collection, or analysis, (4) hold public meetings, and (5) develop interagency model projects on environmental justice that demonstrate cooperation among federal agencies.

[15]The nine committees are Public Participation, Regional Interagency Working Group, Strategy and Implementation Progress Report, Title VI of the Civil Rights Act, Native Americans/Indigenous Peoples, Rural Communities, Impacts from Climate Change, Impacts from Commercial Transportation, and National Environmental Policy Act.

Through these committees, among other things, the working group has released a number of documents to help guide federal efforts:

- A compendium on publicly available federal resources to assist communities impacted by goods movement activities, released in 2017.
- Guidance to help federal agencies incorporate environmental justice during their NEPA reviews, issued in March 2016, and guidance to communities about NEPA methods, issued in March 2019.
- A web page, which USDA compiled and launched in fiscal year 2017 with input and vetting from the Rural Communities committee, that provides links to community tools, funding opportunities, educational and training assistance, and case studies to support rural communities, according to USDA officials.

However, we found that the working group's organizational documents—the 2011 MOU, the working group's 2011 charter, and the 2016-2018 *Framework for Collaboration*—do not provide strategic goals with clear direction for the committees to carry out the functions as laid out in the executive order. In September 2012, based on a government-wide study, we reported that collaborative mechanisms such as working groups benefit from clear goals to establish organizational outcomes and accountability.[16] We reported that participants may not have the same overall interests or may even have conflicting interests, but by establishing a goal based on common interests, a collaborative group can shape its own vision and define its purpose.

The working group has developed some documents with agreed-upon goals, which is beneficial to collaboration, but none of these documents address all seven functions of the executive order. In our September 2019 report, we compared the functions of the executive order to documented working group roles and responsibilities and found that coordinated data collection and examination of research and studies on environmental justice are not included in these documents or committee purposes and have not been a focus of the interagency working group since at least 2011.

[16]GAO, *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, GAO-12-1022 (Washington, D.C.: Sept. 27, 2012).

EPA officials said some agencies, such as HHS and EPA, have done work in environmental justice data collection and research. EPA officials told us that the 2011 MOU, committee groups, and *Framework for Collaboration* reflect the current priorities of the working group, based on public input. The officials were unsure whether a coordinated effort in the data collection, research, and studies areas was needed, but they said such an effort could be useful. They said that the most useful role of the working group in research might be as a forum for sharing information and providing training opportunities. In our September 2019 report, we recommended that EPA, as chair of the working group and in consultation with the working group, should clearly establish in its organizational documents strategic goals for the federal government's efforts to carry out the 1994 executive order. EPA disagreed with this recommendation because it believes that the recommendation should be combined with a different recommendation we made about updating the MOU. We believe that EPA misunderstood our recommendation and therefore did not combine it with our other recommendation.

We also found that member agencies' participation in working group activities has been mixed. In the 2011 MOU, the 16 signing agencies and CEQ agreed to participate as members of the working group, such as by chairing, co-chairing, or participating in committees. Eleven of the 16 agencies have not chaired or co-chaired one of the working group's committees, and four have not participated in any. Our government-wide work has shown that it is important to ensure the relevant participants have been included in a collaborative effort.[17] EPA officials said it is difficult to characterize what specific opportunities are missed because of an agency's lack of representation. However, they said that nonparticipation limits the working group's ability to fulfill its mandates in a strategic, methodical way across the entire federal government. EPA officials also said that the limiting factor in the working group's efforts to address the executive order has always been the will of leadership across the federal government to make clear, measurable commitments to those priorities and ensure adequate resources.

We recommended that EPA, as chair of the working group and in consultation with the other working group members, update the 2011 MOU and renew the agencies' commitments to participate in the interagency collaborative effort and the working group. EPA disagreed

[17]GAO-12-1022.

and said this recommendation could be combined with the recommendation to provide strategic direction for the working group. We continue to believe that EPA needs to update the MOU to address the matter of participation by the members who signed it but do not participate.

In conclusion, incorporating environmental justice into federal agencies' policies, programs, and activities is a long-term and wide-ranging effort. Federal agencies, led by EPA, have made some headway in developing tools and coordinated policies and have identified others that they need to pursue. Strategic planning and reporting, with meaningful measures, and collaboration across all agencies can help them make and track progress.

Chairman Tonko, Ranking Member Shimkus, and Members of the Subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contacts and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Alfredo Gómez, Director, Natural Resources and Environment, at (202) 512-3841or gomezj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. In addition to the contact named above, Susan Iott (Assistant Director), Allen Chan (Analyst in Charge), and Elise Vaughan Winfrey made key contributions to the testimony. Other staff who made contributions to this testimony or the report cited in the testimony were Peter Beck, Tara Congdon, Hannah Dodd, Juan Garay, Cindy Gilbert, Rich Johnson, Matthew Levie, Ben Licht, Cynthia Norris, Amber Sinclair, and Kiki Theodoropoulos.

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Mr. TONKO. Thank you very much.

We will now move to Member questions. I will start by recognizing myself for 5 minutes.

Over the past few months, I have had the opportunity to meet with environmental justice leaders from around the country, and thanks in part to Mr. McEachin and others for convening these meetings, I have repeatedly heard how these groups and individuals often lack resources, especially compared to the sources of pollution in their communities. Promoting community-driven solutions requires lowering barriers to participation.

And so, as I listened to your testimony, Ms. Wooden-Aguilar and Ms. Sotolongo Dorka, you talked about cleanup of past cases and keeping a rather aggressive pace. With proposed rollbacks of several programs that then share resources from EPA, with communities, if that were to happen, would that slow down that progress that you cited?

Ms. WOODEN-AGUILAR. Thank you for that question. My response is no. We will continue to adhere to the Executive Order 12898 and continue to administer grants, continue to work in communities, continue to partner with our colleagues throughout the Agency, including the External Compliance Program. And I will turn to my colleague.

Ms. SOTOLONGO DORKA. Thank you, sir, for that question. I agree with my colleague, there would be no ceasing of our desire and our ambition to meet our mission, and we would continue to work hard with whatever is appropriated by Congress. We have a mission, and we take it very seriously, and we have put into effect accountability measures to make sure that we don't roll back on our mission.

Mr. TONKO. But would that rollback of funds perhaps cause an increase in caseload? And if it does increase that caseload, will that impact your record that you cited today?

Ms. SOTOLONGO DORKA. I believe that the accountability measures that we have put in place, as well as those critical documents and the sheer dedication and hard work of our office, will in fact keep us on track. I don't foresee that even if the caseload increases that we will cease in our making progress, not just on the number of cases and the timeliness, but on the quality and effectiveness of those resolutions.

Mr. TONKO. Ms. Wooden-Aguilar, you mentioned providing technical assistance to distressed communities. But what is EPA doing to help build capacity of citizen groups, like the ones that will be represented later today, to meaningfully participate in decisions that will impact their local environment?

Ms. WOODEN-AGUILAR. Thank you for that question. So, every fiscal year, we provide environmental justice grants around the country. A part of those grants are not just, as I noted in my testimony, for resiliency and emergency response, but also to build capacity. We specifically have a grant program Problem-Solving, which focuses on capacity-building at the local level to bring forward not just these communities and the associations and the advocacy groups, but also for local government, including State and Tribals.

Mr. TONKO. Can EPA do more to help facilitate greater involvement in designing and implementing solutions by residents in underserved communities?

Ms. WOODEN-AGUILAR. Thank you, sir. EPA can always do more, and we are committed to doing more. Every day we come to work. And even with the resources that we have, we are committed in communities working with all of our partners.

Mr. TONKO. Mr. Gómez, GAO found that several agencies—and I will state that EPA was not amongst them—have failed to issue progress reports, making it difficult to evaluate their progress toward achieving the Executive order. Did GAO find that EPA has a responsibility, as chair of the Interagency Working Group, to develop guidance on what other agencies should include in their strategic plans and the tools for assessing progress?

Mr. GÓMEZ. That is correct. And also that the agencies in the 2011 memorandum of understanding committed to doing this. So the agencies have committed to doing annual progress reports and updating their strategic plans. But, yes, EPA, as the chair, can also work with the agencies to make sure that that happens.

Mr. TONKO. Thank you. And EPA agreed with GAO's recommendations to take a greater leadership role in these two areas. Is that not correct?

Ms. WOODEN-AGUILAR. Yes, sir.

Mr. TONKO. And, Ms. Wooden-Aguilar, has EPA begun to take steps to implement those recommendations?

Ms. WOODEN-AGUILAR. So EPA is committed to creating a strategic plan. We agree with the GAO, and we thank them for their recommendations. We aim to have all of this work done by the end of fiscal year 2020. So, yes, sir, we are very committed.

Mr. TONKO. And, Mr. Gómez, GAO's report stated that the Interagency Working Group Committee on Impacts from Climate Change has been inactive since June of 2017. What did that committee do before June of 2017? And can you provide any explanation why it seems to have ended?

Mr. GÓMEZ. So that is right. As we understand it, that committee hasn't been meeting as the other committees have. And so that is something that we would also like to understand why it is the case. In terms of what they have done before that, that is something that we can provide to you with more details as well.

Mr. TONKO. I thank you very much.

I will now move to the ranking member. I recognize Mr. Shimkus, subcommittee ranking member, for 5 minutes to ask questions.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Ms. Dorka and Ms. Wooden-Aguilar, you are both career government employees serving multiple administrations, are you not?

Ms. WOODEN-AGUILAR. Yes, sir.

Ms. SOTOLONGO DORKA. Yes, sir. Since 1987.

Mr. SHIMKUS. Yes. And I was going to go then if—Ms. Dorka, if you can tell me your brief—you said since 1987. Where have you been in the—I guess in the EPA, and just briefly your career path.

Ms. SOTOLONGO DORKA. Sure. Thank you, sir. Actually, I began my career right after law school at the U.S. Department of Education's Office for Civil Rights, and I quickly went to work in the

Assistant Secretary's office. I served in various roles: press, policy, chief of staff, and senior counsel to the Assistant Secretary. That is a very vital office that used to have, by the time I left, over 600 employees in that office alone.

I then came to the EPA in December of 2014, and I came in as the Deputy Director of the Office of Civil Rights. Back then, we had an office that addressed both external civil rights issues as well as our internal workforce civil rights issues. Then, we, in 2017, beginning of 2017, we went into the Office of the General Counsel, the external civil rights office, which provided us additional legal support and continuity. And I have been the Director in that office since then.

Mr. SHIMKUS. Great. Thank you.

Ms. Wooden-Aguilar?

Ms. WOODEN-AGUILAR. Thank you for that question. So I have been a career person at EPA pretty much my entire career. I started in 2004. I worked for the External Civil Rights Program, also known as a Title VI program, a good majority of my time.

I have investigated cases. I have counseled. I also became the Assistant Director in that program, moving to the Deputy Director, and also acted as the Director of the Office of Civil Rights. Then I moved to our Office of Compliance and Enforcement, and then I came back to the Office of the Administrator and worked as the acting deputy chief of staff and then now as the Deputy Associate Administrator at EPA.

Mr. SHIMKUS. Yes. Great. Thank you. You know, what is interesting about this hearing, and it doesn't happen very often, we have two witnesses from the same agency. So can you briefly explain how your roles are and how you collaborate?

Ms. SOTOLONGO DORKA. I would be happy to talk about that because it is something that we take very seriously, the collaboration between the Office of Environmental Justice and the External Civil Rights Office. Our mission is different. Our appropriation is separate.

Whereas we enforce Federal civil rights laws, our—my colleague will speak to EJ and that Executive order, but we very much collaborate because we see it as sort of a continuum. It is a holistic approach in order to serve communities and work with recipients.

Ms. WOODEN-AGUILAR. Thank you for that question. As my colleague stated, while we do have two different missions, our work often collaborates, and it collaborates on the ground. It collaborates in our offices as we work and train a number of partners around the country, not just on civil rights but also on environmental justice.

Mr. SHIMKUS. Well, thank you. Thank you, and I am quickly running out of time.

So, Ms. Wooden-Aguilar, can you speak to how EPA assists local communities with local/State-level regulatory and governing decisions?

Ms. WOODEN-AGUILAR. Thank you for that question. So we collaborate all of the time with States, local government, Tribes, and communities. We have a number of tools in our toolbox in the Office of Environmental Justice, also our Office of Community Revitalization. For example, we work in communities around the

brownfields. We partner with our Office of Brownfields, and we work very closely with a number of our partners around the Agency.

Mr. SHIMKUS. And I would like to go on, but my time—by the time I ask the question, I will run out of time. So with that, Mr. Chairman, I will yield back.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes Chairman Pallone, full committee chair, for 5 minutes to ask questions, please.

Mr. PALLONE. Thank you, Chairman Tonko.

Environmental justice is not a new problem, but it is a very serious problem, and communities across the Nation have been impacted disproportionately by environmental hazards, and the disparity continues.

I want to ask the two EPA witnesses, do you think that someone's ZIP code should determine the environmental hazards that they face? You can just say yes or no, if you would like.

Ms. WOODEN-AGUILAR. No, sir.

Mr. PALLONE. And Ms.——

Ms. SOTOLONGO DORKA. Absolutely not, sir, and our mission is targeted to that end.

Mr. PALLONE. All right. Let me just go through these, and you can say yes or no. What about their income?

Ms. WOODEN-AGUILAR. No, sir.

Ms. SOTOLONGO DORKA. Our civil rights laws don't apply to income. But personally, no.

Mr. PALLONE. OK. And race or ethnicity?

Ms. WOODEN-AGUILAR. No, sir.

Ms. SOTOLONGO DORKA. Absolutely no.

Mr. PALLONE. Thank you. Do you think that EPA is doing enough to address disproportionate toxic exposures? I will ask the two of you again.

Ms. WOODEN-AGUILAR. Thank you for that question. EPA is committed, under the Executive Order 12898, to not only promote environmental justice but adhere to the Executive order. Since 1994, EPA, including the colleagues in the Office of Environmental Justice and around the Agency, are committed to ensuring that not only communities but those most vulnerable have clean air, clean water. Thank you so much.

Mr. PALLONE. Would you—I would ask you, though, do you think they are doing enough? Could they do more? What more could they do?

Ms. WOODEN-AGUILAR. Thank you for that question. There is always more to do. The agency, again, is committed under the Executive order to do all that it can to promote environmental justice.

Mr. PALLONE. Well, let me ask the witness. I mean, do you think that EPA could do more? And do you want to give me some areas where they could do more?

Ms. SOTOLONGO DORKA. I think we can always do more, and I think that now that our office has cleared its overaged docket, we are much better poised to meet the demands of new and incoming complaints that raise civil rights issues with respect to vulnerable populations on the basis of race, color, or national origin.

Mr. PALLONE. Thank you.

Well, let me ask Mr. Gómez, do we even have the metrics to know if EPA and other agencies are doing enough to address environmental justice?

Mr. GÓMEZ. So that was one of our findings of our report, is the need to have really good performance measures. Now, EPA does have four performance measures, like one of those is to decrease the exposure to particulate matter, decrease the exposure to lead in drinking water, and I believe in their annual report from 2017 they did have figures that that had gone down.

But, I mean, that is what we want agencies to have, right? We want them to have good performance measures that they can then see how well they are doing year after year in terms of the progress that they are making.

Mr. PALLONE. All right. Let me ask about the States and the role EPA can play in striving for environmental justice in State-level decision making. Many of our environmental laws rely on States taking the primary enforcement role, as you know, and it is not enough for us to look only at what the Federal Government does. Let me ask Ms. Wooden-Aguilar, how does your office work with States that have primary enforcement authority to pursue environmental justice?

Ms. WOODEN-AGUILAR. Thank you for that question. I can only speak to the Office of Environmental Justice and what that office has done. Specifically, in FY 19, and even before then, our Office of Environmental Justice works very closely with States. Most notably, we, this fiscal year and into last year, hosted a statewide training with over 1,500 participants, including States, partnering, talking about environmental justice; our screening tool, as mentioned by GAO, EJSCREEN; and other important topics.

Mr. PALLONE. What role does the Office of Environmental Justice play in decisions about granting or revoking primary enforcement authority from States? Do you get involved in that, granting or revoking that?

Ms. WOODEN-AGUILAR. Thank you for that question. I can't speak to that specific topic, but I would be happy to follow up with our Office of Congressional Affairs to provide you more information.

Mr. PALLONE. All right. Are there any requirements in place to ensure that States give frontline communities a voice in rulemaking and permitting?

Ms. WOODEN-AGUILAR. Our Office of Policy, where I work, has an action development process, and this process is the process for rulemaking. EJ is considered, along with other Executive orders and statutes, as a part of that process. For more information about how EJ is considered into the rulemaking, we have a docket online which expounds on that topic, but I would be happy to follow up with our Office of Congressional Affairs on that question.

Mr. PALLONE. I would appreciate that, if you could follow up on those things.

Thank you, Mr. Chairman.

Mr. TONKO. The gentleman yields back. The Chair now recognizes Mr. Walden, full committee ranking member, for 5 minutes to ask questions, please.

Mr. WALDEN. Thank you, Mr. Chairman. Appreciate this hearing, and I appreciate the testimony of our witnesses. We have got a

markup that is going to take place here in a few hours, and I am in and out dealing with some of those issues, so my apologies.

But I wanted to ask both Ms. Wooden-Aguilar and Ms. Dorka, on this committee, we have done a lot of work in recent years on a bipartisan basis to reauthorize increased funding for the programs that I think have a large impact on economically disadvantaged communities.

We reauthorized the brownfields and safe drinking water programs, both in the last Congress, to help communities improve infrastructure and provide clean water. Could you both just, fairly short, just speak to how your offices work to make sure these programs, such as brownfields or safe drinking water programs, get into these communities in need? I mean, just in—how does all of that work?

Ms. WOODEN-AGUILAR. Thank you for that question. So I can speak to two examples. Our Office of Environmental Justice has environmental justice small grants, where annually we provide a number of resources to communities, to associations and the like. All of that information is on our public website as to who we provide those resources to.

Mr. WALDEN. Oh, good.

Ms. WOODEN-AGUILAR. And I would be happy to work with our Congressional Affairs to make sure that any information you need is helpful. Specifically, about brownfields, as I noted in my opening testimony, EPA provided more than $60 million in a brownfields grant. Why that is most notable is that our Office of Environmental Justice works very closely with our Brownfields Program.

In Fiscal Year 2020, the Office of Brownfields is going to have a conference, and environmental justice is a part of that conference.

Mr. WALDEN. Good. I appreciate that.

Ms. Dorka, do you have anything to add?

Ms. SOTOLONGO DORKA. Yes, thank you. What I would like to add is that, in carrying out our mission of equal rights and equal opportunity, we make sure that our role is to make sure that through the resolution of complaints we—make sure that those programs that are available—that are critical are available to all communities.

In fact, one very important thing that our office does is that it administers a contract, an EPA-wide contract, to make sure that persons who are limited English proficient in those communities can also participate effectively, and we require the same of all of our recipients as well.

Mr. WALDEN. Yes. And how does that work on our Native American populations on the reservations? I have several that have issues. Are you reaching out to them as well in these programs?

Ms. WOODEN-AGUILAR. So, yes, on the environmental justice small grants. Many of our Tribes and indigenous folks actually receive EPA small grants.

Mr. WALDEN. All right. Because I know we have got some real infrastructure issues in a couple of the areas I represent, and working with the communities on that.

I want to get to this issue of forest fires, because if there is an environmental injustice, I would say, it is how the Federal Govern-

ment has horribly failed to manage both our Federal forests and in some cases the fighting of the fires and then post-fire recovery.

And as a result, I have had people in my communities that have choked on smoke for up to a full month at a time. I have met with residents who have said they have had to take their children to another State to avoid the smoke, to find clean air to breathe.

And we know the scientists tell us that this failure to manage results in these overstocked stands where you have 1,000 trees per acre where there should be 20. So when we get a fire, it is catastrophic, and then the government does nothing afterward to clean up because of the litigation and other environmental—so-called environmental laws.

And it has really devastated our communities. It has killed people. It has left watersheds in horrible situations. Tell me how EPA focuses on that issue.

Ms. WOODEN-AGUILAR. Thank you for that question, and I am sorry to hear about those specific——

Mr. WALDEN. Oh, it is awful.

Ms. WOODEN-AGUILAR [continuing]. Examples. I will just start off by saying that EPA takes the effects to vulnerable populations very seriously, and I would be happy to follow up with our Congressional Affairs Office on the specifics of that to be able to——

Mr. WALDEN. Yes. Your regional——

Ms. WOODEN-AGUILAR [continuing]. Helpful.

Mr. WALDEN. Your regional coordinator actually sat in on a Smoke Committee meeting I participated in in southern Oregon a year or so ago and was very helpful. And I know some of this gets devolved down to the State levels and all in terms of smoke management.

But this is a huge issue. We can't address climate change if we don't address forest policy in America. And we just keep living in the past on this one, so—my time has run out.

Thank you very much for your testimony. I look forward to following up with you.

Thank you, Mr. Chairman.

Mr. TONKO. You are welcome. The gentleman yields back.

The Chair now recognizes the gentlelady from California, Representative Barragán, for 5 minutes, please.

Ms. BARRAGÁN. Thank you, Mr. Chairman.

I represent a district that is in south Los Angeles, includes the Port of Los Angeles, Wilmington, Compton, Watts. It is one of the most heavily polluted districts in the country.

We are surrounded by three freeways and the Port of L.A., and the community is also almost 88 percent Latino/African American. It is the frontline communities that are disproportionately burdened by environmental injustices that are happening day in and day out.

So I appreciate this hearing, and I appreciate the work you are all doing to address this very critical issue.

Ms. Wooden-Aguilar, how long have you been with the EPA working on environmental justice issues?

Ms. WOODEN-AGUILAR. So I have been with the agency for over 15 years, since 2004. Again, I started my career in the external civil rights or also Title VI, and I prefaced my statement with that

because many of our Title VI complaints often involve communities, and often those communities are environmental justice communities.

So while I was never in proper—in the Office of Environmental Justice, throughout my early part of my career, I worked very closely with that office. I also was a part of EJ, Environmental Justice, 2014, again, in my earlier work working on Title VI specifically, and now in the Office of Policy, the Office of Environmental Justice is a component under that office.

Ms. BARRAGÁN. So would you say you have been there long enough to have seen the differences between one administration and another in environmental justice and how it is being addressed?

Ms. WOODEN-AGUILAR. I have had the privilege, again, starting in 2004 under the tail end of one——

Ms. BARRAGÁN. Ms. Wooden-Aguilar, I only have 5 minutes. So if you could just—would you say you are qualified to give an opinion on that?

Ms. WOODEN-AGUILAR. I would say probably towards the latter part of my career. When I first started, I was an employee, an investigator, and, again, but towards the end of my career in leadership, yes.

Ms. BARRAGÁN. OK. The EPA's Environmental Justice Small Grants Program provides grants of up to $30,000 to work on solutions to local and environmental public health issues. The program has awarded more than $26 million since 1994 to more than 1,400 community-based organizations that work with communities facing environmental justice issues.

However, during the first 2 years of the Trump administration, the number of small grants has dropped by 70 percent compared with the Obama administration's first 2 years. Can you explain what is happening here?

Ms. WOODEN-AGUILAR. So, specifically, I would have to follow up with our Congressional Affairs on the specificity of the data. But I will say, under this administration, we have authorized 3.9 million, and that is just in the Office of Environmental Justice. But we also have other grant programs that have prioritized not only vulnerable populations but also those that are economically distressed.

Ms. BARRAGÁN. All right. If you could look into that and get back to me, that would be great. A 70 percent drop is a huge drop. And so it demands answers, and it is a problem that is severe. It hurts communities of color, especially people like those in my district and across the country that are trying to implement solutions to addressing the environmental justice concerns and the issues.

Mr. Gómez, the slow pace of the implementation throughout our agencies of the environmental justice Executive order issued in 1994 is frustrating. In your view, would codifying this order into law help to speed up implementation?

Mr. GÓMEZ. So some of our recommendations have been to have agencies, one, update their strategic plans, but to also issue progress reports to develop measures. And so, to the extent that that codifying forces agencies to do those things, then those are things that make sense to us, since those are things that we rec-

ommended are needed to make sure that the effort is working properly.

Ms. BARRAGÁN. So you just wrote the—I am looking here at your environmental justice—the report that you just did on this. This committee is in the process of drafting 100 percent, you know, clean economy by 2050. My focus is to make sure communities of color are not forgotten, that they are getting benefits, and that they are at the front of the line.

Can you give us one or two points that you think need to be included in a bill, so that their environmental justice communities' needs are being met and we can address that?

Mr. GÓMEZ. Sure. So, I mean, I think one of the things that we talk about in our report, again, is the need for these metrics, right? To see how well agencies are doing in meeting their responsibilities or the directives of the Executive order.

And so you need to have really good performance measures. You need to have good metrics to see, are you doing the job you set out to do? And how well are you doing it? What progress are you making? So that ultimately you see the impact that you are having in those communities.

So I think, to the extent that that can be included, that to us makes sense. That is something that we always recommend. It is part of leading practices.

Mr. TONKO. The gentlelady yields back.

The Chair now recognizes the gentleman from West Virginia, Mr. McKinley, for 5 minutes, please.

Mr. MCKINLEY. Thank you, Mr. Chairman. I want to focus on those frontline communities that have been written off by policies to phase out fossil fuels, communities like Welch, West Virginia; Gillette, Wyoming; Petersburg, Indiana; or Harlan, Kentucky.

With all due respect, Congress has a moral obligation to consider the human consequences of its energy policies. Has the radical left so dehumanized this issue that the working men and women in these communities are being forgotten? Across the country, families and entire communities rely on coal mining and natural gas production to survive. The mayor of Welch, West Virginia, wrote me to explain what is going—what would happen to them if we go to 100 percent renewables.

And I would like to ask unanimous consent this be entered into the record. Thank you.

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

Mr. MCKINLEY. In his words, "It would completely destroy the economy of the city of Welch and the entire region." Today, in the aftermath of this relentless demagoging and vilification of fossil fuels, Welch is a community in which 27 percent of the households live in poverty, and it has a minority population of 35 percent. Let's be clear: In Welch, Gillette, Petersburg, and Harlan, there is no other industry. This isn't Chicago or New York, where men and women can find other jobs.

Fossil fuel jobs are not portable. The men and women either mine coal or drill for natural gas. If Congress's insensitively forces the closure of the remaining coal mines or caps the wells, not only will frontline communities lose these good-paying jobs, but it would shut down grocery stores, pharmacies, schools, churches.

Think of the impact on the local schools in Wyoming, where over 50 percent of the revenue comes from fossil fuels. By pushing this agenda to complete this ban, Congress is consigning many of these frontline communities to a desperate future.

Would Congress have the gall to tell ranchers in Kansas they can't raise cattle anymore? What about the people in Wisconsin; they can't make cheese? Because that's exactly what Congress is doing to the men and women in these frontline communities relying on the fossil fuels for the dignity of work.

The far left has used bullying tactics to threaten the livelihoods of countless Americans. According to the Bureau of Labor Statistics, over 2 million people are employed directly in America over fossil fuels, and that doesn't take into consideration the tens of millions that are—indirectly jobs, they would be lost as well.

Lacking this vision of creativity and innovation, it seems the first inclination of liberals in Congress to deal with something they don't like is to simply get rid of it. Think about it—plastic straws, big soda drinks, guns, internal combustion engines, incandescent light bulbs. Doesn't Congress have a moral obligation to reconcile its concerns with fossil fuels with economic security?

This is an excellent book, and I would strongly recommend more people read this.

[Holds up a copy of "The Moral Case and Fossil Fuels."]

Mr. MCKINLEY. Wouldn't frontline communities be better off if Congress developed innovative technologies or efficiencies to help eliminate these emissions that we are concerned about, like carbon capture? We have a moral obligation to consider the future of the communities and the people that live in Welch, Gillette, Petersburg, and Harlan. If we do away with fossil fuels, Congress will have turned its back on these struggling families in frontline communities.

These men and women have trusted Congress to protect their livelihood over the years. We should not betray their trust.

So, Ms. Aguilar, where am I wrong on this?

[Laughter.]

Ms. WOODEN-AGUILAR. Thank you for that question. Sir, unfortunately, I can't speak to the specifics of the situation. But, again, I would like to emphasize that EPA will use the resources that Congress appropriates, also emphasizing training and support to all communities, including the fence line communities that you described.

We also, as noted by GAO—the emphasis on progress—the Office of Environmental Justice just today released our fiscal year 2019 progress report, which denotes a number of accomplishments around the country, including our regional and headquarters offices.

Again, also, I appreciate the question, and happy to follow up with the Congressional Affairs, sir.

Mr. MCKINLEY. Please do. I would like to understand the moral obligations that we have.

So I thank you, Mr. Chairman, for bringing this up.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentlelady from the State of Delaware, Representative Blunt Rochester, for 5 minutes for questions, please.

Ms. BLUNT ROCHESTER. Thank you, Mr. Chairman, and thank you to the panel.

Today's hearing is important, and I am glad that we are looking at the policy solutions we need to prioritize and protect frontline communities that are hit worst by impacts from both pollution and climate change.

For too long, communities of color have been disproportionately burdened by the impacts of toxic air pollution, dirty water, and toxic chemical pollution. Now many of these same communities are on the frontlines for climate fuel disasters, like hurricanes. For instance, the Southbridge community in Delaware, which has a strong and rich history and strong and resilient people, and is also predominantly African-American and predominantly low-income, is plagued by chronic flooding.

This has only gotten worse and will continue to worsen as climate change does. Southbridge has 48 brownfield sites within a 1-mile radius. Let that sink in—48 brownfield sites. That is more than half of all of the brownfields in Delaware located in one community. In addition to the 48 brownfield sites, Southbridge also has 2 high-risk chemical facilities, 13 large pollution-emitting industrial facilities, and 4 Superfund sites. This is in one community. This is real.

In the words of the Southbridge Civic Association president Marie Reed, "We have had enough." Unfortunately, these pollution burdens in Southbridge are not an anomaly. They happen in other places in Delaware, like Millsboro and Ellendale, and also across our country, and I think we all believe it is unacceptable.

So we must look at solutions that protect frontline communities from the cumulative impacts of pollution and from the impacts of climate change. I have some questions that I will probably submit for the record, but as the conversation was going on, there was a statement that both Ms. Dorka and Ms. Wooden-Aguilar made that the EPA can do more. We said it to Mr. Tonko. We said it also to Mr. Pallone. And I am curious if you could give us specifics on what more could be done. That is my first question.

Ms. SOTOLONGO DORKA. Thank you for that, Congresswoman. I believe that we can do more proactively. For example, our work with States to make sure that they have their own nondiscrimination programs in place as the regulations require is critical. In fact, we have worked with the State of Delaware to provide technical assistance on how to build those programs. That gives the communities an opportunity to bring those issues to the State at the State level or even the local levels, if they are recipients of our funding.

It gives them an opportunity to deal with them directly and build those lines of communications directly with the communities and the States and the local governments. And certainly we want to increase our——

Ms. BLUNT ROCHESTER. Is that a resource issue?

Ms. SOTOLONGO DORKA. Not necessarily. We had to clear up our overaged——

Ms. BLUNT ROCHESTER. The backlog.

Ms. SOTOLONGO DORKA [continuing]. Cases.

Ms. BLUNT ROCHESTER. Right.

Ms. SOTOLONGO DORKA. Now that we are better poised to move forward, we do have plans to work with a number of offices. We worked, for example, with all of the States in our Region I office, including Delaware, and that was extremely beneficial. We brought——

Ms. BLUNT ROCHESTER. I only have 1 minute left.

Ms. SOTOLONGO DORKA. All of the States together——

Ms. BLUNT ROCHESTER. So what I will do is ask if you guys can—if you ladies could please share that information with our office.

I also wanted to ask a really quick question. If we have environmental justice communities—and we know that this changes, you know, as climate change worsens—but I am curious about the gap in what you can provide in terms of these small—the grants that you talked about.

It is great that we have grants, but I am curious, what is the gap? What is the delta? How many—if we really—are we doing 1 percent? Ten percent? Twenty percent?

Ms. SOTOLONGO DORKA. Thank you for that question. I will be brief. As I said in my opening testimony, we have community-driven solutions, which is an approach where we bring environmental justice communities, our resources, and local communities together to talk about identifying problems but actually putting real——

Ms. BLUNT ROCHESTER. But do we have—I have got 10 seconds left. Do we have a gap? I am assuming we are not covering every community that really needs these grants. How many—what is the gap? Give me an idea. Do you think it is 10 percent aren't being covered? Fifty percent?

Ms. SOTOLONGO DORKA. Unfortunately, I see we are out of time, and I would be happy to follow up with our Congressional Affairs Office.

Ms. BLUNT ROCHESTER. I am sure he would give you a second to answer that question.

Ms. SOTOLONGO DORKA. Specifically, I don't have the statistic right in front of me, but, again, I would be happy to follow up with our Congressional Affairs. Thank you for that.

Ms. BLUNT ROCHESTER. Thank you. I yield back, Mr. Chairman.

Mr. TONKO. The gentlelady yields back, and the Chair now recognizes the gentleman from Ohio, Mr. Johnson, for 5 minutes, please.

Mr. JOHNSON. Thank you, Mr. Chairman, and I want to thank our witnesses for being with us today, as I think it is very important for Congress to better understand what the Federal Government and the EPA in particular already do as it relates to environmental justice through things like grant opportunities, which we just heard a lot about, or by helping to coordinate cross-agency responses to environmental justice priorities to best address local community concerns.

So, Ms. Wooden-Aguilar and Ms. Dorka, as I understand EPA conducts environmental justice screenings to ensure that enforcement personnel working on a case are aware of potential environmental justice issues, and to ensure that EPA is looking for opportunities to address any issues of concern.

How has the screening process been working? Ms. Dorka, why don't you go first.

Ms. SOTOLONGO DORKA. Thank you, sir. I believe you are referring to EJSCREEN?

Mr. JOHNSON. Yes.

Ms. SOTOLONGO DORKA. And I think that my colleague, Ms. Wooden-Aguilar, would be a much better person to answer.

Mr. JOHNSON. Go ahead.

Ms. SOTOLONGO DORKA. Thank you.

Ms. WOODEN-AGUILAR. Thank you for that question. As you stated, EPA has developed a screening tool entitled EJSCREEN, and it is publicly available. The EPA uses this screen throughout its programs and activities. Most notably, in our fiscal year 2019 progress report, we talk about how this screen is used throughout the agency. Specifically, in our Office of Enforcement and Compliance, in fiscal year 2019, over 800 opportunities, they used EJSCREEN.

I would also say that working in our regions, they also utilize this tool, and most notably in fiscal year 2019 we put on a training where we trained States, environmental State agencies, and local governments on how to use that tool.

Mr. JOHNSON. OK. All right. Continuing with you, Ms. Wooden-Aguilar, talk about your community revitalization work and the progress you have made with programs that support that work.

Ms. WOODEN-AGUILAR. Thank you for that question. So our Office of Community Revitalization is within the Office of Policy, and it actually is—it partners very closely with our Office of Environmental Justice. Specifically—and I will say that on our website we have most notably put a number of tools wherein we go to communities, work side by side with them, on identifying problems, solutions, and things that work for them.

Again, community-driven solutions, which is a part of the approach that we use, is very vital because it ensures that communities are not only putting together solutions that EPA brings to the table, but also solutions they come up with, wherein they are able to not only, again, identify issues but also put together real solutions.

Mr. JOHNSON. OK. Ms. Dorka, do you have anything to add to that?

Ms. SOTOLONGO DORKA. No, sir. I think my colleague covered it. Thank you.

Mr. JOHNSON. OK. All right. What more do you see that the EPA can do in this regard?

Ms. WOODEN-AGUILAR. Thank you for that question. Along the lines of community-driven solutions, what more could be done is for us to continue to engage communities on the fence line. We work here in DC, but also we have environmental justice coordinators throughout the Federal EPA space, in our regions as well, and so they are on the front lines working extremely hard hand in hand with communities and our other partners.

Mr. JOHNSON. OK. What are the information tools and resources the EPA uses to comply with environmental justice concerns? Ms. Dorka?

Ms. SOTOLONGO DORKA. With respect to civil rights compliance, we have mounted a campaign of transparency and communication to make sure that we are reaching more communities and make sure that they are empowered with the knowledge that they need in order to file complaints with us, if they so want to.

But, also, the communication with States and local agencies as well, so that they can come to us for technical assistance. We routinely put all of our documents on our website, including all of our findings, our letters, and our agreements, our informal resolution agreements that we reach with all of our recipients.

Mr. JOHNSON. OK. Mr. Chairman, with that, I yield back 10 seconds.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentleman from California, Representative Ruiz, for 5 minutes, please.

Mr. RUIZ. Thank you, Mr. Chairman, and thank you to all of the witnesses here today to discuss the importance of environmental justice in the climate change conversation.

In the face of our current climate crisis, it is urgent and imperative to analyze how climate change is hitting underserved and rural communities the hardest. Low-income households, rural communities, and Tribal nations disproportionately bear the burden of pollution-producing and health-affecting environmental hazards.

This proportionate burden has been perpetrated by both intentional government decisions to host these hazardous sites in frontline communities and those communities' inadequate access to the decision-making process.

These vulnerable communities generally lack connections to decision makers on zoning boards or city councils or permitting processes and are unable to adequately protect their interests, and often cannot afford the technical and legal expertise to fight a violation, resulting in these communities being targeted.

In short, there is little to no public participation from these communities. Mr. Gómez, in your testimony, you discussed the report conducted by the GAO as assessing the Agency's efforts to address environmental justice as members of the Interagency Environmental Justice Working Group. Would you say public participation and proper consultation with low-income rural and Tribal communities lead to better environmental justice outcomes?

Mr. GÓMEZ. Yes, that is key.

Mr. RUIZ. And we said "proper consultation." What does "meaningful consultation" mean?

Mr. GÓMEZ. Well, and perhaps EPA can also add to this, but it really means to engage with the community in a way that has real impact, right, in terms of bringing the issues and the concerns, hearing them out, and doing something about it.

Mr. RUIZ. Well, Mr. Gómez, I think you were involved in the GAO study I called for——

Mr. GÓMEZ. Yes.

Mr. RUIZ [continuing]. Regarding meaningful consultation within tribes.

Mr. GÓMEZ. Right.

Mr. RUIZ. And oftentimes, agencies have a check-the-box kind of mentality. You put out a notice, you hold one meeting, you check

the box, and they say, "We have consulted with local communities." So what does—really does "meaningful consultation" mean?

Mr. GÓMEZ. Well, I think it means that you take into account what the concerns are, and then you bring it back and you take some action to deal with those concerns.

Mr. RUIZ. OK. And have the agencies, as members of the Interagency Environmental Justice Working Group, done enough to make sure they ensure public participation and proper consultation with underserved communities?

Mr. GÓMEZ. So, you know, what we were looking at is, again, looking at—so there is a lot of discussion, for example, in the progress reports that we reviewed, where they have held meetings or the environmental justice representatives for the various agencies meet with the public and the communities, and then bring back that information to the working group. But I believe that that is something that could be enhanced, could be better as well.

Mr. RUIZ. Yes. According to St. Regis Mohawk, they were not included, and now you have polluted water in the area. According to the Navajo, they have uranium still being exposed to their population, and those sites haven't necessarily been cleaned up yet.

So I think that the accountability measures and the community benefits up front, during, and afterwards need to be involved in the entire process, not just at the beginning. Is the BIA a part of that working group?

Mr. GÓMEZ. Well, the Department of the Interior is part of the working group.

Mr. RUIZ. Does the BIA specifically have somebody in that working group?

Mr. GÓMEZ. We can check for you and get——

Mr. RUIZ. Please do, because there has been multiple fires on a property under the BIA's jurisdiction in my district, and the latest one was a very bad fire, the one that I mentioned in my opening remarks. When I called EPA about these fires, they had no clue that these fires were happening, and therefore I wanted to make sure that the BIA is part of this working group for environmental justice issues, so they can collaborate more with the EPA and other agencies.

Ms. Wooden-Aguilar, the EPA's own website acknowledges that low-income neighborhoods, Tribal populations, and community of colors that live in urban areas may be disproportionately exposed to air pollution, which is a barrier to economic opportunity and security. Do you think the Federal Government is doing enough to protect these disproportionate and vulnerable communities?

Ms. WOODEN-AGUILAR. Thank you for that question. As stated in my testimony, EPA is committed to not only the Executive order but to continue to work in these communities.

Mr. RUIZ. OK. So you are reading me the mission statement. Can you tell me, from your heart, what more can the EPA do?

Ms. WOODEN-AGUILAR. Thank you for that question. So I have been involved in this topic for over 15 years. I have been on the ground side by side with communities. And so as far as the agency's commitment, I can speak to it fully.

Mr. RUIZ. Now, in terms of from your extraordinary experience and insight wisdom, what more can the EPA do?

Ms. WOODEN-AGUILAR. So specifically to the "more," the "more" is really ensuring that we are on the ground—and we are—on the ground with these communities side by side. And we continue to do that through our EJ small grants by providing them resources, so they have tools to not only engage in this conversation but come up with solutions.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentleman from South Carolina, Representative Duncan, for 5 minutes, please.

Mr. DUNCAN. Thank you, Mr. Chairman. And if you will indulge me for just a moment, I am going to try to make a hypothetical example here.

For the record, I love Mello Yello, so this is not disparaging against Mello Yello at all. But because this can was sitting here, I am using it as a prop.

Mello Yello is currently legal to manufacture in this country and legal to sell this product in this country. So let's just say that Mello Yello manufactures their product, puts it in a can like this, and sells it to a customer. That customer either drinks the product or maybe it sits on a shelf for a while and they eventually realize that maybe it is old, or whatever. They throw it out. They throw the empty can out, or they throw the product out in the can itself, into a landfill, either a landfill that they manage themselves for disposal, a legal landfill at the time, or a legal landfill somewhere else.

EPA then determines that 10, 15, 20 years down the road, that the product in the can that Mello Yello was manufacturing is hazardous, and they prohibit Mello Yello from selling that anymore. And they realize that, you know, if that Mello Yello spilled into the earth in a landfill it may be hazardous to the environment.

So, as they start working on brownfield sites—and I appreciate the work EPA does on brownfields, and I love the redevelopment of brownfields and tax credits and other things that we have been able to work on, State level, Federal level. But let's say during the cleanup of that brownfield site they discover the Mello Yello can—full or empty, it doesn't matter.

The product that was in that can was legally manufactured and legally sold from Mello Yello to the customer who paid for that product. The manufacturer doesn't determine what that customer does with a product. Back then, the product was legal. But now EPA discovers it in a brownfield site. They discover a can—or the full or empty can—and it is now an environmental hazard.

It is now something that EPA is requiring to be cleaned up in that landfill, and they are requiring it to be cleaned up. My question is, who is responsible for the cost of cleaning up that brownfield site for a product that was legally manufactured, legally sold, legally purchased, legally used, disposed of by the buyer, the end user—who is responsible for the cleanup cost?

And I will ask Ms. Wooden-Aguilar.

Ms. WOODEN-AGUILAR. Thank you for that question and fact pattern, sir. Unfortunately, I am not particularly familiar with the facts that you are describing in the brownfield space. But I would be happy to follow up on that question and request with our Congressional Affairs.

Mr. DUNCAN. Let me just ask you your personal opinion.

Ms. WOODEN-AGUILAR. We will thoroughly respond to that.

Mr. DUNCAN. Can you see any reason why the manufacturer, who is operating under Federal law, who is operating to legally manufacture something, distribute that, sold it to the end user, has no control over what that end user does with the product, how he disposes of it, and at the time that it was sold, it was a legal transaction. It wasn't a hazardous substance at the time.

But 20, 30 years down the road, we discover that maybe that was a hazardous substance. Can you see any reason why that manufacturer should be held responsible for the cleanup of the disposal site where the end user, the customer they sold that product to, disposed of that can?

Ms. WOODEN-AGUILAR. Again, thank you for that question. Again, EPA would be happy to follow up with our Office of Congressional Affairs on that specific fact pattern.

Mr. DUNCAN. Yes. I appreciate it.

Ms. Sotolongo Dorka, do you care to comment on that, or is your answer going to be the same?

Ms. SOTOLONGO DORKA. Thank you, sir. No, I am not an expert in land and emergency management, but I am sure that there are experts back in EPA who would be glad to respond.

Mr. DUNCAN. So here is the thing. The reason I use this example is there have been brownfield sites where a legally manufactured and sold product was disposed of by the end user many hundreds of miles away from the manufacturing site. Not talking about where the product was manufactured, and it was discovered to be hazardous, where the end user disposed of a legally purchased, legally sold product, and probably disposed of it in the wrong way, but because the manufacturer is a wealthy company, EPA has fined those companies, the original manufacturer, 10, 20, 30 years later, for the disposal of something they had no control over.

I can't tell you where to throw this or where you are going to throw this Pepsi can, or Mello Yello can, but ultimately I don't think Mello Yello ought to be responsible, if we determine Mello Yello is hazardous, for the disposal of that can. The guy who threw it away, the end user who disposed of it improperly, right.

But this has happened, where EPA has gone after the most wealthiest stud in the whole transaction to pay for something, and that is alarming to me.

Thank you, Mr. Chairman. I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentlelady from New York, the vice chair of the full Committee on Energy and Commerce, Representative Clarke, for 5 minutes, please.

Ms. CLARKE. Thank you very much, Mr. Chairman. I thank our ranking member for convening this very important hearing on the challenges facing our most vulnerable communities as we strive to tackle the climate crisis and mitigate its impacts.

Thank you as well to our witnesses for being here today to testify.

Earlier this year, our committee laid down a bold vision of achieving a 100 percent clean economy by the year 2050 in order to limit global warming to 1.5 degrees Celsius and to avoid the

worst effects of the climate crisis. Since then, we have heard from experts across our economy, from the energy sector to the building sector, to the transportation and industrial sectors.

However, we must be very clear: No effort to tackle climate change will be sufficient or complete unless we also take bold and intentional steps to ensure that our efforts are equitable and that we protect and invest in our communities, who have historically faced and continue to face a disproportionate burden of the impacts from climate change and toxic environmental pollution.

This means that we must also strive to build resilience in low-income communities and communities of color, so that our homes and critical infrastructure are prepared for the next superstorm, wildfire, flood, or heatwave strikes.

I applaud this committee's efforts to tackle the climate crisis, and I look forward to working with my colleagues to ensure that our vulnerable communities are put at the center of each of our solutions.

Mr. Gómez, I would like to ask you about the recent GAO report to Congress on environmental justice. In 2011, 16 Federal agencies signed a memorandum of understanding to renew their commitments to participate in an Interagency Environmental Justice Working Group, which first began after the President's 1994 environmental justice Executive order.

In 2012, 14 of these agencies submitted progress reports on the implementation of their environmental justice initiatives and goals. By 2017, you report that this number had dropped all the way down to only four agencies. This is very concerning to me.

Just as concerning to me is the fact that, according to your report, four Federal agencies that are members of the working group—the Department of Defense, the Department of Education, Small Business Administration, and Veterans Affairs—did not participate in any working group meetings during fiscal year 2018, and two agencies did not have a designated working group representative as of March 2019.

One of the GAO's recommendations from the report is that EPA, as chair of the Environmental Justice Working Group, should update the 2011 memorandum of understanding and renew each Federal agency's commitment to participate in this collaborative effort.

So, Mr. Gómez, could you further elaborate on this recommendation and why it would be helpful to the working group going forward?

Mr. GÓMEZ. Sure. Thank you for that question. And, as you noted, participation has been mixed. And so, in order to have a really functioning working group, we recommended that, really, the memorandum of understanding, that the agencies need to recommit to it, right?

They need to recommit that they are going to participate, that they are going to issue progress reports every year, they are going to update their strategic plans, and so that is something that we have recommended, and that is something that is needed to really improve the effort.

Ms. CLARKE. Thank you very much, Mr. Gómez.

So, Ms. Wooden-Aguilar, does EPA agree with this recommendation?

Ms. WOODEN-AGUILAR. So EPA, as the chair of the Interagency Working Group, and also——
Ms. CLARKE. Do you agree? Yes or no.
Ms. WOODEN-AGUILAR. Well, we have reviewed——
Ms. CLARKE. With the recommendation.
Ms. WOODEN-AGUILAR. We have reviewed——
Ms. CLARKE. Do you agree with the recommendation? Yes or no.
Ms. WOODEN-AGUILAR. We agree with the spirit of the recommendation.
Ms. CLARKE. OK. Very well. Will you commit to upgrading the 2011 memorandum of understanding and to renewing the important effort?
Ms. WOODEN-AGUILAR. We agree with——
Ms. CLARKE. Will you commit to it?
Ms. WOODEN-AGUILAR. We agree——
Ms. CLARKE. Will you commit to it?
Ms. WOODEN-AGUILAR. We are committed——
Ms. CLARKE. Will you commit to it?
Ms. WOODEN-AGUILAR. We are committed——
Ms. CLARKE. Will you commit to it?
Ms. WOODEN-AGUILAR [continuing]. To the Executive order.
Ms. CLARKE. Will you—that is not my question.
Ms. WOODEN-AGUILAR. Also——
Ms. CLARKE. My question to you, Ms. Aguilar, is——
Mr. SHIMKUS. Mr. Chairman?
Ms. CLARKE [continuing]. Would you commit to it? Yes or no.
Mr. SHIMKUS. Mr. Chairman?
Mr. TONKO. Yes, sir.
Mr. SHIMKUS. I would ask my colleague—I think she is trying to answer your question, and I would ask that——
Ms. CLARKE. I have a very explicit and very important question.
Mr. SHIMKUS. Yes. But I——
Ms. CLARKE. But I have watched her filibuster all——
Mr. SHIMKUS. I would ask——
Ms. CLARKE [continuing]. Afternoon, or morning.
Mr. SHIMKUS. No, you have not.
Ms. CLARKE. I have too.
Mr. SHIMKUS. You have not.
Ms. CLARKE. Listen, I am not here to argue with you, Ranking Member.
Mr. SHIMKUS. I am trying to——
Ms. CLARKE. I have a specific question.
Mr. SHIMKUS [continuing]. Establish some respect——
Ms. CLARKE. And I am asking for a specific answer.
Mr. SHIMKUS [continuing]. For our——
Ms. CLARKE. I do have respect.
Mr. SHIMKUS [continuing]. Career service employees at the EPA.
Ms. CLARKE. I do have respect for her.
Mr. SHIMKUS. Can we just ask that——
Ms. CLARKE. I am asking that she has respect for the question that I have asked, which is a very specific question, which is whether you will commit or not.
Ms. WOODEN-AGUILAR. EPA commits to——
Ms. CLARKE. Very well.

Ms. WOODEN-AGUILAR. EPA commits to not only the Executive order, but we, in the spirit of the Executive order, commit to not only putting together a strategic plan, but also to adhere to the spirit of the GAO report. EPA is not in disagreement with GAO.

Ms. CLARKE. Very well. We appreciate that.

And I yield back the balance of my time, Mr. Chairman.

Mr. TONKO. The gentlelady yields back.

The Chair now recognizes the gentleman from Florida, Representative Soto, for 5 minutes, please.

Mr. SOTO. Thank you, Mr. Chairman. Back just in time.

Looking at the record here over the last 2 years, the Paris Climate Accord withdrawn, Clean Power Plan terminated, oil fuel efficiency standards rolled back, pesticide enforcement reduced, in fact, your former boss, former EPA Administrator Carol Browner, pointed out more than 80 rollbacks of public health and environmental protections, and enforcement of environmental laws is down over 80 percent under President Trump's watch.

I know that can be disheartening, because I know you all joined the EPA to actually protect the environment. We are here about environmental justice today. So it would be helpful to know, when we are talking about rising seas and extreme weather because of human-caused climate change, are communities of color and poorer communities more affected by rising seas, by extreme weather?

We will start with you, Ms. Sotolongo.

Ms. SOTOLONGO DORKA. Thank you for that question. I will say that our office is doing more and better work now than it has ever done.

Mr. SOTO. I understand. But the question is: Are communities of color more affected by climate change, rising seas, and extreme weather?

Ms. SOTOLONGO DORKA. To the extent that they are, rising seas, climate, weather, they are all important issues. I personally think they are important. EPA thinks they are important and is addressing them.

Mr. SOTO. I am not asking whether or not—I am just saying, are they more affected by it?

Ms. SOTOLONGO DORKA. I can say that within my role and my mission, that those issues are important, but they don't dictate—as far as our office, they don't dictate whether we have a complaint that we accept, that we investigate, and that we resolve.

Mr. SOTO. Ms. Wooden-Aguilar, are communities of color and poorer communities more affected by climate change, such as rising seas and extreme weather?

Ms. WOODEN-AGUILAR. Thank you for that question. I would like to say I take in EPA, and our Office of Environmental Justice, takes climate change and the effects on vulnerable populations very seriously. Most notably, in fiscal year 2019 our Office of Environmental Justice prioritized projects focused on disaster resiliency and emergency response.

Mr. SOTO. I understand. But the question simply isn't—this is the second time I have asked it, and I haven't gotten an answer. Are they more affected by climate change than other communities? I mean, it is a simple question. I think you all have an opinion on it.

Ms. WOODEN-AGUILAR. Thank you for that question. I am here as an EPA employee, and I can speak to how important climate change is to the Office of Environmental Justice. We work very closely in DC and in our regions——

Mr. SOTO. OK. Thank you.

Ms. WOODEN-AGUILAR [continuing]. On these very important topics.

Mr. SOTO. Mr. Gómez, are communities of color and poorer communities generally more affected by climate change than other communities?

Mr. GÓMEZ. Sure. So that is really good question. And to the extent that, you know, communities around coastal areas, for example, are areas where you are going to see lots of inland flooding, yes, that would be the case, right? But I think that is a good question to ask.

GAO hasn't looked at that issue in particular, but that is a good question.

Mr. SOTO. What about rollback of fuel efficiency standards in a place like Los Angeles that is experiencing air quality issues? Does that affect communities of color more clearly than other communities?

Mr. GÓMEZ. If that is where they are concentrated, yes, that would be the case.

Mr. SOTO. And what about rollbacks in pesticide enforcement, would that disproportionately affect communities of color or poorer communities generally?

Mr. GÓMEZ. So, again, that is something that—that is, again, a good question, and I think we would want to do some analysis to see if that is the case. So——

Mr. SOTO. Ms. Wooden-Aguilar, I will give you another opportunity. So fuel efficiency standards being rolled back, would that disproportionately affect communities of color in places like Los Angeles, or poorer communities in general?

Ms. WOODEN-AGUILAR. Thank you for that question. Without further analysis, I can't really speak to the disproportionality, but I would be happy to follow up with our Office of Congressional Affairs on that question.

Mr. SOTO. Thank you. You know, we asked a lot of basic questions today and got basically no answers, unfortunately, which is sad, because this is something that is going to affect a lot of our communities.

I know in your hearts you probably care a lot more about it than you are allowed to say here today, and that is abundantly clear. It is hard to fight for environmental justice with a few grants when our most fundamental environmental protections are being dismantled.

Thank you, and I yield back.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentleman from Missouri, Representative Long, for 5 minutes, please.

Mr. LONG. Thank you, Mr. Chairman.

And, Ms. Wooden-Aguilar, I will start with you. Environmental justice issues are not restricted to densely populated urban areas,

as we know. Can you talk about EPA's work out in rural America, which I represent a lot of?

Ms. WOODEN-AGUILAR. Thank you for that question. EPA works not only in dense populations, but also in rural America. Often, in our regions, where there are these communities, we work very closely with them. We also provide environmental justice small grants to many of these.

Also, our EJ IWG, our Interagency Working Group, also has a committee on this topic, and we work across the Federal Government.

Mr. LONG. OK. Thank you.

And same for you, Ms. Sotolongo Dorka.

Ms. SOTOLONGO DORKA. Thank you, sir.

Mr. LONG. I got my name worked in there, see, in the middle. We have got to be related somehow. You have got "Long" in the middle of your name, so——

Ms. SOTOLONGO DORKA. And he has got "Soto."

[Laughter.]

Mr. LONG. But same question for you. Environmental justice issues are not restricted, as we know, to densely populated urban areas. Can you talk a little bit about EPA's work out in rural America?

Ms. SOTOLONGO DORKA. Thank you, sir. We are trying, through our proactive efforts in the civil rights—external civil rights arena, to reach all States, not just cities, big cities, but also rural America.

We hope to initiate a partnership with our Region 7 office, in fact, which includes the State of Missouri, so that we can reach out to the State of Missouri and find out how it is carrying out its civil rights program, its own internal nondiscrimination program, to make sure that it is available to everyone.

Mr. LONG. OK. And I will stay with you for this next question. As I understand, this administration has issued millions of dollars in grants through its environmental justice initiative. Can you provide some examples where these grants are helping to address local environmental and public health issues?

Ms. SOTOLONGO DORKA. Thank you for that question. Unfortunately, I am not an expert on the granting process. I would be more than happy to take that back. I am sure that there are many areas—I think my colleague, Ms. Wooden-Aguilar, has spoken about some of those grants.

Mr. LONG. OK. Thank you. And that was my next move. I was going to move over to you, Ms. Wooden-Aguilar, if you could answer the same question. As I understand, the administration has issued millions of dollars in grants through its environmental justice initiatives. And can you provide some examples where these grants are helping to address local environmental and public health issues?

Ms. WOODEN-AGUILAR. Thank you for that question. As I shared, on our website we have all the listing of all of the small grant grantees, including urban areas and rural, indigenous communities and such. Specifically, our regions work very closely, and I would be happy to follow up with our Congressional Affairs to be able to provide you that specific listing.

Mr. LONG. OK. If you can—if both of you can get with my staff on that.

And then, how have opportunity zones created under the Tax Cuts and Jobs Act of 2017 helped advance environmental justice?

Ms. WOODEN-AGUILAR. Thank you for that question. As I stated in my opening testimony, opportunity zones is a tool that EJ communities could use to leverage private investment in economically distressed communities bringing economic revitalization. And we will continue to provide technical assistance and meaningful engagement to economically distressed communities, including those in opportunity zones, sir.

Mr. LONG. OK. Thank you.

And, Ms. Dorka, you say that the EPA under this administration is devoting more attention to environmental justice and taking these issues into consideration more frequently in decision making. And can you give me some examples?

Ms. SOTOLONGO DORKA. Thank you, sir, for that question. I would defer to my colleague to talk about environmental justice specifically. As I said before, within the civil rights arena, we are clearing our backlog. We have done that, and we are acting more proactively with States and communities, and our office is doing more than it has ever done before.

Mr. LONG. OK. And, Ms. Wooden-Aguilar, has the EPA helped alleviate environmental justice considerations across the Federal Government, or is your work confined just to the EPA?

Ms. WOODEN-AGUILAR. The Office of Environmental Justice is not just confined to EPA. As the chair of the Interagency Working Group, we work across the Federal family. As the GAO noted in their most recent report, we work not only within EPA but with our other Federal partners. And I would like to say, if I have a couple of seconds, for the record that we are evaluating all of the recommendations that the GAO has provided, and we intend to provide a formal response to the GAO by December 13.

Mr. LONG. Thank you. And thank you all for being here today, because I know you are both long-term public servants, or all three, and appreciate that. And I don't—I am out of time, but if you could maybe get with my staff on the Superfund sites and what EPA is doing to remediate those, I would appreciate it.

And I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentlelady from Michigan, Representative Dingell, for 5 minutes, please.

Mrs. DINGELL. Thank you, Mr. Chairman, and thank you to all the witnesses for being here. Environmental justice communities are not generally facing pollution from a single toxin or a single source of pollution. These communities are overburdened from multiple contaminated sites, multiple industrial sites, multiple sources of air toxics. They are facing contamination in their air, their soil, and their water.

My district is a very complicated district. It has got Ann Arbor, which is one side. I won't say anything more. But down river, and in part of Dearborn, I split a ZIP code with Rashida Tlaib, and we have the most polluted ZIP code in the country. It has the Rouge

steel plant, it has AK Steel, the Marathon oil plant, the car plant, et cetera.

And I actually was doing a town hall meeting with them and got an asthma attack in the middle of the meeting. They finally yelled at me and told me to go out and get my inhaler. And there is a school located right next to the AK Steel plant.

So looking at the risks one chemical or one source at a time doesn't capture their reality. So, for the EPA witnesses, how does EPA assess the cumulative impacts of pollution on these frontline communities?

Ms. WOODEN-AGUILAR. So cumulative impacts is very important to the work that we do. Our office, we work across the Federal sector on this, specifically under our IWG, but we also work within the agency on this topic. As far as tools are concerned, in our most recent progress report, ma'am, we have a number of different accomplishments on this topic, and I would be happy to provide you with more information on that, following up with our Congressional Affairs.

Mrs. DINGELL. I would like to see that, because I think they don't feel it. But what role do they play in decisions on which environmental violations will get the enforcement action? That is sort of a mystery when you see one of the—I won't name them right now, but what do you decide to enforce and what do you decide not to enforce? How does this play?

Ms. WOODEN-AGUILAR. Well, the Office of Environmental Justice works very closely with our enforcement office. And I would be happy to provide an answer to that and work with our colleagues to——

Mrs. DINGELL. I would like one, because we have got some that are not being—and how does EPA ensure they play a role in permitting decisions?

Ms. WOODEN-AGUILAR. So our Office of Environmental Justice works very closely with the entire Agency, specifically those involved in permit writing. We actually have, most notably in our fiscal year 2019 progress report, highlighted certain areas where the Office of Environmental Justice has worked with our program offices. And, again, I would be happy to follow up with our Congressional Affairs.

Mrs. DINGELL. I would appreciate that.

Ms. WOODEN-AGUILAR. Yes.

Mrs. DINGELL. And I am sorry, I have only got 5 minutes, because I really do care. I want to now go to Director Gómez. The IPCC has told the world we need to rapidly transition to a 100 percent net zero economy by 2050. We are going to be introducing legislation tomorrow addressing that.

But has any agency included in its strategic plan considerations for how they will develop and implement and enforce environmental laws, regulations, and policies intended to provide environmental justice protections during the transition to a net zero emissions economy?

Mr. GÓMEZ. I think that, specifically, I don't think we have seen it. What we did see in some of the strategic plans, which were developed in 2016 or earlier, they did make a commitment to address impacts from climate change to environmental justice communities.

And so—but the question is, you know, is that still happening? You know, we——

Mrs. DINGELL. We have to make sure it does. So I want to work with you because that is—what we are terribly worried about is who is going to pay the price on this as we go forward. It is critical. We all know we need to do it. But, again, we can't—I see it in my district all the time where the regulations, the costs are falling on those that can least afford it. So I thank all of you for the work you are doing, but we have a crisis in this country.

And I yield back the balance of my time.

Mr. TONKO. The gentlelady yields back. The Chair now recognizes the gentlelady from the State of Washington, Representative Rodgers, for 5 minutes, please.

Mrs. RODGERS. Thank you. Thank you to the panel for being here today, and a special thank you to the representatives from EPA for your work in helping communities across the country.

Spokane, Washington, has had an incredible amount of success and economic growth over the past decade due in small part to the recognition of certain areas. There is a tremendous amount of opportunity for economic growth and revitalization.

This past year we received a Brownfields Assessment Coalition grant from EPA to assess the university district in Spokane, and a brownfield cleanup grant for several sites across the city.

I would like to start by asking Ms. Wooden-Aguilar and Ms. Dorka to generally highlight some of the work EPA is doing through the Brownfields Program, and how the program is increasing economic opportunity in cities like Spokane.

Ms. WOODEN-AGUILAR. Thank you for that question. Our brownfields grants, as noted in my opening testimony, assist communities through leveraging resources to have a better impact on the ground. And what that means is that communities are able to use the resources to not only transform their community but to convene and identify issues and identify solutions that make sense for themselves.

Mrs. RODGERS. Can you give me a sense as to how we are doing as far as the need, and then the work that we are doing to actually address that need?

Ms. WOODEN-AGUILAR. So as far as the need is concerned, you know, in fiscal year 2019, we provided over $60 million to a number of communities around brownfields. And so our Office of Brownfields works very closely with communities on this topic, and I would be happy to follow up with our Congressional Affairs to give you the specifics around that.

Mrs. RODGERS. OK. Ms. Dorka?

Ms. SOTOLONGO DORKA. With respect to brownfields, I think my colleague covered that pretty well. As far as the civil rights issues that may be arising in those communities, we are in fact working with the State of Washington Department of the Environment and Energy to help them develop their own nondiscrimination policies and program so that folks in Washington who feel that they have been discriminated have a local entity, a State entity, to go to and don't absolutely need to come to us all the time. They can work through with their local entities.

Mrs. RODGERS. OK. Thank you.

Mr. Gómez, GAO has some criticism for Federal environmental justice efforts. But has there been progress? And what examples is EPA providing that show the right way of doing things?

Mr. GÓMEZ. Sure. So, you know, progress is measured by whether or not they have good metrics, right, performance measures. I think EPA is one of the few agencies that has performance measures in their strategic plan. One of those measures, for example, I mentioned earlier was a reduction in exposure to particulate matter.

But the other agencies don't have them, and that is one of the recommendations that we have made, is that, look, you need to have metrics in place so that you can show year after year how you are doing, and also with the progress that you are making, not only agency by agency but also Federal effort-wide.

Mrs. RODGERS. OK. Thank you.

Would you like——

Mr. SHIMKUS. Would you give me some time?

Mrs. RODGERS. Yes. I would be happy to yield to the gentleman from Illinois.

Mr. SHIMKUS. I thank my colleague. I just wanted to drill down on one of the issues that one of my colleagues talked about, which was CAFE standards. And so the question would be to actually all three of you: If you are middle class, lower class, poor, however you want to define it, is it easier for you to buy a used car or a new car?

I only have a minute, so what do you think?

Ms. SOTOLONGO DORKA. My personal opinion?

Mr. SHIMKUS. Yes.

Ms. SOTOLONGO DORKA. Having been low income, from a poor family, I guess it is all in what you can afford.

Mr. SHIMKUS. Well, is it easier to buy a new car or a new car?

Ms. SOTOLONGO DORKA. A new car or a new car?

Mr. SHIMKUS. A new car or a used car, which is easier? OK. Let me—if there is a car that is $30,000 or $45,000, or a $10,000 car, if you are poor, which is easier to purchase?

Ms. SOTOLONGO DORKA. Obviously, you have to consider, you know, the money——

Mr. SHIMKUS. Why can't—why is this so difficult?

[Laughter.]

Ms. SOTOLONGO DORKA. We would probably have bought the car that we could afford.

Mr. SHIMKUS. And if you are poor, it is probably the less expensive car.

Ms. SOTOLONGO DORKA. If that is the one we could afford, that is——

Mr. SHIMKUS. Are you all lawyers or something? I mean, sheesh.

[Laughter.]

Mr. SHIMKUS. Ms. Wooden-Aguilar, I am going to run out of my time. The point is this: When you talk about environmental justice and air standards, newer cars are more expensive, but they have cleaner air. So if you force someone to buy a car they can't afford, they buy a used car which has poor air quality.

It is not that difficult. We are not trying to trick you. We are asking for your help. That is a rebuttal to CAFE, high-expense cars that drive the poor from their ability to purchase cars.

Mr. TONKO. The gentleman with the car has yielded back.

So we now recognize the gentleman from California, Representative McNerney, for 5 minutes, please.

Mr. MCNERNEY. Well, I thank the Chair and ranking member. I thank the witnesses. It can't be an easy morning for you.

Mr. Gómez, why is it important that all eight agencies, including the ones that may not be thought of as having environmental connection, update their environmental justice strategic plans? Why is that important?

Mr. GÓMEZ. Sure. Well, the strategic plan really is a foundation, right, that lays out what is it that the Agency is going to do, what goals are they going to have in place, how they are going to achieve it, but then also what metrics do they have in place to assess their progress.

So it is really foundational for them to figure out, you know, with respect to their mission, what is it that they need to do in the environmental justice space?

Mr. MCNERNEY. You like that metric idea, don't you?

Mr. GÓMEZ. You know, it is how we measure progress, right? It is sort of like we see that and we see either you are making progress or you are not. Otherwise, it is difficult to gauge. We don't know.

Mr. MCNERNEY. Well, could you explain why the GAO continues to believe that the EPA should update the 2011 MOU to address the matter of participation by signatories who have not participated?

Mr. GÓMEZ. Well, that is exactly the point. So in the original memorandum of understanding, the Agency is committed to participate and to involve and to even chair some of the committees, and they haven't done that.

So that is why we have called out that they need to redo that, so they can get the participation back in place, or if agencies decide that they don't have a role for whatever reason, they can come out of it. Currently, there is no way to come out of it. Just don't show up.

Mr. MCNERNEY. So there is no penalty for them.

Mr. GÓMEZ. There is no penalty for them. It is an MOU, so——

Mr. MCNERNEY. Thank you.

Ms. Dorka, can you describe what the EPA will be doing to develop guidance on methods that other agencies could use to assess progress toward their environmental goals as was suggested by the EPA?

Ms. SOTOLONGO DORKA. Thank you, sir. I will let my colleague speak about specific goals related to environmental justice. I can tell you that my office does participate with the Department of Justice in one of the committees of the IWG, the Title VI committee, and we often share with our sister agencies all of our own performance measures from a civil rights perspective and the progress that we have been making.

Mr. MCNERNEY. Well, OK. Ms. Wooden-Aguilar, in his testimony, Mr. Gómez noted that the EPA has consistently said that the lim-

iting factor in addressing the Executive order on environmental justice has been the will of leadership across Federal Government to make clear, measurable commitments to those priorities that ensure adequate resources.

If this is the case, can you please explain to the committee how the Trump administration's decision to consistently target the Office of Environmental Justice for budget cuts ensures adequate resources for the office and its goals?

Ms. WOODEN-AGUILAR. So on the topic of strategic planning, as stated in my opening statement, strategic planning is very important to the agency, and we are currently reviewing all of the GAO recommendations. But I will say that EPA will embark on the process of developing that strategic plan with performance measures and goals, and we aim to complete that by fiscal year 2020.

Mr. MCNERNEY. But that has nothing to do with past actions to cut budgets from these agencies.

Ms. WOODEN-AGUILAR. So the Office of Environmental Justice, with the resources provided to us by Congress, will continue to not only promote environmental justice within EPA but also across the Federal family.

Mr. MCNERNEY. Well, can you share with the committee what role the Office of Environmental Justice played in the EPA's decision to rollback such efforts as the Clean Power Plan, the clean car standards, and the rule regarding a reduction of methane emissions?

Ms. WOODEN-AGUILAR. So the EPA's Office of Environmental Justice, again, works very closely with our programs and activities. The Office of Policy has an action development process, which is a rulemaking process. Environmental justice Executive order along with the other executive orders are considered in that process.

Specifically, to your question, I would be happy to follow up with our Congressional Affairs.

Mr. MCNERNEY. I think I have heard that answer before this morning.

Ms. WOODEN-AGUILAR. Yes, sir.

Mr. MCNERNEY. One thing I did not see in your testimony was a strong explanation of what actions the EPA is taking to ensure that the robust and meaningful involvement standard for equitable environmental justice is being met. Can you describe how the EPA ensures that this standard is being met, specifically with regard to rulemaking?

Ms. WOODEN-AGUILAR. So the Office of Policy, again, has an action development process where the Executive Order 12898 is incorporated and considered into all rulemakings. Specifically, if you would like to see how that incorporation occurs, we have a rulemaking docket that describes how environmental justice was considered. It is on our website. I would be happy to provide it to you.

Mr. MCNERNEY. All right. I am sort of—I am not satisfied with the answers, but I have run out of time.

Mr. TONKO. But we thank you for your questions, and the gentleman yields back.

And, finally, we——

Mr. CARTER. Finally?

Mr. TONKO. On this first panel.

Mr. SHIMKUS. We hope.

Mr. TONKO. We recognize the gentleman from Georgia, Representative Carter, for 5 minutes, please.

Mr. CARTER. Thank you, Mr. Chairman. Mr. Chairman, I ask unanimous consent to have taken into the record two articles from the EPA about ethylene oxide and its use in sterilization of medical devices.

Mr. TONKO. Without objection——

Mr. CARTER. Thank you.

Mr. TONKO [continuing]. So ordered.

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

Mr. CARTER. Thank all of you for being here today. We appreciate your participation. Ms. Aguilar, I am going to start with you and ask you, as I understand it, the responsibilities of environmental justice coordination and oversight fall onto the EPA. And there was a memo that was issued in February of 2018, EPA's Environmental Justice and Community Revitalization Priorities. And in that memo, EPA laid out its core mission of goals in regards to this topic. And one of the things that was mentioned in there was the achievable outcomes for underserved and overburdened communities with exposure to lead and access to safe drinking and harmful air pollutants.

This committee has worked, and specifically this subcommittee, has worked diligently in the past on clean water, particularly—and with lead in our water, and particularly the situation up in Michigan that we worked on in this subcommittee.

And I just wanted to ask you: How important is the Brownfields Program and the Safe Drinking Water Program to your core mission here?

Ms. WOODEN-AGUILAR. So those two programs are very important collaborators and partners with the Office of Environmental Justice. As noted in the Fiscal Year 2019 progress report, it talks about how environmental justice is integrated into not only our Office of Water but also the office that leads the brownfields activities.

Mr. CARTER. Great. Thank you for that. And the EPA mentioned cooperative federalism with State and local authorities, and this is extremely important to me, having served in the past in local elected office, and I wanted to ask you, I believe this is the crux of the issue here and of what we are trying to do is that localized effect that I think, along with private support, and that is very important as well, that drives real changes.

Can you tell me how the EPA is interfacing with States and local communities on a regular basis?

Ms. WOODEN-AGUILAR. So EPA continues to partner with States. Environmental States, environmental agencies are key partners in a lot of what EPA does. Specifically, with our Office of Environmental Justice, we often work with our State environmental agencies, sometimes side by side, on these very difficult and localized topics.

But specifically, EJ grants, again, we authorize them and they are for the specific purpose of bringing communities together so that these issues are not only just identified by the Agency but also identified by the local community and partners around, including

State, Tribal, private, and such are coming together to work through these very difficult issues.

Mr. CARTER. So I think you may have just answered my next question, and that is your involvement with the private sector. Do you have a direct relationship, a direct working relationship with the private sector?

Ms. WOODEN-AGUILAR. So, speaking for EPA, EPA works with a number of partners, including private sector. In the Office of Policy, we also have a program, Smart Sectors, where we bring private and a number of associations together on these very difficult topics.

The Office of Environmental Justice actually works with that. And, again, I would be happy to follow up and provide you more information on what our Smart Sectors Program does and how we work with them.

Mr. CARTER. Well, I would appreciate that. How important do you think that is to the long-term sustainability of this type of program? That is, working with the private sector.

Ms. WOODEN-AGUILAR. So working with the private sector, and working with communities, and working with States is vitally important. Everyone's voice is important. In order for us to really tackle these very difficult issues, we need to hear from everyone. And so EPA is committed to not only hearing from communities and States, but also from private industry.

Mr. CARTER. I am going to hold you to that, OK? And I will tell you why. We have got some brownfield sites in my district that have—I mean, 20, 25 years. We need help. Local communities are trying to reach out. I have delivered a letter personally to the EPA Director asking about a specific site in my district. You know, why 20, 25 years? I mean, some of this is prime property that needs to be developed and would help these communities so much.

So I appreciate your work, appreciate all of you being here today. This is extremely important. Don't think for one moment that we don't take this seriously, because we all do.

Thank you, and I yield back.

Mr. TONKO. The gentleman yields back.

And, again, I want to—as we conclude this first panel, I want to, again, thank our witnesses for joining us today. And perhaps as you are answering various questions that you have committed to send over the way of the subcommittee, perhaps you can highlight for us how you interact with the enforcement wing of EPA to make certain that environmental justice is approached. I don't know if we have tied that together.

So, and at this time, I, again, thank you, and ask that staff prepare the witness table, so that we may begin our second panel shortly.

[Recess.]

Mr. TONKO. We welcome this very distinguished group to our hearing today for our second panel. And all stakeholders, so it is important to hear from you, and thank you again for your participation and the efforts that you have made to come here. Most respected and appreciated.

So let me now introduce our second panel. Beginning to my far left, we have Ms. Ruth Santiago, attorney with Comite Dialogo

Ambiental de Salinas. Forgive me if that was not done as perfectly as it should be.

Ms. Sharon Lavigne, founder and president of Rise St. James.

Next we have Ms. Elise Herring of Duplin County, North Carolina, resident and organizer of the North Carolina Environmental Justice Network.

We then have Ms. Melissa Cribbins, commissioner of Coos County Board of Commissioners, on behalf of the National Association of Counties.

And then Mr. Patrick Ford, executive director of the Lebanon/Marion County Industrial Foundation.

And then, finally, to our far right, Mr. Mustafa Santiago Ali, vice president of environmental justice, climate, and community revitalization with the National Advocacy Center at the National Wildlife Federation.

Thank you, one and all, for being here. We want to thank our witnesses again for joining us today. We look forward to your testimony.

And at this time, the Chair will recognize Ms. Ruth Santiago for an opening statement of 5 minutes.

And, again, you know of the light—the lights that will signal the time. You start with green, you will have a yellow at 1 minute, and red when you are finally done.

So, again, Ms. Santiago, you are available now for 5 minutes of opening statement.

STATEMENTS OF RUTH SANTIAGO, ATTORNEY, COMITE DIALOGO AMBIENTAL DE SALINAS; SHARON LAVIGNE, FOUNDER AND PRESIDENT, RISE ST. JAMES; ELSIE HERRING, DUPLIN COUNTY, NORTH CAROLINA, RESIDENT AND ORGANIZER, NORTH CAROLINA ENVIRONMENTAL JUSTICE NETWORK; MELISSA CRIBBINS, COMMISSIONER, COOS COUNTY BOARD OF COMMISSIONERS, ON BEHALF OF THE NATIONAL ASSOCIATION OF COUNTIES; PATRICK B. FORD, EXECUTIVE DIRECTOR, LEBANON/MARION COUNTY INDUSTRIAL FOUNDATION; AND MUSTAFA SANTIAGO ALI, VICE PRESIDENT, NATIONAL WILDLIFE FEDERATION

STATEMENT OF RUTH SANTIAGO

Ms. SANTIAGO. Thank you. Good afternoon, everyone, all of the members of the subcommittee and the committee and the public here present. So we really appreciate the opportunity to provide comments to the subcommittee.

And I was thinking this morning that this is likely the first time that communities and groups from Guayama, Puerto Rico—from the Guayama region in Puerto Rico—are able to provide testimony to Congress, probably not just to the subcommittee but also to the entire Congress, and I imagine that might be the case for the other groups here.

And so I think it is important to say a little bit about and provide a little context about the Guayama region in southeastern Puerto Rico. So most of you probably know that Puerto Rico is a Territory of the United States, and it is in the Caribbean, and it

is basically—geographically, it is like a mountainous island surrounded by a narrow coastal plain.

And so Guayama is in the southeastern part of that coastal plain but has mountainous areas as well, has sort of rainforest on one side and subtropical dry forest on the other and, you know, coastal resources, offshore islands. There is actually a reserve designed by NOAA for its unique resources, like the South Coast Aquifer that provides water to most of the population.

And so it is rich in natural resources, but also has I guess been described as a beautiful place with serious problems, because Guayama, the region, has been—is sort of a sacrifice zone for the rest of Puerto Rico and maybe beyond in terms of energy generation especially.

And so the region is a site of the two most contaminating power plants in Puerto Rico. Actually, three plants because the Aguirre Power Complex is the largest energy facility in Puerto Rico, and then there is also the AES coal-burning power plant in Guayama.

And I will focus—although both power plants, both facilities, create immense problems for the mostly Afro-descendant communities that populated the area during the sugar cane monoculture economy. But what happened when, you know, sugar cane was phased out, the industrialization process in Puerto Rico required, you know, the establishment of these, or there was a decision made to establish these big power plants in the Guayama region.

And the power plants have multiple impacts. It certainly overburdens these environmental justice communities in the Guayama region and in the various municipalities within the region. And some of the impacts related to the power plants include not only just the air emissions, you know, being number one and two in toxic emissions in Puerto Rico, and also the impacts to water supplies.

As I mentioned, the South Coast aquifer, it is the sole source of potable water for tens of thousands of people, and it is being impacted, both in terms of extractions from the South Coast aquifer and contamination of the South Coast aquifer.

And so the marine environment, as I mentioned, it is a coastal area. In addition to the mountainous areas, it is a coastal area, and the power plants also affect the coastal resources.

The AES coal-burning power plant in particular—we had a very curious situation in Puerto Rico, because this AEA coal plant, coal-burning power plant, started operations in November 2002. Very strange that at the dawn of the 21st century we get a coal-burning power plant, which is one of the oldest forms to generate electricity.

And this plant, AES, has absolutely no disposal facility for its coal ash waste. And they generate about 300,000 tons per year of this material. And so I am sure everyone knows that the coal ash waste—and I have a sample here—AES claims that it is an aggregate construction material. But as you can see, it easily turns into fugitive dust. And I will submit that for the committee.

And so this generates a lot of fugitive dust when it is in its right form, which is how AES accumulates this material on its plant site, because it has no disposal facility. And so this is a mixture or a combination of heavy metals that studies have shown trigger the

Superfund investigation criteria by 20 times in terms of what—the components of this coal ash waste, the heavy metals.

In my written statement, you will find the list of what we found, and this is thanks to the coal combustion residuals rule that was passed in 2015 that we acquired this information about how this coal ash waste that is on the site of the coal-burning power plant is leeching these heavy metals into the water, into the part of the South Coast aquifer. So, you know, we can mention selenium, lithium, molybdenum, arsenic, all of these things that everyone knows.

Mr. TONKO. Ms. Santiago, we are going to have to have you wrap up, please.

Ms. SANTIAGO. Sure. So, and our request, specific request, is that we encourage EPA to stop these rollbacks of the coal combustion residuals rule and perform a Superfund investigation in the Guayama region.

Thank you.

[The prepared statement of Ms. Santiago follows:]

November 20, 2019

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House Committee on Energy and Commerce
Congress of the United States
Washington, DC 20515

Chairman Paul Tonko
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Testimony of Ruth Santiago on the Applied Energy Systems (AES) Coal Plant in Guayama, Puerto Rico and the Impacts of Climate Change on Coal Ash Contamination

Chairman Tonko and Members of the Subcommittee on Environment and Climate Change, I appreciate the opportunity to testify today at the hearing entitled, "Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities" on behalf of Comité Diálogo Ambiental, Inc. ("Diálogo)" - a community environmental group and nonprofit corporation in Puerto Rico. Among one of many environmental justice issues in Puerto Rico is coal ash contamination due to the AES coal plant in Guayama, Puerto Rico and the severe consequences Hurricanes Irma and Maria have had on communities as it pertains to coal ash waste and contamination.

Introduction

Coal ash is one of the nation's largest industrial waste products and contains deadly toxic substances, including carcinogens like arsenic, cadmium and chromium, and neurotoxins such as lead and lithium, which have polluted air and water at hundreds of coal ash dump sites across the nation. Decades of dumping by the electric utility industry have created hazardous leaking dumps at almost all U.S. coal plants, and monitoring data found that 91 percent of U.S. coal plants are currently contaminating groundwater with toxic substances above federal health standards.

Throughout their history, coal-fired plants have disposed of coal ash in the cheapest way possible, with little regard for potential health or environmental harm. The most common form of disposal has been to simply dump coal ash (mixed with water) into massive, unlined pits adjacent to the power plant. It is important to realize that most power plants are located near bodies of water to provide the steam that generates electricity, meaning that these unlined, leaking pits of toxic waste have generally been located near rivers and lakes that get contaminated when the ash pits leak. EPA estimates that there are about 1,000 coal ash pits or ponds across the U.S., as well as more than 400 landfills and thousands of uncounted coal ash fill sites.

Coal ash is also sometimes stored or disposed in mountainous piles, including the ash pile in Guayama, Puerto Rico, which has reached an alarming height of 12 stories. These piles usually sit directly on the ground and are uncovered, leaving the coal ash open to the elements. Wind blows the ash onto nearby communities. Rain filters through the ash, and the contaminated water sinks into the ground, poisoning groundwater or runs off the pile - taking toxic ash along with it.

Hundreds of *millions* of tons of coal ash have also been used as fill material - a cheap but dangerous alternative to clean soil. Its application is vast and includes leveling ground for construction, filling in low-lying areas, and serving as foundations for roads and buildings, as a so-called "beneficial" use. In addition, this toxic mixture has been used at schools, playgrounds, and sports fields. Millions of tons of coal ash have been used as a substitute for clean fill throughout Puerto Rico.

Environmental justice communities — where residents are predominantly people of color and/or low-income — are disproportionately impacted by exposure to coal ash, as with so many other environmental hazards. Coal-fired power plants and their associated coal ash waste pits are disproportionately located near environmental justice communities. According to a 2012 report by

the NAACP, the average per capita income of those living within three miles of a coal-fired power plant is thousands of dollars lower than the national average, and 39 percent of them are people of color. Indeed, in 2016, the United States Commission on Civil Rights found that "communities that live downstream from coal ash impoundments tend to have a higher than average minority and low-income population."

Those who live close to these plants are at an increased risk of exposure to air, soil and water contaminated by coal ash toxins. But it goes well beyond that. Almost every disposal or use method for this waste product disproportionately endangers low-income communities or people of color, and this is particularly true in Puerto Rico. And the extreme weather hastened by climate change threatens to increase the harm wrought by coal ash.

Context and Evidence of Coal Ash Contamination from AES-PR

Since 2002, AES Puerto Rico, LLP (AES) has owned and operated a 454-MW coal-burning power plant in Guayama, Puerto Rico and has no disposal facility for the approximately 300,000 tons per year of coal combustion residuals (CCR or coal ash) that it generates. For years, AES has been accumulating hundreds of thousands of tons of CCR at the southern end of the plant site in a mountainous, uncovered pile, in proximity to wetlands and coastal communities. Since its planning phase, AES maintained that the plant's CCR were not waste, since AES would mix and compact the CCR into a so-called product, which AES attempted to market as *Agremax*.[1] The Commonwealth had no law, rule or regulation that addressed the management and disposal of CCR, until 2017 when

[1] *In re: AES Puerto Rico, LLC*, PR Environmental Quality Board Res. Num. R-96-39-1 (Oct. 29, 1996).

it adopted a law to prohibit the disposal and use of coal ash.[2] That law, however, does not apply to *Agremax*.[3]

The U.S. Environmental Protection Agency ("EPA") saw the matter quite differently. EPA considers *Agremax* indistinguishable from CCR and considers AES' massive accumulation of CCR on the plant site to be a "CCR pile" under its 2015 CCR rule.[4] According to the CCR rule, the CCR pile is an "existing landfill" subject to all the requirements applicable to CCR landfills. The CCR rule specifies that any "non-containerized accumulation of solid, non-flowing CCR that is placed on the land is a CCR pile."[5] A pile of CCR that may someday be used beneficially (whether on-site or off-site) but is not yet beneficially used remains subject to the CCR rule.[6] Hundreds of thousands of tons of *Agremax* have been stockpiled at the AES plant site since the plant started operation in November 2002. The AES coal ash waste continues to be placed directly on the land at the facility without proper containment measures.

AES-PR's storage of CCR, in a huge, steep-sloped pile, exposed to frequent Caribbean storms and winds, is in conscious disregard of the health and safety of nearby communities. After Hurricane Maria, community members documented the surficial erosion, the reduction in height, and the removal of surface material, resulting from surface run-off and wind action on the coal ash waste pile at the AES plant site in Guayama, Puerto Rico.

Even absent an extreme weather event, fugitive dust from the coal ash pile has plagued residents of Guayama near the plant for years. Dust from the pile blows on schools and residential

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[2] Ley para Prohibir el Depósito y la Disposición de Cenizas de Carbón o Residuos de Combustión de Carbón en Puerto Rico, Law 40-2017.
[3] *Comité Pro Salud v. Junta de Calidad Ambiental*, 2018 WL 835044 (2018)
[4] 40 C.F.R. 257.53. *See also* 80 Fed. Reg. at 21355-56
[5] EPA letter dated December 22, 2016 in EPA AES file
[6] 80 Fed. Reg. at 21356

areas and even enters homes. Inhalation of coal ash is recognized to cause multiple adverse health impact, including heart and lung disease and cancer.

Inspection and groundwater monitoring reports by AES itself, required by the CCR rule, reveal serious water and air contamination caused by the CCR pile as well as poor maintenance. A July 2017 CCR Inspection Report for the AES coal ash waste pile containing 430,000 tons of CCR notes that, "[l]ocalized rills were observed on the surface of stockpile slopes, they appeared to be related to over-watering by the water sprinkler guns. . . . The water truck was not operational at the time. **Some fugitive dust caused by wind was observed on the west slope of the Stockpile at the time of inspection**."[7] Regarding the CCR pile, the inspection report describes that it had "increased to an estimated height of 120 feet," while its "slopes have become longer and steeper."[8]

The 2017 Annual Groundwater Monitoring Report (the "Report") for the AES Guayama plant site, as required by CCR rule, indicates that the groundwater in downgradient wells, especially wells MW-3 and MW-4, is highly contaminated with coal ash pollutants.[9] When compared with the upgradient wells (MW-1 and 2), the levels of coal ash contaminants in the downgradient wells are orders of magnitude higher, depending on the contaminant.[10] The direction of groundwater flow is away from the coal ash waste pile and towards the sea and a coastal community visible from the satellite photograph in the Report.[11] The Report results indicate the coal ash contaminants present in the groundwater as follows.

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[7] Winston R. Esteves, CCR 2017 Annual Inspection Report AES Puerto Rico, Guayama, PR (July 2017) at p. 3 (*emphasis added*). *Available at*: http://aespuertorico.com/wp-content/uploads/2017/10/2017_Annual-Inspection-Report.pdf

[8] *Id.*

[9] DNA-Environment, LLC 2017 Annual Groundwater Monitoring Report AES Puerto Rico LP, Guayama, Puerto Rico (Jan. 31, 2018). *Available at*: http://aespuertorico.com/wp-content/uploads/2018/02/2017_01_31_AES_Groundwater-Monitoring-and-Corrective-Action_Annual-Report.pdf (Last visit April 30, 2018).

[10] *Id.*

[11] *Id.*, at p. 11.

Table 1. Concentration of selected contaminants at AES downgradient wells[12]

Contaminant	Well	Concentration	Background level	Level of contamination
Boron	MW-4	3800ppb	160ppb	22 times the background level
Sulfate	MW-4	16,000ppm	7.1ppm	2200 times the background level and 64 times the EPA secondary drinking water standard ("SMCL") of 250 ppm
Total Dissolved Solids	MW-4	41,000 ppm	460 ppm	89 times the background level and 82 times the SMCL

Table 2. Concentration of selected metals at AES downgradient wells[13]

Contaminant	Well	Concentration	Federal drinking water standard (MCL) or health-based threshold	Level of contamination above federal standards
Selenium	MW-3	98 ppb	50 ppb	Nearly twice the MCL
Lithium	MW-4	1100 ppb	There is no MCL for lithium. The EPA health-based threshold for tap water is 40 ppb.	27.5 times the health-based threshold
Molybdenum	MW-3	530 ppb	There is no MCL for molybdenum. The EPA health-based threshold for tap water is 100 ppb.	5.3 times the health-based threshold
Chromium	MW-3	31 ppb	The CA limit in drinking water for Cr6 is 10 ppb	3.1 time the CA drinking water standard for Cr6
Arsenic	MW-6	6.2 ppb	EPA MCL is 10 ppb.	62% of the EPA MCL
Radium 226 & 228	MW-3	1.07 pCi/L	California public health goal of 0.07 pCi/L (total radium).	15.2 times the CA public health goal

[12] *Id.*, at p. 7.
[13] *Id.* at p. 8-9.

These elevated levels of pollutants indicate the AES coal ash waste pile is releasing hazardous chemicals to the groundwater, which are flowing offsite. Selenium is very toxic to fish at low levels, and selenium bioaccumulates. Its presence in small fish, sediment and plants could endanger the greater population.[14] When ingested, sulfate will harm the digestive track and is particularly dangerous for infants and the elderly. Sulfate at this level will be dangerous for livestock and wildlife. Chromium from coal ash is primarily hexavalent chromium (Cr6), which is a very potent carcinogen in small doses.[15] There is not yet an EPA MCL for Cr6, but California set a limit of 10 ppb for drinking water.[16] Chromium is frequently found in coal ash leachate, and it is particularly high in the groundwater at the AES site. The arsenic levels are approaching, but not yet exceeding the EPA's MCL. Diálogo contends that the EPA MCL is not sufficiently protective and that any level of arsenic presents risks. A level of 6.8 ppb is likely to be an unacceptable risk in drinking water, because arsenic is a potent carcinogen for several cancers.

From approximately 2004 to 2012, over two million tons of the AES coal ash waste, *Agremax*, has been used as fill in various projects in Puerto Rico, including housing, commercial developments, and road projects. These pollutant levels raise questions regarding the status of all the coal ash fills in Puerto Rico. The fills are not monitored, yet the same dangerous chemicals may be leaching from them. Many of the AES fill sites are near drinking water wells,

[14] *See e.g.* Lemly, AD (April 2002). Symptoms and implications of selenium toxicity in fish: the Belews Lake case example. Aquat Toxicol. 57(1-2):39-49.
[15] ATSDR, Toxicological Profile for Chromium. *Available at:* https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=62&tid=17
[16] California Water Boards, Chromium-6 Drinking Water MCL, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chromium6.html

thus threatening public health. The vast majority of construction sites where AES CCRs were disposed of are located in proximity to the AES coal plant in Guayama.

The Guayama region, an environmental justice community according to the Toxic Release Inventory, is the most contaminated region in Puerto Rico. The Guayama region was known as the hunger route and has one of the highest percentages of people of African descent in Puerto Rico. High poverty rates, unemployment and school dropout rates characterize the Guayama region. The AES disposal of CCR in the Guayama region in proximity to the plant and the AES CCR waste pile pose disproportionate public health risks to this environmental justice community. The AES plant is among the disproportionate number of electric utility plants that are surrounded by areas with higher than average populations of children.[17]

Fugitive dust emissions from coal ash disposal and "beneficial use" can have grave consequences for environmental justice communities. In July 2016, the University of Puerto Rico, Graduate School of Public Health conducted an epidemiological study of communities in Guayama, downwind from the AES plant. The research project emerged as a response to residents' claims of adverse environmental conditions present in their communities, in particular, the exposure to ash from the burning of coal, that were adversely affecting public health.[18] The epidemiological study concluded that the Guayama community suffers higher incidence of respiratory disease, cardiovascular disease, asthma, hives, spontaneous abortions, bronchitis than a community whose air and environment are not impacted by the power plant. The most relevant findings of the epidemiological study carried out in the communities of Guayama and Fajardo

[17] Docket No. EPA-HQ-OLEM-2017-0286 at 35,288.
[18] Universidad de Puerto Rico, Recinto de Ciencias Médicas, Escuela Graduada de Salud Pública - Departamento de Bioestadística y Epidemiología, Estudio Epidemiológico en las Comunidades de Puente de Jobos y Miramar en Guayama y Santa Isidra y Rafael Bermúdez en Fajardo (2016 ppt) (attached).

found: 1 of every 3 people in Guayama has been diagnosed with respiratory disease; 1 of every 4 people in Guayama has been diagnosed with cardiovascular disease; pediatric asthma is approximately 5 times greater in Guayama; Severe asthma in children is 6 times higher in Guayama; The prevalence of urticaria (hives) is 7 times higher in Guayama; The prevalence of spontaneous abortions is more than 6 times higher in Guayama; The probability of suffering from chronic bronchitis in the larger population of 45 years is 9 times higher in Guayama; The probability of suffering from pediatric asthma is approximately 6 times greater in Guayama. These results were confirmed in a subsequent study in 2018.[19]

EPA's Phase 2 Proposed Rollback

After Trump was elected, AES filed a petition demanding the exemption of waste piles from the 2015 CCR Rule – the first-ever federal rule to provide safeguards for the disposal of coal ash waste. EPA responded with a proposed rule published on August 14, 2019, which it calls its "Phase 2 proposal."[20] EPA's proposal is a pass for industry that allows toxic coal ash waste piles to escape critical protective safeguards, including groundwater monitoring, dust control plans, cleanup requirements, limits on height and volume, inspections, liners, and closure and post-closure maintenance. These and other harmful exemptions from the CCR rule would further devastate the health and environment of environmental justice communities in Puerto Rico. Outside Puerto Rico, this is also a problem, as large coal ash piles are disproportionately located near low-income communities in the Continental U.S., Alaska and Hawaii.

[19] *Id.*; Luis A. Bonilla Soto, Prevalence of chronic diseases in the communities of Miramar and Puerto de Jobos in the municipality of Guayama: one investigation per survey (2018) (attached).
[20] Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Enhancing Public Access to Information; Reconsideration of Beneficial Use Criteria and Piles, 84 Fed. Reg. 40,353 (Aug. 14, 2019).

In addition to exempting waste piles from protective regulations, EPA's Phase 2 proposal would also exempt from regulation most re-use projects involving placement of toxic coal ash on land for "beneficial use." Though EPA itself determined that toxic coal ash used in landscaping or construction projects near homes, wells, and bodies of water has in the past severely contaminated drinking water, soil, lakes, streams, and air sites across the country, it is now seeking to remove critical protections for this dangerous use of coal ash. EPA's proposed rule would permit the use of unlimited volumes of toxic coal ash in projects where it is placed on land without any safeguards to prevent leaking, without any monitoring requirements to detect water contamination, and without controls protecting against fugitive dust that blows from re-use projects. Coal ash used as fill material across the U.S. – to level playgrounds, schools, roadways and other construction sites – more often occur in environmental justice communities.

In Puerto Rico, most local municipal authorities have rejected the use of AES CCRs within their respective jurisdictions. This form of haphazard regulation, based on personal observation and experiences related to CCR disposal, is not protective of human health and the environment because CCR generators and secondary users relocate to municipalities that are unaware of the risks posed by land filling or application of CCRs. In fact, the Puerto Rican legislature just passed a bill on November 14, 2019, prohibiting CCR disposal or deposits on all roads and land – including landfills and bodies of water -- within the territory of the government of Puerto Rico.[21] The prohibition includes the use of non-encapsulated CCR, whether or not it can be considered as "beneficial use." The passage of this bill reflects the Puerto Rican

[21] P. del S. 1221, Senate of Puerto Rico. 18va. Legislative Assembly. March 13, 2019.

government's recognition of the very significant threat to health and the environment posed by disposal and "beneficial use" of CCR.

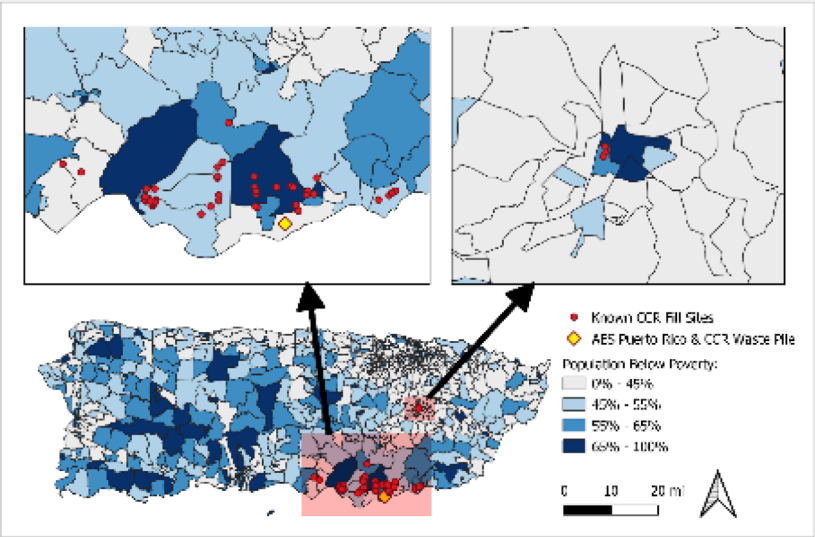
From approximately 2004 to 2012, more than 2 million tons of toxic coal ash from the AES-PR Guayama Power Plant were used as fill material in dozens of construction projects throughout Puerto Rico. Instead of disposing of the coal ash it generated in a secure landfill, AES-PR sold or gave away the ash as a means of ridding itself of the toxic material. The ash was used to build roads, serve as foundations for buildings, or simply to level land and fill voids. It ended up next to homes, schools and hospitals, and was not always buried or covered - piles of ash have stood for years in places where people, including children and animals can be exposed to its dust and toxins.

Child playing on coal ash pile in Puerto Rico. *Photo by Victor Alvarados.*

Now, at dozens of sites, coal ash lies exposed on the ground. At some of these sites, a thin soil cover was worn away by wind, water and severe storms. Many of these exposed areas

of ash are in residential areas or in areas, such as schools and hospitals where sensitive populations -including children or the infirm - can come in direct contact with the ash and breathe its dust. Most of these areas are in the poorest communities in Puerto Rico. A map below of the known coal ash fill sites indicates that this is an environmental justice problem.

Puerto Rico – CCR Fill Sites, Waste Pile, and Percent Population Below Poverty Estimates[22]



Hurricane Maria/Climate Solutions for Environmental Justice Communities In Puerto Rico

[22] U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table S1701 - Poverty Status in the Past 12 Months (Puerto Rico Census Tracts). Note: The state and national average estimates provided in QuickFacts and in Table S1701 - Poverty Status in the Past 12 Months differ slightly. Table S1701 lists the Puerto Rico percent persons in poverty as 44.4%, and the national percent as 14.6%.

Over 100 coal ash waste storage sites are located in areas that federal emergency managers have labeled high risk for flooding.[23] Due to the planet's increase in temperature, extreme weather – heavier rains, more frequent occurrences of 100-year storms, and hurricanes – lead to rising water tables that flow into coal ash impoundments, causing groundwater contamination. According to the 2018 National Climate Assessment, as greenhouse gas emissions rise, floods and hurricanes will gravely increase. Thus, if coal ash pond flood protection measures do not take climate change and flood risks into account, they will be rendered futile.

When talking specifically about Puerto Rico, Hurricane Maria must be at the center of the conversation. Hurricane Maria decimated the island's entire electrical grid, kicked off a ten-month blackout—the longest in U.S. history—which ultimately raised the official death toll to nearly 3,000. This high death toll is attributable to the lack of electric service to power life-saving medical equipment, lack of access to medical treatment, and medication. The elderly are especially vulnerable during power outages, and Puerto Rico's population is growing increasingly older as working age people flee, in droves, in search of job opportunities that could be locally available with a swift transition to solar - at or close to the point of use and other alternatives to central station, fossil fuel generation and long-distance transmission.

More than two years after Hurricane Maria, Puerto Rico is still depending on unreliable transmission lines that transport energy from the large, central station, fossil fuel plants in the southern part of the Island, through the central mountain range and tropical forests to the load centers in the San Juan metro area in northern Puerto Rico rather than rooftop solar communities, energy efficiency and demand response programs, as well as energy storage systems. The

[23] *Id.*

transmission lines are frail and subject to constant breakdowns. Various blackouts after the alleged restoration of the electric grid have been due to transmission line failures that tripped the whole or a substantial part of the grid.

Currently, 97-98 percent of electric energy in Puerto Rico is generated from central station, fossil fuel combustion and only 2-3 percent from renewables, not nearly achieving the Renewable Portfolio Standard ("RPS") established via legislation.[24] Historically, the Puerto Rico Electric Power Authority ("PREPA") has made huge outlays of funds, up to three billion dollars ($1 to $3B) per year for fossil fuel purchases and payments under power purchase (and operation) agreements. The oil, coal and methane (natural) gas burned by PREPA and the two private electric energy plants in Puerto Rico is sourced from wells and mines far from the Island, which increases the cost of energy generation. The operation of all fossil fuel plants in Puerto Rico produces multiple contaminants that adversely impact public health and the environment. The main electric plants: the Aguirre Power Complex and Costa Sur (South Coast) and the plants with which PREPA has power purchase agreements, AES Puerto Rico, L.P. and EcoEléctrica are located in southern Puerto Rico and require an elaborate, costly and now, weakened transmission system to deliver power to the load centers in the north, particularly to the San Juan metropolitan area.

The AES Corporation power plant and the Aguirre Power Complex, located in southeastern Puerto Rico, are the two primary sources of toxic emissions in Puerto Rico and disproportionately impact some of the poorest communities. The AES coal burning power plant in Guayama, which transmits electricity to the San Juan metro area, accumulates hundreds of

[24] The Puerto Rico Energy Diversification Through Renewable Sustainable and Alternative Energy Public Policy Law (Law No. 82 of July 19, 2010), requires generation of sustainable renewable energy to be produced in Puerto Rico at the rate of twelve percent (12%) renewable energy production by 2015, fifteen percent (15%) by 2020 and 20% by 2035.

thousands of tons of coal ash waste at its plant site that have already contaminated part of the South Coast Aquifer, the sole source of potable water for tens of thousands of people in Puerto Rico.

The two large plants in southwestern Puerto Rico both burn methane (natural) gas and also transmit energy long distance. Gas combustion is the substitution of one group of contaminants for others. The myth that methane gas is a cleaner energy source is a fallacy. The methane LNG used in Puerto Rico has to be stored under cryogenic conditions and revaporized before it can used at the plants. These additional processes add to the total emissions of LNG use in a way that exceeds the CO2 emissions of other fossil fuels. Methane gas combustion also emits increased Volatile Organic Compounds (VOCs) such as formaldehyde, benzene, toluene, hexane, and styrene.[25]

Continued reliance on these plants for energy transmission to San Juan and northern Puerto Rico is another disaster in the making.

Civil society groups, including community, environmental, labor and academia have come together to promote a platform for the transformation of the Puerto Rico grid known as, "Queremos Sol," or "We Want Sun" (www.queremossolpr.com). The proposal sets forth a vision, objectives and mechanisms to reach a goal of incremental advances in energy efficiency, demand response programs and escalating amounts of renewable generation based on community rooftop solar that would achieve 100 percent renewable generation by 2050. The Queremos Sol proposal stems from a previous effort known as "La Mesa de Dialogo Energetico" or "Energy Dialogue RoundTable". Shortly after the release of the Queremos Sol platform, the

[25] Pediatric Environmental Health Specialty Unit (PEHSU), Mount Sinai Medical School. pgs. 1-2. https://elibrary.ferc.gov/IDMWS/search/advResults.asp, Case No. CP13-193-000.

Puerto Rico Senate issued a bill to establish the Energy Public Policy for the Island that adopted the same 100 percent renewable energy goal. Afterwards, the Governor of Puerto Rico also announced the same energy goal, which is where any similarities end. There are extreme disparities in how the Queremos Sol platform, the proponents of Senate Bill 1121, the Governor, and the executive branch of government propose to transform the Puerto Rico electric system.

Historically, PREPA's decision-making has been by partisan politics rather than a commitment to energy planning in the public interest. PREPA must be freed of partisan politics and democratized. The transformation of PREPA must include multisector participation and transparency so that the voices of multiple sectors of Puerto Rican society are reflected in the governance of the utility.

The following specific proposals included in Queremos Sol are necessary for the transformation of PREPA to best serve the public interest:

1- PREPA's **board of directors** should be appointed or elected to fixed terms and possess relevant professional qualifications and energy industry expertise. Terms should be staggered. Three board members should be appointed by the governor from lists submitted by: (1) environmental organizations; (2) labor unions; and (3) small business organizations. Two board members should be appointed directly by (1) the Puerto Rico Cooperative League and (2) the Association of Economists. A sixth member should be selected from the engineering faculty of Puerto Rico universities. Two members should be elected by PREPA's residential and commercial customers as consumer representatives, and one should be elected by industrial consumers as an industry representative. Board members should be dismissed only for cause and only if the resolution authorizing dismissal receives more than six votes. The board must have finance and audit committees, and the members of these committees should not overlap.

2- The PREPA **executive director** should be appointed by the board through an open recruitment process. The board should have just cause before dismissing an executive director.

3- **Reform of contract and enforcement policies** should systematically address all contract irregularities discovered in audits by the Office of the Comptroller and by the 2016 Senate investigation into the purchase of fuel.

4- **Internal restructuring** should be informed by various audits and investigations of

PREPA fuel purchase practices that have highlighted the centralization of power and responsibility within its Fuel Office. The board should undertake a structural analysis of PREPA's operations to ensure that potentially conflicting operations are not centralized in a single office, particularly the Fuel Office.

5- The Legislature should authorize the creation of a non-profit, membership-based **PREPA Consumer Advisory Board** with access to all information available to PREPA board members, including all internal audit reports, and with the right to responses from the executive director to all written questions and statements submitted by advisory board members and with the ability to compel enforcement by the Puerto Rico Energy Bureau in the event that PREPA does not cooperate.

6- **Attraction and retention of an appropriate labor force** through appropriate policies aimed at reducing administrative costs associated with the large number of political appointments within the agency. Opportunities for workforce training, especially in renewable energy. An effective investigation into the costs of salary and benefits that PREPA has incurred due to political appointments.

7- Acknowledgement of **climate change as central to decision-making.** Climate change has typically been only an accessory in governmental conversations and priorities, in spite of

the significant impacts by way of social, fiscal and political impacts in Puerto Rico. Climate change must be understood as one of the central forces in the transformation of the energy sector, which is why it is imperative that PREPA integrate adaptation measures in infrastructure planning and that climate adaptation be inserted as a pillar in the design of all public policy, legislation and decision-making processes funded either publicly or privately.

8- **Effective opportunities for citizen participation and education**. Providing and supporting spaces for citizen participation in PREPA is in the spirit of publicly owned power companies and is vital to achieving baseline levels of agreement informed by inclusiveness and transparency. Energy conservation and resource issues should be incorporated into school curricula. Alliances should be established between the State Office of Energy Public Policy with universities and other organizations. Establishment of a roster of experts and companies complemented with the development of incubators for energy entrepreneurship and creativity. An energy literacy program including energy audits should be developed and aimed especially at small and medium-sized businesses and industry to implement conservation and reduction in electric bills.

9- **Promotion of labor sector participation**. Electrical industry workers are key to the sort of system change that will lead to a clean energy future. The term "just transition", defined as societal evolution toward cleaner energy resources and lower-emission economies while guaranteeing sustainable lifestyles and suitable workforce transition. In a just and equitable transition, affected workers, unions and communities are equal partners in a well-planned and carefully managed shift from fossil fuels to clean energy. A just transition provides employment opportunities for those who have traditionally been left behind and guarantees job security and livelihoods for energy-industry workers.

Pensions and health plan benefits are preserved, and workers and members of affected communities have the right to first employment for any work created through the dismantling of fossil fuel energy structures. Workers also receive education and training and ideally are unionized with similar salaries and benefits. A just and equitable transition will commit each level of government and business in a unified effort; provides workforce training; replaces lost tax revenues; and creates lasting and good jobs that strengthen the economy and support working families, especially jobs related to clean energy, energy efficiency and climate resilient infrastructure. A just transition requires that those responsible for pollution are held accountable for clean-ups so that communities in transition have usable land and clean water.

10- **Appointment of an Independent Inspector General of the Private Sector (IGISP).** An IGISP is an independent firm with expertise in auditing and management that would have the power to investigate and audit the day-to-day PREPA operations and report relevant findings and progress. For more information on the use of an IGISP in New York see: https://getnicklaw.com/areas-of-practice/independent-monitoring/case-studies/new-york- racing-association/.

11- **A comprehensive audit of the debt** (and holding accountable those who participated in illegal debt issuances) **and a debt restructuring** that protects local bondholders (individuals, small businesses, cooperatives) while ensuring a substantial reduction or elimination of debt repayment by PREPA ratepayers in order to achieve an affordable and financially sustainable electrical system.

EPA's Proposal to Extend the Operating Life of Coal Ash Ponds Threatens Environmental Justice Communities

EPA's recent rulemaking proposal[26] to extend the operating life and delay closure of coal ash ponds threatens the health and well-being of environmental justice communities throughout the United States. This proposal, called "Part A," postpones the closure dates for coal ash ponds, allowing unlined leaking ponds, ponds in unstable areas and ponds in areas subject to flooding to remain open for years longer than the existing rule. For the average coal plant, such delays would add over a million tons of toxic waste to these dangerous impoundments. Furthermore, this threat is significantly heightened by the storms and flooding caused by

[26] Pre-Publication Version of the Proposal: Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure, Docket No. EPA-HQ-OLEM-2019-0172, *available at* https://www.epa.gov/coalash/pre-publication-version-proposal-holistic-approach-closure-part-deadline-initiate-closure

climate change.

Although there are no coal ash ponds in Puerto Rico, it is essential to note that failure to close hundreds of coal ash ponds located throughout the nation increases the risk of catastrophic spills and groundwater contamination, and this risk is disproportionately borne by low-income communities and communities of color. As was documented following Hurricane Florence in North Carolina, flooding inundated CCR impoundments and caused the washout of CCR.[27] This was not the first instance,[28] nor will it be the last. As storms grow stronger as a result of climate change, it is likely that more coal ash spills will occur with greater frequency and severity.[29] Because, as the United States Commission on Civil Rights found, "communities that live downstream from coal ash impoundments tend to have a higher than average minority and low-income population," these coal ash spills, flooding and contamination threaten environmental justice communities disproportionately.

Conclusion

Alongside various communities, Puerto Rico remains at the forefront of the environmental justice fight. Our people have suffered for over a decade due to coal ash contamination from AES' coal plant and its egregious disposal practices. Continued reliance on both AES and the Aguirre Power Complex for energy keeps the island in a state of devastation and causes tremendous toxic emissions, disproportionately affecting the poorest communities. Climate change and specifically, Hurricane Maria, has exacerbated the harms caused by the electric

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[27] *See* A. Vengosh, E.A. Cowan, R.M. Coyte, et al., Evidence for unmonitored coal ash spills in Sutton Lake, North Carolina: Implications for contamination of lake ecosystems, Science of the Total Environment, 10.1016/j.scitotenv.2019.05.188

[28] *Id.*

[29] *See* Z. Coleman, "The toxic waste threat that climate change is making worse," *Politico*, Aug. 26, 2019, *available at* https://www.politico.com/story/2019/08/26/toxic-waste-climate-change-worse-1672998

power companies and coal burning utility. EPA must always consider these realities when addressing CCR disposal and cleanup – rather than weaken the existing safeguards, it must protect the environment and health of communities and not cater to industry.

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Mr. TONKO. Thank you very much.

Ms. Lavigne, is that right?

Ms. LAVIGNE. Yes, that is correct.

Mr. TONKO. Is it correct? Ms. Lavigne, you are now recognized for 5 minutes, please.

STATEMENT OF SHARON LAVIGNE

Ms. LAVIGNE. OK. Thank you. It is an honor and a privilege to be here with you today. My name is Sharon Lavigne. I am a daughter of a civil rights movement leader, and I live in St. James, Louisiana.

When I was growing up in St. James, it was a vibrant place, and I lived the American Dream as a little girl. But today we are living through a nightmare of industrial pollution and disease. In the spring of 2018, our Governor, John Bel Edwards, announced a $9.4 billion industrial factory proposed by Formosa Plastics, wanting to locate in St. James Parish a mile from the local public school and 2 miles away from my home.

While researching the project's history, we found out that in 2014 the Parish Council changed the land use plan for the 5th District where I live from residential to residential future industrial. Our residential neighborhood was suddenly deemed future industrial without our knowledge or consent.

The 5th District of St. James is already surrounded by industry, and it is making us sick. Maybe you have seen the press coverage of Cancer Alley where I live, which we now call Death Alley, because the health threats we face take so many forms.

I have autoimmune hepatitis and aluminum in my body. My grandchildren have breathing problems, and when they are outside playing for a period of time they develop rashes.

One day as I sat on my porch, I prayed. I talked to God and I said, "Do you want me to give up my land that you gave me?"

He said, "No."

"Do you want me to give up my home, the home that you gave me?"

He said, "No."

"Do you want me—what do you want me to do?" I asked God.

He said, "I want you to fight."

That was the beginning of my fight to stop Formosa Plastics. I felt that we were already bombarded by enough industry in the 5th District. Why should another chemical plant come to get here?

I found out that the Formosa plant isn't just one plant. There are at least 14 plants within the planned facility. Fourteen. I didn't know how to fight, didn't know what to do. I had never, ever stood up to industry in my life.

My first meeting I held was at my home on October 20, 2018. That was when we decided to come up with a name for our group. We decided on Rise St. James. After that, we planned our first march on November 3, 2018. That march brought a lot of attention to the people of the 5th District. That was my first time speaking out in public.

We have already had one victory. We worked to block a $1.5 billion petrochemical plant called Wanhua from coming to St. James Parish and being built within a mile of our homes. We appealed

the St. James Parish Planning Commission's approval of Wanhua's land use permit, and we won. Wanhua withdrew its proposal and ended up pulling out.

We need your help. Rise St. James is asking for a moratorium on the oil, gas, and petrochemical industry in our parish. These new plants poison our communities and deepen the plastic crisis. We want them to stop expanding. We want to protect our health, our homes, our land, and our future.

People in St. James need help from our elected officials. Our people are sick, and they are dying.

These emissions include ethylene oxide, a toxic chemical that causes cancer, like non-Hodgkin's lymphoma, leukemia, and breast cancer. Formosa's plant would be the third largest emitter of ethylene oxide in the country.

I retired earlier from teaching on October 3, 2019. I wanted to work a year or two more, but God put this fight into me to stop Formosa and any other chemical plant that comes to St. James. I am here because of the calling of God. I want to stop any and every industry that is coming to harm the health of the people in my community. God wouldn't have put this fight in me if he didn't have a plan.

I invite all of you to come to St. James and see it for yourselves. The civil rights struggle that my parents fought for continues today, and we fight for our survival against industrial polluters.

Thank you.

[The prepared statement of Ms. Lavigne follows:]

Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities

Written Testimony by Sharon Lavigne

My name is Sharon Lavigne. I am the daughter of a Civil Rights Movement leader and I live in St. James, Louisiana. When I was growing up, St. James was a vibrant place and I lived the American Dream as a little girl. But today, we're living through a nightmare of industrial pollution and disease.

In the 1960s, the first industrial plant came to St. James Parish. Many more followed. By 2017, I joined a community organization called HELP – the Humanitarian Enterprise of Loving People – where I learned about industrial pollution and its harmful effect on our environment and the health of people who live in my community.

In spring 2018, our Governor John Bel Edwards announced a $9.4 billion industrial factory proposed by Formosa Plastics wanted to locate in St. James Parish, a mile from the local public school and two miles from my home. While researching the project's history, we found out that in 2014, the Parish Council changed the land use plan for the 5th district where I live from 'residential' to 'residential/future industrial.' Our residential neighborhood was suddenly deemed "future industrial" without our knowledge or consent.

The 5th district of St. James is already surrounded by industry and it is making us sick. Maybe you've seen the press coverage of "Cancer Alley," where I live, which we're now calling "Death Alley" because the health threats we face take so many forms. I have auto-immune hepatitis and aluminum in my body. My grandchildren have breathing problems, and when they are outside playing for any period of time, they develop rashes.

During the HELP meetings, I would ask what we could do to stop this plant from coming in to St. James. People would tell me there was nothing we could do to stop it. Once the Planning Commission votes yes on the project, the Parish Council follows them and you can't do anything about it. I was told "There's nothing you can do about it, Sharon, it's a done deal".

So I would come home after those meetings and cry. One day, I sat on my porch and I prayed. I talked to God and I said, "Do you want me to give up the land that you gave me?" He said no. I said, "Do you want me to give up the home that you gave me?" He said no. I said, "What do you want me to do?" He said I want you to fight.

That was the beginning of my fight to stop Formosa Plastics. I felt like we were already bombarded by enough industry in the 5th District, why should another chemical plant get to come here? I found out the Formosa plant isn't just one plant, there are 14 plants within the planned facility. Fourteen!

I didn't know how to fight, didn't know what to do, and I had never stood up to industry in my life. My first meeting I held was at my house, on October 20th, 2018. I had 10 people come – two of them have died this year. After the meeting, I went to an NAACP conference in Baton Rouge at Southern University where they were talking about pollution and industry. I had a poster that I made, and I brought

it with me. I explained to people what was going on, and people started giving me their cards and telling me they were going to help me.

The next meeting was in my garage with 20 people. That was when we decided to come up with a name for our group. We decided on Rise St. James. After that, we planned our first march in November of 2018, a Saturday. It was a small march. We couldn't march on the highway because the Sunshine Bridge was closed for construction, so the police told us to march on the sidewalk. That march brought a lot of attention to the people in the 5th District. That was one of my first times speaking in public.

After that first Rise St. James march, people from other parishes who live near industry saw us speaking. They asked if they could join Rise. Communities on both sides of the Mississippi River joined together. We've been growing ever since.

We formed a coalition called the Coalition Against Death Alley. As I said, we live in Cancer Alley, but we changed our coalition name to the Coalition Against Death Alley because this exposure to more and more industrial pollution is a death sentence. We meet twice a month and we planned a successful five-day march to the Capitol, but the governor would not come out to speak with us.

We just had our second march with the CADA Coalition on October 16-30. This time it was a 13-day march and Reverend William Barber, a civil rights leader and founder of the Poor People's Campaign, joined us. He said that what is happening in Cancer Alley is genocide, and the fossil fuel industry is poisoning us. They don't want to drink the water that we are drinking and breathe the air that we're breathing. They don't live here.

Rev. Barber spoke on our behalf. This march brought national recognition and media attention, and it made a lot of people aware of what's going on here. We plan to have another march in the spring of 2020 and we'll keep marching until our community is protected.

We've already had one victory. We worked to block a $1.5 billion petrochemical plant called Wanhua from moving to St. James Parish and being built within a mile of our homes. We appealed the St. James Parish Planning Commission's approval of Wanhua's land use permit and we won. Wanhua withdrew its proposal and ended up pulling out.

But we need your help. Rise St. James is asking for a moratorium on the oil, gas, and petrochemical industry in our Parish. Every piece of plastic is made of fossil fuels and the fracking boom is driving a massive expansion of plastic. These new plastic plants poison our communities and deepen the plastic crisis. We want them to stop expanding. We're working on that now. We want to protect our health, our homes, our land, and our future.

People in St. James need help from our elected officials. Our people are sick, and they are dying. We had two residents from our community die recently. Last month, we had another member from Rise St. James pass. The memory of Geraldine will live on, she was a warrior, and the chemicals in our air kept her sick.

Now we're going to fight Formosa and we intend to win. Right now, they're trying to get their air permit; we're going to stop them. They're coming in here to finish killing us. We're already sick. If they come into St. James, they will be doubling the pollution in the air we breathe. Their emissions will double what local factories are already emitting.

These emissions include ethylene oxide, a toxic chemical that causes cancer like non-Hodgkin lymphoma, leukemia, and breast cancer. Formosa's plant would be the third largest emitter of ethylene oxide in the country. It would increase levels of this toxic substance in St. James many, many times over.

I retired early from teaching on October 3, 2019. I wanted to work a year or two more, but God put this fight in me to Stop Formosa and any other chemical plant that comes to St. James. I am here because of the calling of God. I want to stop any and every industry that is coming to harm the health of the people in my community. God wouldn't have put this fight on me if he didn't have a plan.

I invite all of you to come to St. James and see it for yourself. The civil rights struggle that my parents fought for continues today and we fight for our survival against industrial polluters.

Mr. TONKO. Thank you, Ms. Lavigne, for your testimony.

Next we recognize Ms. Elise Herring, please, for 5 minutes.

STATEMENT OF ELSIE HERRING

Ms. HERRING. Mr. Chairman and members of the committee, I thank you for allowing me to be here today to testify.

My name is Elsie Herring.

Mr. TONKO. I am sorry.

Ms. HERRING. It is quite all right. I get called Elise often.

Mr. SHIMKUS. Ma'am, can you just pull the mic a little bit closer? We have got a colleague who is very old to the right who has a hard time hearing.

[Laughter.]

Mr. TONKO. We will strike that from the record.

[Laughter.]

Mr. TONKO. And my apologies, Elsie, so——

Ms. HERRING. It is quite all right.

Mr. TONKO [continuing]. Ms. Herring, we will start you again for 5 minutes, please.

Ms. HERRING. OK. I am here today to discuss the conditions that we live with when they spray animal waste on us, the pollution from the hog and poultry industries that contaminates our water and our air, the dangers from living on the frontline of climate change, and racism and the structure power that keeps us from being at the table when decisions are being made about our communities, our health, our homes, and our future.

I live in Duplin County in North Carolina. I live on land that has been in my family for over 100 years. A hog operation moved in next door in 1986, and in the mid-1990s they started spraying animal waste on us approximately 8 to 12 feet from my mom's house. When the spray becomes airborne, it blows over on us just like it is raining. The odor is horrific.

We have to deal with all of the insects, gnats, mosquitoes, flies, buzzards, rats, snakes, all outgrowths from this industry. When we go outside, we can't stay outside for very long, because the odor is so offensive that we start gagging, we start coughing, our heart rate increases, we become depressed, we have a sense of hopelessness and helplessness.

The industry does nothing to address our concerns. There are also gases that are being released into our air: methane gas, ammonia, hydrogen sulfide, along with other gases. Many of these gases are deadly, but this is what we have to deal with in these impacted communities.

My mother lived on this land for 99 years. Because they were spraying animal waste on us, I complained to the proper agencies from the local levels up to the Federal level, because this was an injustice being done to us, and we were here on this land first.

And because I complained, I received a letter from a lawyer that represented the industry and the county of Duplin telling me that if I continued my "groundless" complaints that I could be made to serve time in jail or I could be made to pay the hog farmer back money that he was losing because of my "groundless" complaints.

It was a Saturday. We were sitting on the porch like we used to do all the time before this industry came in next door. The hog

farmer's son came into my mother's house. He opened the storm door and a screen door and he came in and he grabbed onto my mother's chair. She was 98 years old at this time. And he shook her around. He cursed at her and he told her he could do anything to me that he wanted to and get away with it.

The hog farmer came over with a stick threatening to hit me. His son came over twice with a gun. They called me that B word more than one time. And my mother's house is 400 feet from the road, main road. He would yell up in there and call me that name. That is how they treated me and my family. They are still intimidating us 'til today and harassing us.

Just about 2 weeks ago, this black car passed by in front of my house, stopped, a gentleman got out and started taking photos of me, all because I have taken a stand because of this injustice that we are dealing with, living on land that is my birthright.

My mother died in 2001. She was born in 1902. She lived in the house that my father and my uncle built. She left out of her father's house into her house where she reared the 15 of us. My mother didn't deserve to be treated the way she was treated, and I don't think I do either, nor any of the other impacted community people.

So I am here today to ask you if you would take the lead in addressing this situation by coming up with a comprehensive way of disposing of this animal waste, because these pigs do not have to be raised the way they are being raised. It is easy to dig a hole in the ground and just spray that waste into the environment when it is destroying the very fabric of our lives.

We can coexist. The industry, in the year 2000, entered into an agreement with the State that the sprayfield and lagoon system was antiquated. A panel was established to identify systems that would address that issue. Five systems were identified. The industry said they are too costly.

One of the primary people that worked on these systems said that it is not costly, so it just appears to me that the industry just wants to continue to do business as usual. So if we could—if you could find it in your heart to place a national moratorium on these CAFOs, it would make life so much better for people living in southeastern North Carolina in the flood plain area.

[The prepared statement of Ms. Herring follows:]

House Committee on Energy and Commerce

Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities

November 20, 2019

Testimony of Elsie Herring

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Activist, Organizer, North Carolina Environmental Justice Network

I. Introduction: I remember the day they started spraying hog waste on us

Mr. Chairman, Members of the Committee, thank you for this opportunity to testify before you today. My name is Elsie Herring, and I am a resident of Duplin County, North Carolina. I am an activist and an organizer with the North Carolina Environmental Justice Network (NCEJN).

I am here to discuss the conditions that my community lives with every day: the hog waste they spray on us, the pollution from hog and poultry industries impacting our air and water, the dangers we are facing on the front lines of climate change, and racism in the structures of power that have kept us from having a seat at the table when other people make decisions that impact our communities, health, homes, and future.

I remember the day that they started spraying hog waste on us. It was a Saturday in the mid-1990s, and I was sitting on the porch of my mother's house with my nephew as we had done regularly for years. As we were sitting there I noticed the hog grower bring over the tractor with the sprayer hooked up, then disappear. Just as I was thinking to myself that there was no way that he would begin spraying waste so close to us, I heard a bursting sound. The sprayer had begun to pump waste in our direction. We had to scramble to get out of the way. My mother, brother, and I took refuge in my mother's house, and my nephew retreated to his house across the road. I grew up in that house, but I had never experienced anything like this before. The waste had this terrible, raw, stinking odor that we had never before experienced. We could still smell it when we were inside. The spraying continued, and the waste was blown right onto the side of my mother's house. My mother's kitchen, my brother's room, and the bathroom all face the sprayfields. If the windows had been open, the waste would have landed in the house.

Sometimes people find it hard to believe that in an area where we have experienced catastrophic flooding in recent years because of hurricanes, an industry is allowed to keep billions of gallons of festering hog waste in open cesspools and then spray it into the air and onto land, in the process exposing us to a mist and stench of rotting animal sewage. But this practice is allowed under the state's General Permit for Swine Operations, and spraying hog feces into the air alongside our homes is our everyday reality in eastern North Carolina.

Figure 1 Hog Waste Sprayfield
Photo Credit: Waterkeeper Alliance
https://www.flickr.com/photos/waterkeeperalliance/16440856348/in/album-72157650593986548/

North Carolina has some of the densest concentration of hog and poultry operations in the country. There are more than 9 million hogs in North Carolina.[1] Duplin County, where I live, is known as the "hog capital of the world," because it is home to more than 2 million confined pigs.[2] Hogs outnumber people

[1] *See* USDA, Census of Agriculture: National Agricultural Statistics Service., 2012 Census of Agriculture Quick Stats (2012), *available at* https://quickstats.nass.usda.gov/#BBCF08EB-60FA-3108-AEEC-8B4B0D143668.
[2] Exposing Fields of Filth: Landmark Report Maps Feces-Laden Hog and Chicken Operations in North Carolina, EWG (Jun. 21, 2016), http://www.ewg.org/research/exposing-fields-filth.

38-to-1.[3] In recent years, there has been an alarming increase in poultry operations, which compound the impacts of the hog operations because the two animal types produce waste with similar hazards that add up. There are an estimated 16 million birds in confinement in Duplin County.[4] The Waterkeeper Alliance and Environmental Working Group estimate that confined animals in Duplin County alone produce more than 2 billion gallons of wet waste (hogs and cattle) and more than 191 million tons of dry waste (poultry) per year.[5]

I support family farmers, and this is not about family farmers. This is about the multi-billion-dollar, multi-national corporation that owns the vast majority of the pigs in North Carolina is putting my family at risk. Some people still have an idealized image of a farm in their minds, but these are industrial, intensive confinement operations. The legal term for these facilities is a Concentrated Animal Feeding Operation, or CAFO. The big multi-national companies that own the pigs also tell the growers how to operate their facilities. The hog operators use an outdated and aging "lagoon and sprayfield" system. This system was permanently banned by the North Carolina General Assembly in 2007, but the existing lagoon and sprayfields were grandfathered in under the Swine General Permit and are still allowed to operate. The hog waste falls through the floor of the barns and collects adjacent to the barns in giant festering cesspools, "lagoons." The operators then pump it out and spray it into the air supposedly to apply it to land for crops. But the manure drifts and impacts those of us who live nearby.

We have seen time and again, and research confirms, that the impact of these facilities and this waste is not equal across groups. People of color and poor people are disproportionately impacted.[6]

No one anywhere should have to live like this, with hog waste sprayed at their homes, unable to go outside and enjoy fresh air and a beautiful day. They are located here because we are the path of least resistance, because we do not have money, and we do not have a voice in the halls of power. They assumed we would not fight back. They were wrong.

The land where I live is precious to me and my family. We have lived there since we were enslaved there. It is the first property we owned after slavery. People sometimes ask why I don't move, but I don't want to move. This land is home. My grandfather walked this land. This land is my birthright.

II. This land is my family's legacy, and it is my birthright

I live on Beulah Herring Lane, on the property where my grandfather was born a slave. In 1891, he purchased this first 15-acre tract, and then in 1897, he purchased additional land. He bought the land from Ms. Teachy, his slave mistress and biological aunt who raised him. He had the opportunity to leave,

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[3] Oliver Milman, *'It's Wrong to stink up other people's lives'*, The Guardian (May 24, 2018), *available at* https://www.theguardian.com/environment/2018/may/24/pig-farm-agriculture-its-wrong-to-stink-up-other-peoples-lives-fighting-the-manure-lagoons-of-north-carolina; Exposing Fields of Filth: Landmark Report Maps Feces-Laden Hog and Chicken Operations in North Carolina, EWG (Jun. 21, 2016), https://www.ewg.org/research/exposing-fields-filth.

[4] Exposing Fields of Filth: Locations of Concentrated Animal Feeding Operations in North Carolina by County, EWG, https://www.ewg.org/interactive-maps/2016_north_carolina_animal_feeding_operations_bycounty.php#.WwQWE6kh1hA.

[5] Id.

[6] Earthjustice, Complaint Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, 40 C.F.R. Part 7 (September 3, 2014), *available at* https://earthjustice.org/sites/default/files/files/North-Carolina-EJ-Network-et-al-Complaint-under-Title-VI.pdf.

but he loved Ms. Teachy and he loved that place. He stayed, and it has remained our family home ever since.

My mother was born on the property in 1902, and she lived on the land for 99 years. When she married my father, who was a sharecropper and worked the land, my mother moved out of her father's house and my parents built their own home on the same property. There, they raised their 15 children; I am the youngest and one of only three who survive today. As a family we worked a portion of the land, and when I was growing up tobacco was a major crop in the area. I remember growing it on the property along with fruits and vegetables like strawberries and cucumbers. We lived off the land and had chickens in the yard and a pig pen with pigs we would slaughter once a year. We canned food; we smoked and cured meat. Things were better then.

When I graduated from high school in 1966 my parents could not afford to send me to college, so I moved to New York city where my older sister lived. I stayed in New York for many years, and I worked for a credit rating agency and then a bank. Over the years that I had been away, my siblings and I came back to visit, and during those visits I observed that things had begun to change in Duplin County. When I was in my 24th year with my job, although I loved New York City, I made the decision to come home and take care of my mother and older brother who had Down Syndrome. I moved home in 1993, and I have lived there ever since. As I readjusted to the pace and feel of life in the country, the depth and consequences of the changes I observed on my visits unfolded.

I knew from my visits home that in the late 1980s the first hog CAFO came, and despite the fact that we did not want it there, it was built on land we believed to be ours. Although the facility moved in then, the grower did not begin spraying hog waste on us until the early 1990s. That day that I sat on the porch as he began to spray, was the beginning of a new era for us.

My mother's house was not the only one inundated with the waste in those years. The waste also blew into the storm door near the front of my house. I had to keep my door closed otherwise the waste would get into my home. My sister and I couldn't hang our clothes out in our yards because when the grower sprayed, we could see and feel the waste mist on the clotheslines.

The grower has made changes that are supposed to allow us to coexist, but we are still suffering. In the late 1990s the hog grower started using a stationary sprayer, with a pivoting head, instead of the tractor sprayer. The stationary sprayer is supposed to control the flow of waste better. In 1999 or 2000, at the urging of my local government representative, Carrol's Foods, which supplied animals to the grower, planted trees between my family's houses and the sprayfield. Later, in April 2002, the hog grower had a ditch dug to separate what he believed is the property line, to settle a dispute about whether I had been trespassing on land that he claimed was his. The changes are supposed to make it easier for us to live peacefully next to the hog facility, but we are still being harmed.

I was told that the stationary sprayer would prevent the waste from coming on to our land, but the spray still reaches my family's homes to this day. At times, our road is wet with waste from the sprayer. Cars driving by the sprayfield and my house have to be careful to keep their windows closed to keep the waste out. When the wind picks up, the waste can blow across the road into my nephew's yard. The trees also do not keep the waste from coming on to our property. The wind still carries the waste to our homes, and I still smell the terrible, raw odor of the waste.

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It is challenging just living near a hog facility. When the grower is spraying, I try to stay indoors as much as I can, but sometimes I need to leave my house and run errands and live my life. If I have to go to my car when they are spraying, I will hold my breath, cover my mouth with a perfumed mask or perfumed paper towel, and run to my car as fast as I can. I can't stay outside for very long when the grower is spraying. I get headaches, have trouble breathing.

Since the hog facility moved next door, my family and I have been concerned about our water supply. We used to get our water from a shallow well on our property, but we knew the hog waste was blowing over the well and could be contaminating our water. When we finally had the opportunity to connect to the County's water supply, we immediately signed up. Because we signed up early, we only had to pay $50 for the connection. But now instead of using the well for our water supply we have to pay a monthly water bill.

One facility sprays hog manure on a field less than a dozen feet from my front door. My family and I can't dry our clothes on a clothesline anymore, because they would be covered with manure. We can't garden or hold cookouts with family and friends, because the smell and particles in the air burn our eyes and make us gag. We can't fish or swim in the rivers and streams near us because they're polluted with hog manure, and we can't drink or wash with water from our shallow wells.

My family used to be able to live off this land. We would hunt on the land, and fish in Rockfish Creek. Since the hog facility moved in, our way of life has changed. We lost access to a lot of our land, which we are fighting to regain. For right now, given that the grower has taken over a lot of our land, we don't have access to the Rockfish Creek anymore, and we can't get to the land where we used to go hunt.

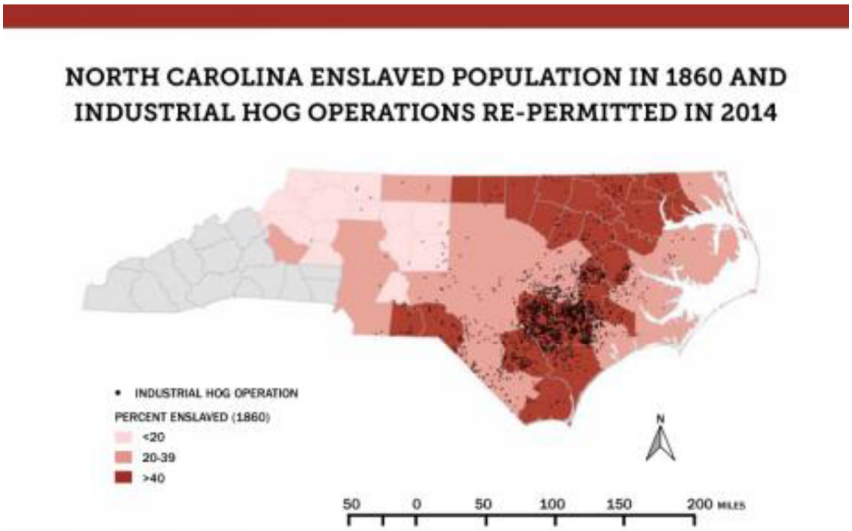

Figure 2 Credit Dr. Steve Wing.

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Putting aside issues of access, even when we see animals, like deer, we are concerned about the contaminants that they might have been exposed to, and if they are safe to eat. Since the hog facility moved in, I also have noticed that there are fewer squirrels and rabbits than when I lived here as a child. I am not sure if the animals are dying because of the pollution from the hog facility, but I do know that the environment has changed.

I also know that my family's story is not unique. Through research we have seen how the persistent racism and legacy of slavery relates to our current suffering. The late Dr. Steve Wing created this map, which shows the slave population in North Carolina in 1860 and the location of hog CAFOs in 2014.[7] Dr. Wing and others have repeatedly found that these facilities disproportionately impact people of color.[8] My experience is not isolated. People of color are living with this legacy and discrimination every day.

III. We are getting sick, and experts warn of dangers from animal waste

Even with the stationary sprayer and the trees, my family and I are still exposed to harmful pollution. People in the health field continue to warn me not to open the windows when the grower is spraying, especially when I am cooking. Scientists at the University of North Carolina, including Dr. Steve Wing, and at Johns Hopkins University, including Dr. Christopher Heaney, cautioned me that particles that are too small for me to see or feel can travel through the tree line and make me sick.

The Environmental Protection Agency ("EPA") investigated the impact of this industry on nearby communities, and it found that:

> The adverse impacts on nearby residents from the lagoon sprayfield method of treatment and disposal of waste from industrial swine operations are documented in numerous peer reviewed scientific studies, including more than thirty conducted in North Carolina. At [EPA's External Civil Rights Compliance Office's] request, EPA's Office of Research and Development (ORD) recently reviewed seven reports published by or with federal agencies. ORD stated that the reports provide consistent support for the occurrence of potential health hazards (*e.g.*, eye, nose, and throat irritation; headaches; respiratory effects including asthma exacerbation[, all effects associated with exposure to ammonia and hydrogen sulfide]; waterborne disease) at industrial swine operations and in their waste. Even while there is significant uncertainty regarding the levels of exposure in nearby communities to the identified contaminants and the risk of health effects attributable to those exposures, the risk for specific health effects in communities near industrial operations is a concern.[9]

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[7] Laura Orlando, *The Legacy of Slavery: What Inequality and Industrial Hog Operations Have in Common,* In These Times (Mar 19, 2015), *available at* https://inthesetimes.com/rural-america/entry/17771/what-industrial-hog-operations-and-inequality-have-in-common; see also Steve Wing and Jill Johnston, Industrial Hog Operations in North Carolina Disproportionately Impact African Americans Hispanics and American Indians (Aug. 29, 2014) (unpublished manuscript), https://www.facingsouth.org/sites/default/files/wing_hogs_ej_paper.pdf.

[8] *Id.*; *see also* Earthjustice, Complaint Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, 40 C.F.R. Part 7 (September 3, 2014), *available at* https://earthjustice.org/sites/default/files/files/North-Carolina-EJ-Network-et-al-Complaint-under-Title-VI.pdf; Steve Wing, *et al.*, *Environmental Injustice in North Carolina's Hog Industry*, 108 ENVTL HEALTH PERSP. 225 (2000).

[9] EPA, Letter from Lilian Dorka, Director of Eternal Civil Rights Compliance with the EPA, to William Ross, Acting Secretary of DEQ (Jan. 12, 2017), *available at* https://www.epa.gov/sites/production/files/2018-05/documents/letter_of_concern_to_william_g_ross_nc_deq_re_admin_complaint_11r-14-r4_.pdf.

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Researchers at Duke University conducted extensive analysis and controlled for other possible explanatory variables have confirmed higher death and disease rates for individuals living hear hog operations.[10] I get depressed that no one is trying to understand what we are dealing with, living next to a hog facility that sprays waste on us. Clean air is a God given right, but it's a right that my family and I are being denied.

IV. We are on the front lines of climate change

We are on the front lines of climate change. A recent report from the United Nations states that the world is likely to experience dramatic increases in coastal flooding and severe weather events. [11] We have already begun to see this happen in the form of increased hurricanes that are more and more severe. The same lagoon and sprayfield system that endangers us on a daily basis becomes even more dangerous in the face of superstorms. In the last roughly three years alone, two so-called 500-year storms have released millions of gallons of hog waste into streams and rivers in eastern North Carolina.[12] They have wreaked havoc on our communities, and people are still waiting for relief. People who are more prone to asthma even under better conditions are trapped in moldy homes because they cannot afford remediation, and outside their homes the waste spraying continues.

Figure 3 Hog Waste Lagoon After Hurricane Matthew
Photo Credit: Rick Dove, Waterkeeper Alliance
https://www.flickr.com/photos/waterkeeperalliance/30281573595/in/album-72157673749082442/

We live in a low-lying costal floodplain, and many hog and poultry operations are located there. Currently, approximately 62 industrial hog operations house more than 235,000 hogs in the 100-year floodplain in eastern North Carolina.[13] These animals produce more than 201 million gallons of wet waste each year, which is stored in approximately 166 waste-lagoons within the floodplain and another 366 located within 100 feet of the floodplain.[14] These facilities have become extremely vulnerable to flooding and catastrophic failure. When they fail, we are at risk.

[10] Julia Kravchenko et al., *Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations*, 79 N.C. MED. J. 278 (2018).
[11] Intergovernmental Panel on Climate Change, Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty, Summary for Policymakers (October 6, 2018), *available at* http://www.ipcc.ch/report/sr15/.
[12] Kris Maher & Ben Kesling, *Florence Flooding Hits North Carolina Hog Farms Hard*, WALL ST. J. (Sept. 19, 2019 7:09 PM), https://www.wsj.com/articles/florence-flooding-hits-north-carolina-hog-farms-hard-1537398585.
[13] Exposing Fields of Filth: Landmark Report Maps Feces-Laden Hog and Chicken Operations in North Carolina, EWG (Jun. 21, 2016), http://www.ewg.org/research/exposing-fields-filth.
[14] *Id.*

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Although the problems are getting worse, they are not new. In the 1990s, Hurricanes Fran, Bonnie, and Floyd drowned pigs, flooded industry lagoons, and contaminated our water, but DEQ renewed the permits for swine facilities in the floodplains anyway where they are especially likely to hurt poor black, Latino and Native American residents. The state legislature restricted new hog operations in the floodplain,[15] but old ones were allowed to remain, and there are no restrictions on siting poultry CAFOs in the floodplain. Now, Hurricanes Matthew and Florence have caused problems all over again.

After Hurricanes Florence and Matthew there was so much water, and it took days to recede. We had to boil our water for fear of bacteria and viruses. We tried to avoid going outside because of fear of disease from waters that had come in contact with animal waste. Although we tried to avoid it, there just is not any way to avoid the outdoors. After the recent storms, there were horrible odors. The so-called "dead boxes" (where industry often puts animals that die on industrial operations) were overflowing and it smelled like the animals were rotting. I fear that this could become part of our futures if they still have to live with these levels of water.

Figure 4 Poultry Waste Storage After Hurricane Matthew
Photo Credit: Rick Dove, Waterkeeper Alliance
https://www.flickr.com/photos/waterkeeperalliance/30298992905/in/album-72157673749082442/

Going through my community after the storms, I could see tarps over people's homes, blown out windows, trees that fell down on houses. I knew that many people suffered and I know that even to this day many continue to suffer from mold inside their homes. People cannot afford to remediate it, and in many cases there is no assistance, it is too hard to access, or it comes too late. A lot of people are still putting our lives back together, even years after the storms hit.

V. We want a seat at the table, a voice in the halls of power

a. I have called everyone for help, but these horrors continue

In the early years of the hog waste spraying, I spoke to the hog grower directly about my concerns. I told him that the waste was blowing over to our property, landing in our yards, and pounding our homes. The grower told me that the hog houses were his investment and that he had to spray to protect that investment. He seemed mad that I had approached him with our concerns.

Because the grower did not do anything to stop the waste from blowing onto my family's property, I called the Sherriff's Department and they informed me that they could not get involved in the matter.

[15] *See* N.C.G.S. § 106-802(a2) ("No component of a liquid animal waste management system for which a permit is required under Part 1 or 1A of Article 21 of Chapter 143 of the General Statutes, other than a land application site, shall be constructed on land that is located within the 100-year floodplain.").

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They told me that the Health Department in Kenansville would handle my complaint. When I spoke with Someone at the Health Department, I was informed that I would have to call the Department of Environment and Natural Resources ("DENR") in Wilmington, because they dealt with problems like mine. In total, I called or wrote letters, or both, to the Governor, the State and Local Health Department Directors, the Attorney General of the State of North Carolina, the United States Justice Department, DENR, the local Sherriff, the County Commissioners, the EPA, and even United States Representatives' offices.

I have lobbied the state Capitol and asked our legislators to control the toxic pollution from the hog CAFOs. On one trip in June 2007, we camped out on the lawn in front of the Capitol and kept vigil. We brought along a mock hog facility, complete with a mini lagoon holding actual swine waste and a sprayfield. The elected officials began avoiding us on the lawn, noting the terrible smell. One security officer even threatened to have us removed for bringing the swine waste, which he claimed was "toxic material." He even told us that if we spilled any of the waste, we would be fined $1,000. I want everyone to recognize that hog CAFOs are spewing toxic material on me and my family and others who live next to hog CAFOs.

In September 2014, NCEJN, Waterkeeper Alliance, and Rural Empowerment Association for Community Health (REACH) filed a complaint with the EPA under Title VI of the Civil Rights Act of 1964.[16] The complaint alleged that the state had permitted swine facilities "to operate with grossly inadequate and outdated systems of controlling animal waste and little provision for government oversight, which has an unjustified disproportionate impact on the basis of race and national origin against African Americans, Latinos and Native Americans," in violation of those communities' civil rights.[17]

The industry tried to intimidate us, but we persisted. In January 2017, in response to this complaint and EPA's subsequent investigation, EPA sent DEQ a letter expressing "deep concern about the possibility that African Americans, Latinos, and Native Americans have been subjected to discrimination as the result of NC DEQ's" swine facility permitting and oversight regime.[18] We continued to negotiate with the state and ultimately reached an agreement in 2018. We saw some improvements in the latest permit that governs these operations, but the lagoon and sprayfield system is allowed to continue and we are still in harm's way. In fact, the state legislature has gone even farther to protect industry interests, passing laws limiting our ability to go to court.[19]

b. They have harassed me and tried to intimidate me into silence

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[16] 42 U.S.C. § 2000d, 40 C.F.R. Part 7.
[17] Earthjustice, Complaint Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, 40 C.F.R. Part 7 (September 3, 2014), *available at* https://earthjustice.org/sites/default/files/files/North-Carolina-EJ-Network-et-al-Complaint-under-Title-VI.pdf.
[18] EPA, Letter from Lilian Dorka, Director of Eternal Civil Rights Compliance with the EPA, to William Ross, Acting Secretary of DEQ (Jan. 12, 2017), *available at* https://www.epa.gov/sites/production/files/2018-05/documents/letter_of_concern_to_william_g_ross_nc_deq_re_admin_complaint_11r-14-r4_.pdf.
[19] *See, e.g.* Erica Hellerstein, The N.C. Senate Overrides Cooper's HB 467 Veto, Hog-Farm-Protection Bill is Law, Indy Week (May 11, 2017) https://indyweek.com/news/archives/n.c.-senate-overrides-cooper-s-hb-467-veto-hog-farm-protection-bill-law/; Anne Blythe, Hog farmers win new protections as lawmakers override Roy Cooper's veto, News and Observer (June 27, 2018) *available at* https://www.newsobserver.com/news/politics-government/article213914154.html.

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Along the way, I have faced harassment and attempted intimidation from industry. I made so many complaints that the county lawyer, who also was working with the hog industry in Duplin County, wrote me a letter saying that if I continued to make what he called groundless complaints, particularly to DENR, that I could be made to serve time in jail or would have to pay the hog grower the money because he was losing because of my complaints.

The hog grower and his son also threatened me and my family and tried to get us to stop making complaints. One time in the late 1990s, or early 2000s, the hog grower came over waving a stick, warning me not to make what he called baseless claims. His son came over twice with a gun. One Saturday, the hog grower's son entered my mother's house, uninvited, and shook the chair that my mother was sitting in and started cursing at her. He yelled that he could do anything to me that he wanted to and get away with it. At the time my mother was 98 years old, so needless to say this was traumatic for her and my family.

These examples describe just part of the harassment my family and I have been subjected to over the years. I have been called swear words not fit to be repeated here. They have attempted to run me off the road. They are going after my nieces and nephews, prying into their lives and trying to intimidate them and me into silence. Just last week a suspicious car came by my house and someone started taking pictures of me. I do not know who that person was or why he was photographing me, but I do know I live under a threat of intimidation and harassment that feels constant.

I am not alone in facing this intimidation. When the EPA investigated whether North Carolina had violated Title VI of the Civil Rights Act through hog CAFO siting, staff interviewed residents of eastern North Carolina. EPA found:

> During interviews, residents including REACH [community organization] members, and current and former Riverkeepers working in the eastern North Carolina rivers recounted first hand incidents of harassment, intimidation, and retaliatory behavior, including physical and verbal threats, by swine facility owners and/or operators and their employees. The accounts ranged from sustained tailgating; driving back and forth in front of the houses of residents who have complained; filming or photographing residents who are taking photos or videos of spraying; being yelled at; confronted in parking lots and at intersections; and threatened with guns and other physical violence.
>
> Those interviewed stated that these are regular events, rather than an exception, creating a climate where residents believe that if they file an environmental complaint with NC DEQ, they will likely be retaliated against by neighboring swine facility operators or employees. The Riverkeepers stated that they are subjected to this type of harassment and intimidation two or three times every couple of weeks. Particularly egregious instances brought to ECRCO's attention include a local industrial swine facility operator entering the home of an elderly African American woman and shaking the chair she sat in while threatening her and her family with physical violence if they continued to complain about the odors and spray; the firing of a gun in the air when an African American REACH member tried to speak to a person sitting on their porch; and a truck that sped up and swerved toward a Riverkeeper who was standing on the side of a public road teaching a group of volunteers how to sample water from public ditches. Those interviewed believe that the NC DEQ's lack of response to their complaints lends

> to the hostile environment and emboldens local facility owners and operators to act in a threatening and intimidating manner.[20]

They have tried to stop me, to intimidate me and silence me. They have tried to take my land, to erase me, to pretend that I was never here. No one deserves to be treated this way, and I will continue to organize and speak the truth until we can all realize our right to exist, including with clean air and clean water.

VI. Justice

I know that there's a better way to raise livestock and dispose of the waste than simply digging a hole in the ground and shooting it into the air. As far back as the early 2000s, a Blue Ribbon panel came up with five alternatives to the lagoon and sprayfield system, but the industry complained about the cost. Although experts believe costs have come down, the industry continues to rely on this primitive system that is hurting us. Those of us living near these facilities need the industry to adopt better waste controls. The industry cannot be allowed to continue to dump toxic material into our air and water.

I ask you to lead the way. I want a future where we can coexist, where we all have clean air and water, and those in power listen to the people, not just industry. I want you to bear witness to what is happening to my community. I want you to see the animal waste and its destruction, the ruin of the soil, the hurricanes that come one after another. I want you to see the disparities in how we are treated compared with people of another race, with more money, and more power. I want you to put a national moratorium in place on CAFOs because this is not safe. I want you to take a comprehensive look at the situation and make decisions that allow us to coexist.

[20] EPA, Letter from Lilian Dorka, Director of Eternal Civil Rights Compliance with the EPA, to William Ross, Acting Secretary of DEQ (Jan. 12, 2017), *available at* https://www.epa.gov/sites/production/files/2018-05/documents/letter_of_concern_to_william_g_ross_nc_deq_re_admin_complaint_11r-14-r4_.pdf.

Mr. TONKO. Thank you, Ms. Herring. Thank you so much.

Next we will move to Commissioner Melissa Cribbins. You have 5 minutes, please, to share your testimony.

STATEMENT OF MELISSA CRIBBINS

Ms. CRIBBINS. Thank you. Chairman Tonko, Ranking Member Shimkus, and distinguished members of the subcommittee, my name is Melissa Cribbins, and I am an elected county commissioner from Coos County, Oregon.

I am honored to testify today on behalf of the National Association of Counties to discuss ways that local communities can help foster a clean economy.

I would like to give a quick thank you to Congressman Walden from my home State of Oregon, and also thank many of you, including Congresswoman McMorris Rodgers, for your leadership in such programs as PILT and SRS, which matter so much to the counties.

Counties nationwide have a vested interest in promoting environmental resiliency and ensuring that our communities are well-positioned for the future.

Today I want to offer the county perspective for your consideration as you assess challenges around building a clean economy. First, counties play a key role in promoting a healthy and sustainable environment for our residents. As both regulators and as regulated entities, we are responsible for protecting local air, water, and land resources.

This includes maintaining water systems to provide clean drinking water, revitalizing contaminated waste sites to ensure safe and equitable neighborhoods, providing waste and recycling services to minimize pollution, and implementing land use and energy policies to promote sustainable communities, along with many other duties.

My county is rural and has long relied on a few key industries for economic stability, including forest products, tourism, fishing, and agriculture, which all require a clean and sustainable environment.

Charged with protecting the health and well-being of our communities, we issue rules and regulations to safeguard valuable natural resources and protect the safety of our citizens. An example of how my county is prioritizing environmental sustainability while promoting economic stability is our current effort to convert an abandoned school building contaminated with asbestos, lead, and illegal solid waste, as a result of a fire incident.

Once the site is restored, it will be converted to affordable housing units with Head Start programs included. As another example, we are partnering with a local community to improve the environmental conditions of a nearby lake. The community's economy is entirely dependent on tourism generated from the lake, but it has recently been inundated with harmful algal blooms, dramatically decreasing tourism.

The county quickly identified point sources contributing to the water quality issues and has worked with the community towards decreasing the nutrient loading in the lake. It is our job, as county officials, to assess the needs of our local community and make sound decisions that will help future generations.

Second, due to limited local resources and mounting Federal and State mandates, counties are challenged to make both long-term strategic budget investments and to work towards environmental sustainability. In recent years, the Federal Government and States have increasingly relied on counties to shoulder implementation costs for more than just environmental programs.

This has caused an imbalance at the local level, since we are limited in our ability to generate local revenue. Forty-five States, including my own, limit the counties' ability to collect sales and/or property taxes. In Oregon, we face several key challenges that limit us from meeting our environment and clean energy goals.

Coos County collects about $5 million per year in property taxes, which represents our primary source of unrestricted income to pay for county programs and services. We used to receive nearly $12 million per year in timber revenue from the O&C timberlands before the closure of the Federal forests from the listing of the spotted owl.

We now receive about $1½ million per year in secure rural schools funding to make up for this loss, a 90 percent reduction in funding. We have made efforts to transition our economy, but tourism jobs do not provide the living wages that our families need. In my county alone, 58 percent of schoolchildren qualify for free or reduced lunch.

We know that the best cure for poverty is jobs, but we frequently find ourselves hamstrung by regulations in our attempts to encourage economic development.

In addition, counties are responsible for preparing and responding to natural and manmade disasters, which have increased in frequency, severity, and cost. Whether to help address the growing number of mandates or the rise in disasters, the public needs a strong partnership between the Federal, State, and local governments to ensure that costs are shared fairly and services are delivered expeditiously to our citizens.

Finally, consistent and meaningful engagement with intergovernmental partners is vital in the development and implementation of effective energy and environmental policies, programs, and regulations. Counties are the level of government closest to the people and often have important socioeconomic, geographic, and scientific data that can be useful to our Federal partners.

Meaningful consultation early on in the legislative and rulemaking process will reduce the risk of unfunded mandates and produce pragmatic and successful strategies for implementing Federal policies.

For intergovernmental consultation to be truly meaningful, Congress and Federal agencies must engage State and local governments as equal partners who actively participate in the planning, development, and implementation of Federal rules.

In conclusion, we stand ready to work with Congress and Federal agencies to develop policies that can both improve our environment, sustain our economy, and ensure the resiliency of our local communities.

I am happy to answer any questions. Thank you for the opportunity to testify today.

[The prepared statement of Ms. Cribbins follows:]

WRITTEN STATEMENT FOR THE RECORD

HON. MELISSA CRIBBINS
COMMISSIONER
COOS COUNTY, OREGON

ON BEHALF OF THE NATIONAL ASSOCIATION OF COUNTIES

BUILDING A 100 PERCENT CLEAN ECONOMY: THE CHALLENGES FACING FRONTLINE COMMUNITIES

BEFORE THE SUBCOMMITTEE ON ENVIRONMENT & CLIMATE CHANGE
COMMITTEE ON ENERGY & COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

NOVEMBER 20, 2019
WASHINGTON, D.C.

Chairman Tonko, Ranking Member Shimkus and distinguished members of the subcommittee, thank you for holding today's hearing on building a 100 percent clean economy and the challenges facing frontline communities—and for the opportunity to testify on behalf of the National Association of Counties (NACo) and the nation's 3,069 counties we represent.

My name is Melissa Cribbins and I am an elected county commissioner from Coos County, Oregon. Coos County is a rural county with a population of just over 63,000 residents, located along the southern Oregon coast, 175 miles southwest of Portland. The county encompasses 1,806 square miles and nearly a quarter of our county is considered federal public lands. The county has long relied on a few key industries for economic stability, including forest products, tourism, fishing and agriculture.

I serve as Chair of NACo's Environment, Energy and Land Use Steering Committee and have the wonderful opportunity to work with county officials from across the country to address key issues facing county governments and identify ways to work with our state and federal partners towards productive and practical policy solutions that can be implemented at the local level.

Today's hearing addresses key issues for county governments who hold many responsibilities when it comes to environmental stewardship, land use and economic resiliency.

Counties are highly diverse, not only in my state of Oregon, but across the nation, and vary immensely in natural resources, social and political systems, cultural, economic and structural circumstances, public health and environmental responsibilities. Counties range in area from 26 square miles (Arlington County, Virginia) to 87,860 square miles (North Slope Borough, Alaska).

The population of counties varies from Loving County, Texas, with just under 100 residents to Los Angeles County, California, which is home to close to ten million people. Of the nation's 3,069 counties, approximately 70 percent are considered "rural," with populations less than 50,000, and 50 percent of these have populations below 25,000. At the same time, there are more than 120 major urban counties, which collectively provide essential services to more than 130 million people every day.

Many of counties' responsibilities are mandated by both the state and federal government. While county responsibilities differ widely, most states give their counties significant authorities. These authorities include construction and maintenance of roads, bridges and critical infrastructure, assessment of property taxes, record keeping, running elections, and overseeing jails, court systems and public hospitals. Counties are also responsible for child welfare, consumer protection, economic development, employment and workforce training, emergency management, land use planning and zoning.

Among our numerous responsibilities, environmental stewardship is a primary function of county governments to create healthy, safe and vibrant communities for our residents. As both regulators and regulated entities, counties are responsible for protecting local air, water and land resources. This includes maintaining water systems to provide clean drinking water, revitalizing contaminated sites to ensure safe and equitable neighborhoods, providing waste and recycling services to minimize pollution and implementing land use and energy policies to promote sustainability communities, along with many other duties.

Concurrently, counties must balance other essential responsibilities, such as promoting community and economic development opportunities without causing adverse environmental impacts.

As a county commissioner, I have seen firsthand the significant role local governments play in environmental protection and sustainability, while promoting economic growth.

Today, I will discuss several key points for your consideration as the subcommittee assesses challenges at the local level as we work to foster a clean economy:

1. **As regulators and regulated entities, county governments play a key role in maintaining a healthy, sustainable and equitable environment for our residents.**

2. **Due to limited local resources and mounting federal and state mandates, often combined with fragile local economies, county governments are challenged to both make long-term strategic budget investments and work towards environmental sustainability.**

3. **Early, consistent and meaningful engagement with intergovernmental partners is vital in the development and implementation of effective energy and environmental policies, programs and regulations.**

First, as regulators and regulated entities, county governments play a key role in promoting a healthy and sustainable environment for our residents.

Charged with protecting the health and well-being of our communities, counties have the ability to issue rules and regulations. We enact zoning and other land use ordinances to safeguard valuable natural resources and protect the safety of our citizens.

For example, under the federal Clean Air Act (CAA), counties are often responsible for controlling air pollution, which may include enforcement authority for rules governing burning or vehicle emissions. Similarly, under the federal Clean Water Act (CWA), counties may enact rules on illicit discharges, removal of septic tanks and adoption of setbacks for land use plans. Counties may additionally be responsible for water recharge areas, green infrastructure, water conservation programs and pesticide use for mosquito abatement. We also provide extensive outreach and education to residents and businesses on protecting water quality and reducing water pollution.

In Coos County, our role is diverse and spans from regulating solid waste disposal to cleaning nuisance properties. For example, we had an old converted school that was involved in a fire. The landowner collected the insurance proceeds and disappeared. After the taxes became significantly delinquent, the County foreclosed and took title to the property. The school was contaminated with asbestos and lead, but also had an illegal solid waste disposal site. We partnered with one of our local cities to clean up the site, which has been an ongoing process. Once the site is restored, we will turn it over to a community action agency that will convert the site into affordable housing units with Head Start programs.

We have also partnered with one of our local communities to work on decreasing discharge from failing residential septic systems into the nearby lake. The community's economy is entirely dependent on tourism, as there is no industry in the community. Unfortunately, in recent years, harmful algal blooms are becoming present earlier and earlier, and are dramatically decreasing tourism. In our role of protecting public health and the environment, the County has stepped forward to identify key properties that are contributing to the water quality issues and have worked toward decreasing nutrient-loading in the lake.

No matter what the situation or challenge, it is our job as county officials to assess the needs of our local community and make sound decisions that will help the next generations.

Second, due to limited local resources and mounting federal and state mandates, often combined with fragile local economies, county governments are challenged to make both long-term strategic budget investments and work towards environmental sustainability.

Regardless of size, fiscal constraints and tight budgets are major challenges for most counties. The rapid increase in state and federal unfunded mandates adds another layer of fiscal strain. In many instances, counties are mandated to provide a growing number of services while operating under greater state and federal restrictions on how we generate revenue.

In fact, 45 states impose some type of limitation on county property taxes, affecting the main revenue source for counties. According to a 2016 NACo survey, 44 percent of counties reported reducing or eliminating services in their last fiscal year due to revenue constraints and increasing costs associated with providing mandated services.

In my state of Oregon, we face several key challenges that limit us from meeting our environment and clean energy goals.

Coos County collects about five million dollars per year in property taxes, which represents our primary source of unrestricted income to pay for public safety, taxation and assessment, recording and elections, and all common administrative functions. It costs us nearly seven million dollars per year to operate the jail alone.

We used to receive nearly twelve million dollars per year in timber revenue from the O&C timberlands, not adjusted for inflation, before the closure of the federal forests from the listing of the spotted owl, which has decimated our timber industry. We now receive about $1.5 million each year in Secure Rural Schools funding to make up for this loss. This is a ninety percent reduction in funding, but costs have continued to rise. This means that we are expected to provide the same level of services on ten percent of the funding.

The county has made efforts to transition our economy, but tourism jobs do not provide the living wages that our families need. It used to be possible for one person to work in the timber or fishing industry and provide for a family. Now, we find that, even with both spouses working, we frequently have families that continue to slip below the poverty line.

In my county alone, 58 percent of our school-age children qualify for free or reduced school lunch. In the summer, the schools offer free lunches in the parks and schools, so these children do not go hungry when school is not in session, because the additional burden to struggling families when summer comes is nearly insurmountable. We know that the best cure for poverty is jobs, but we frequently find ourselves hamstrung by regulation in our attempts to encourage economic development.

Coos County faces an additional challenge in our ability to raise revenue from the large amount of federal public land in our jurisdiction. As I mentioned earlier, Coos County encompasses 1,806 square miles and nearly a quarter of our county is considered federal public lands.

Local governments like mine are not able to tax the property values or products derived from these lands, yet are often responsible to support and provide essential government services (mandated by law), such as first responders and emergency services, transportation infrastructure, law enforcement, education and health care.

And we are not alone. Approximately sixty-one percent of counties nationwide have federal lands within our boundaries, and federal policies pertaining to these lands have a direct impact on the quality of life and economic well-being of our local communities.

One final challenge facing local governments that I would like to highlight is the increase in disasters. Over the past 20 years, natural and man-made disasters have increased in frequency, severity and cost. On average, 24 percent of counties have experienced at least one disaster in each of the last three years.

The past three hurricane and wildfire seasons included six hurricanes that cost a combined $330 billion in damages and eight wildfires causing over $40 billion in damages. Over the last decade, most counties have received a major disaster declaration, with many receiving more than one disaster declaration over that time frame. In Oregon, while we do not have hurricanes and rarely have tornadoes, we have struggled with the issue of catastrophic wildfires. In 2018 alone, Oregon had 841 total fires, affecting more than 430,000 acres.

Counties ask that Congress continue to support major disaster assistance programs, such as the Emergency Management Grant Program (EMPG), which helps provide the necessary support to build and sustain capabilities necessary to protect citizens, avoid the escalation of an event and save post-disaster expenditures by the federal government. Last year, while 66 major disasters were declared, EMPG resources enabled state and local emergency managers to handle 23,331 additional events.

Whether to help address the growing number of mandates on county governments or even the rise in disasters, the public needs a strong partnership between federal, state and local governments to ensure costs are shared fairly and services are delivered expeditiously. Unfunded mandates hide from policymakers and the general public the true impact of federal programs when the cost of implementation is shifted to overburdened local governments.

This cost shift creates budgetary imbalances that require cuts to other critical local services like environmental protection, energy sustainability, fire suppression and prevention, law enforcement, emergency response, education and infrastructure, or increases in local taxes and fees on constituents to make up the difference. Ultimately, our shared constituents suffer from reduced public services or increased taxes at the local level.

Early, consistent and meaningful engagement with intergovernmental partners is vital in the development and implementation of effective energy and environmental policies, programs and regulations.

Congress plays a key role in developing policies that not only guide our actions at the local level but have a major impact on the resilience and competitiveness of our economies.

As an example of how Congress can act as a positive force, because of legislative changes under the Disaster Recovery Reform Act of 2018, FEMA's Hazard Mitigation Grant Program began offering grants to state, local and tribal governments in order to mitigate the effects of wildfires. Additionally, changes to Title III of the Secure Rural Schools program in 2018 allow counties to use funds to develop and carry out community and wildfire protection plans and activities under the Firewise Communities Program.

Let me also provide you with an example of legislation that we need help from Congress to pass. Counties are responsible for providing critical services to renewable energy sites, including those on public lands. Many of my colleagues across the country are partnering with federal agencies to develop energy conservation plans to streamline the development of renewable energy and federal lands. We hope to see Congress pass renewable energy revenue-sharing legislation, known as the Public Land Renewable Energy Development Act, to help ease the cost burdens that public lands counties face in providing necessary services.

Counties can also provide our federal partners with data to help inform the decision-making process. For example, many counties are responsible for developing local land use or natural resources plans. These professionally developed documents contain important socioeconomic, geographic and scientific data that may be used by federal agencies to develop their own resource management plans. By using this readily available data, the federal government can draft regulations that meet the needs of local communities while also ensuring meaningful environmental protection.

Counties are often the level of government closest to the people and directly accountable to our constituents. As a result, meaningful consultation with counties and local governments early in the legislative and rulemaking process is imperative to reduce the risk of unfunded mandates and produce more pragmatic and successful strategies for implementing federal policies—especially around clean energy and the environment.

For intergovernmental consultation to be truly meaningful, Congress and federal agencies must engage state and local governments as partners, who actively participate in the planning, development and implementation of federal rules.

Conclusion

In conclusion, counties stand ready to work with Congress and our federal agency partners to develop policies that can help both improve our environment, sustain our economy and ensure the resiliency of our local communities. Federal policies and programs developed with only the impact on the federal treasury and without the impact on state and local governments in mind put the ability of local governments to fulfill our responsibilities at risk.

Counties continue to serve as reliable partners in implementing federal regulations and policies in order to meet our shared goals and protect residents. We hope that federal agencies show an even greater willingness to partner with state and local governments on these issues moving forward.

Thank you again for the opportunity to testify on this important topic.

Mr. TONKO. Thank you for your contribution here.

Mr. Patrick Ford, you will now have 5 minutes to present, please.

STATEMENT OF PATRICK B. FORD

Mr. FORD. Thank you, Chairman Tonko, Ranking Member Shimkus, and committee members for the work you are doing that is creating an environment that allows an organization like the one I manage to compete nationally and internationally to retain and attract jobs.

On behalf of my board of directors, thank you.

My testimony is based on my experience in communities with a rich industrial heritage. In this particular case, my testimony is about my experience in the northern panhandle of West Virginia.

The northern panhandle, like most communities with an industrial heritage, faces challenges to creating sites to attract industry to this region, have high concentrations of sensitive populations, have higher-than-average incidences of diseases and poor health, and lack a robust portfolio of career opportunities.

Ten years ago, the northern panhandle was being passed over by industry prospects looking for sites. The panhandle was also being overlooked by international companies looking for a platform to enter into the United States.

Lastly, the panhandle was generally avoided because of the optics of the abandoned factory sites that are generally associated with environmental challenges that business and industry don't want to hear about, nor have the patience to deal with, and their bankers and lawyers would prefer to avoid, many times insisting to avoid.

We always found ourselves competing with the communities that were flat, clean, and green, even though they were far removed from critical infrastructure and essential transportation corridors. The sites in the northern panhandle, comprised of abandoned industrial sites, are immediately adjacent to the necessary infrastructure and transportation linkages, which are typically on abandoned, idled, and environmentally challenged properties and for the most part are in areas with an available workforce that have high concentrations of sensitive populations.

Many communities that have a rich industrial heritage have finite resources and simply don't have the funds, nor technical staff, to assess, acquire, clean up, and ready sites for economic development. Many communities do not even have any resources to conduct basic due diligence, perform environmental assessments, clean up hazardous and petroleum-based substances, and obtain construction financing.

Consequently, the only available funding for assessments and cleanups for most rural communities with an industrial heritage is EPA money. The U.S. EPA brownfields funding has been the only funding source available at the local, State, and Federal level for projects that we worked on in West Virginia.

These EPA funds were solely responsible for the cleanup and protection of public health of the abandoned steel mills, pottery and glass factories, and gas stations, to name a few. If it were not for the EPA money on the front end to do deals, the EDA, the Economic Development Administration, on the back end to close deals,

and the Small Business Administration to sustain these businesses, we would not have been able to assess cleanup, redevelop brownfields that attract investments, make our communities cleaner, provides us a healthier environment, and offers new employment opportunities to all residents, including those in frontline communities.

Simply put, meaningful employment is good medicine for people and the environment. Because of these programs that we are talking about today, we were able to cut our unemployment rate over the course of 10 years from 13.7 percent to 6 percent. We were able to use the Federal money that we received to attract over a half a billion dollars in private investment at 140 million in payroll and create 3,200 jobs. Show me any program in the Federal Government that can leverage that type of investment.

And also, we found that working with our Congressperson, Mr. McKinley, and U.S. EPA, we were able to turn on a dime to get programs to work for us, and we can't thank them enough.

I provided in my written testimony statistics that highlight how the repurposing of idled contaminated properties has enabled economic growth and community revitalization while cleaning up the environment. These brownfield properties would have remained stagnant if it were not for the EPA and the EDA programs.

We would not have been able to take advantage of a prime opportunity to bolster our economy, improve the environmental health, attract private investment, preserve and create jobs, help our sensitive populations, and contribute to increasing our labor participation rate and revitalizing our community.

Members of Congress, Congressman McKinley, thank you for listening, thank you for championing brownfields, and thank you for equipping nonprofit organizations like ours to leverage your programs, to attract private investment, and improve the quality of life of our communities.

Thank you.

[The prepared statement of Mr. Ford follows:]

CONGRESSIONAL TESTIMONY

"*Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities*"

Subcommittee on Environment and Climate Change

House Committee on Energy and Commerce's

Date of Hearing: November 20, 2019

Prepared and Submitted By: Patrick B. Ford, Executive Director,
Lebanon/Marion County Industrial Foundation
Lebanon, Kentucky 40033

THE CHALLENGE

Frontline communities have been disproportionately impacted by pollution. That impact has affected the citizens and environment of those communities in the following ways:

Health or Welfare of Sensitive Populations: There are several environmental justice target areas in frontline communities that contain a concentration of sensitive populations. Sensitive populations include high concentrations of children less than 9 years of age who are living in poverty, all childbearing women aged 15 to 44, citizens over 65 years of age, and households with no vehicle available and no access to a computer or the internet. The unemployment rate in these areas is generally higher than the national average. After more than a century of prosperity fueled by the factories, railroad lines, and rivers that established the American Industrial Revolution, the people in these once prosperous areas have health challenges, higher than national averages of unemployment, and lower than national averages of labor participation rates. The positive economic impact of industry is gone, but the negative environmental impact remains.

Federal programs currently offered by the EPA and EDA allow frontline communities **to target brownfield sites that disproportionately and adversely impact low-income and minority populations. These programs ensure that areas with high concentrations of frontline communities receive necessary technical and financial resources that allow them to reap economic and environmental benefits from private investments. Without front-end EPA and back-end EDA technological and financial assistance to alleviate environmental burdens, private investment might never be realized.**

Incidence of Disease and Adverse Health Conditions: Many of our country's frontline communities are situated near, or around, existing and former industrial sites that contain or discharge suspected and/or recognized toxicants such as heavy metals, solvents, polycyclic aromatic hydrocarbons, plasticizers, and insecticides. Many older educational, government, and commercial buildings contain asbestos and lead. Older

transportation service facilities pose risks from petroleum products. Industrial and energy production sites, that remain active, release airborne pollutants. Temperature inversions trap these pollutants in their respective region's river valleys. These facilities along with westerly winds contribute to an air quality problem that can lead to lung and cardio-vascular disease and cancer. Contaminants found in brownfield sites circulate with fine particulate matter in the air, eventually mix with storm water, penetrate groundwater, and finally enter our river watersheds. Exposure to toxic substances, historically used in mining, production, and manufacturing operations, has been directly linked to increased occurrences of asthma, respiratory irritations, lung disorders, and cancers.

***Federal programs currently offered by the EPA and EDA allow frontline communities* to target brownfield sites that disproportionately and adversely impact low-income and minority populations. These programs ensure that areas with high concentrations of frontline communities receive necessary technical and financial resources to mitigate each of these conditions. Without the front-end support to address and resolve these challenges, private re-investment might never be realized.**

Economically Impoverished/Disproportionately Impacted Populations: Economic conditions are bleak in some frontline communities. High poverty, median household incomes substantially less than the national and state averages, and low population counts that fall between 5,000-20,000 people prevent local municipalities from drawing on traditional sources of funding to catalyze an economic renaissance. Shuttered gas stations, empty commercial buildings, and dilapidated houses line the streets of once-bustling industrial and commercial economies that are now characterized as homes to many of our frontline communities. These deteriorated structures attract trespassers, illicit activity, and contribute to spiraling disinvestment.

***Federal programs currently offered by the EPA and EDA allow frontline communities* to target brownfield sites that disproportionately and adversely impact low-income and minority populations. Without federal programs that provide necessary technical expertise and financial support, frontline communities will continue to suffer from structural deterioration that not only impacts the physical environment, but also the accelerates the erosion of the fabric of the community. Without front-end support to address and resolve these challenges, private re-investment might never be realized.**

Career Opportunities for Frontline Communities (Meaningful employment is good medicine): Many of the people defined as frontline communities depend on the energy, chemical, value-added metals, transportation logistics, and agricultural industries for their livelihood. Without these employment opportunities, the choice is often between a poorly paid service-sector job or not participate in the workforce at all. Everything from a region's history and environment to its politics and culture is shaped by the industrial economy. Many historically industrialized regions of our country, where the job opportunities have vanished, struggle with poor health, higher crime rates, increased

occurrence of addiction, and higher concentrations of brownfield, abandoned, and/or dilapidated buildings.

Many of our geographically concentrated frontline communities were once dominated by coal, steel, glass, and chemical companies that were home to tens of thousands of blue-collar jobs. The collapse, and often death, of these manufacturing towns, once economic giants, accounts for the loss of about 43 percent, by some estimates, of all U.S. jobs. After 1950, the economies of these communities were no longer dominated by manufacturing. As factory jobs have faded, service-level jobs in education, healthcare, retail and restaurant work have stepped in as growing sources of employment. However, these are often low-skill, low-wage jobs. To truly revive the economies of frontline communities, local and state municipalities must create career highways to new manufacturing jobs. Career highways provide a direct route for residents of frontline communities to become a new statistic: counted among an expanded workforce with increased labor participation rates in family-sustaining jobs.

***Federal programs currently offered by the EPA and EDA allow frontline communities* to target brownfield sites that disproportionately and adversely impact low-income and minority populations. These programs ensure that municipalities with high concentrations of frontline communities receive necessary technical and financial resources to assist them in creating career highways. Without assistance to alleviate environmental burdens, private investment, that will expand the workforce and provide family-sustaining careers, might never be realized.**

THE OPPORTUNITY

The eastern portion of the United States, between Kansas and Virginia, is experiencing enormous investment in energy exploration and infrastructure development. This same region is also experiencing rapid economic expansion and investments in the automotive, aerospace, chemical, healthcare, and agricultural industries. Municipalities serving frontline communities need to use the federal resources that are available to clean up and re-purpose brownfield sites, and then work with state and federal partners to make it a priority to locate new investment on these sites. Together, these initiatives can clean-up tarnished environments and create new employment opportunities, both of which would have a tremendous impact on the health and economy of frontline communities.

***Infrastructure*:** Programs and initiatives at the EPA and EDA have allowed local governments and economic development organizations to weave sustainable principles, that benefit frontline communities, into growth management. This has made it possible to redirect growth from scattered fringe areas back into central business districts, where older and/or defunct plants were located, where people, services, and infrastructure already exist. By repurposing abandoned factories proximate to frontline communities, we provide opportunities for revitalization and build livable communities: efficient,

compact, vibrant neighborhoods integrated with public transportation, which offers a mix of uses as well as affordable housing. Brownfield sites, proximate to frontline communities, tap into existing infrastructure and limit the need to build new roads, gridlines, and amenities, reducing both project costs and land consumption. In effect, a targeted approach to using these federal programs, alongside a targeted industry recruitment strategy, allows frontline communities to jumpstart abandoned river terminals and rail corridors, improve existing and underutilized roads, and breath life back into idled water, sewer, gas, and power transmission lines.

***Jobs (*We need to fish where there are fish):** Technical and financial resources beyond what an average post-production industrial town can offer are necessary to build a pipeline of workers from the frontline to industry clusters like energy, chemical, value-added metals, transportation logistics, agriculture, and healthcare. Educational and skills training are necessary in frontline communities. Several barriers keep training and career opportunities from being realized in frontline communities, including a lack of transportation, housing, childcare, healthcare and digital access. Communities require additional resources to be proactive in their redevelopment strategies to address the comprehensive needs of frontline communities.

***Federal programs currently offered by the EPA and EDA allow frontline communities* to target brownfield sites that disproportionately and adversely impact low-income and minority populations. Without these programs, limited and time-sensitive opportunities will be lost, land and monies will be misdirected, and the needs of frontline communities will mount.**

THE SOLUTION

Local economic development agencies, working in challenged communities with frontline populations, do not have the financial and technical capacity to clean up and repurpose contaminated, dilapidated and/or abandoned properties to prepare them for economic development.

The grant programs offered by the EPA are the last federal program, to my knowledge, of all federal programs, that are eligible for "FRONT END" money, or "site-ready" money, that can be accessed to prepare sites for economic development, private investment, and job creation. Local economic development organizations cannot apply for development funds, from other federal agencies, unless the sites are cleaned up and have a "no further action" certificate. The ONLY money available to work toward getting that "no further action" certificate is from the EPA.

EPA assistance levels the playing field between brownfields and greenfields. The EPA has created programs specifically to reduce the risk of developing on brownfield sites; which without redevelopment would remain vacant and unkempt. Minimizing that risk is essential to attracting private investment to these sites.

Other programs at EDA and USDA are used as "BACK END" money to complete the infrastructure into a site or finalize work on a building that is already site-ready. A brownfield doesn't even become eligible for EDA or USDA money unless it is assessed and cleaned up (or remediated). In rural frontline communities, brownfields are among the last properties to be repurposed, and most would not be repurposed at all without EPA programs, technical assistance, or money.

For the last decade, I served as the executive director of an organization in West Virginia that utilized EPA and EDA grants and technical assistance to repurpose several abandoned steel mills, pottery factories, and strip mines. The first, and possibly highest, impact of this partnership was the reduction and elimination of toxic substances that were released into the air and water of our frontline communities. Substances removed included lead, asbestos, uranium, cobalt and arsenic. Testing before and after the application of EPA monies was one clear indicator of the success of this program, but another significant metric was that we were able to attract new national and international manufacturing businesses to our former brownfields sites.

Simply stated, EPA front-end programs provide a greater return on private investment, for every public dollar granted, than any other program in the federal government. Why? Because the EPA's brownfields program is one of the few, if not only, economic development tool that allows rural economic development officials to level the playing field in the competition with urban economic development officials, with the trophy being a cleaner, healthier environment that offers new employment opportunities to frontline communities.

HOW EXISTING FEDERAL PROGRAMS CREATED A CLEAN ECONOMY IN THE NORTHERN PANHANDLE OF WEST VIRGINIA

1. **USEPA Investments (grants) in Brooke and Hancock Counties (2010-2019): $2,662,900**
2. **5,283 jobs** (1,310 jobs preserved/created and 3,973 jobs projected) made possible by USEPA investments.
3. **$363,168,680 total investment in the northern panhandle** made possible by **$2,662,900** USEPA investments.
4. **For every $1 invested by the USEPA in brownfield sites in the northern panhandle of West Virginia, an estimated $136 of private investment is underway.**
5. **Unemployment rate dropped from 13.5% to 5.25%.**

Following are specific examples:

Beech Bottom Industrial Park (Beech Bottom)--$510,000 (EPA)>>$84,253,180 (Investment)
Investments:

- $595,000 USEPA Investment
- $2,662,180 Leveraged Public Investments (additional grants)
- $81,591,000 Estimated Private Investments (Value-Added Steel, Transportation Logistics, Energy)

Jobs:

- 708 Created
- 400 Projected

Brooke Glass (Wellsburg)--$552,000 (EPA)>>$1,266,000 (Investment)

***Investments*:**

- $552,000 USEPA Investment
- $26,000 Leveraged Public Investments (additional grants and loans)
- $1,240,000 Estimated Private Investment

***Jobs*:**

- 40 Projected

Eagle Manufacturing (Wellsburg)--$85,000 (EPA)>>$16,650,000 (Investment)

Investments:

- $85,000 USEPA Investment
- $450,000 Leveraged Public Investments (additional grants and loans)
- $16,200,000 Estimated Private Investments (Injection Mold Plastics)

Jobs:

- 36 Created
- 10 Projected

Merco Marine (Wellsburg)--$4,200 (EPA)>>$4,000,000 (Investment)

Investments:

- $4,200 USEPA Investment
- $1,800,000 Leveraged Public Investment
- $2,200,000 Estimated Private Investment (Marine Dock Systems)

Jobs:

- 16 Preserved
- 3 Projected

Former Follansbee Steel (Follansbee)--$72,000 (EPA)>>$31,312,500

Investments:

- $72,000 USEPA Investment
- $1,312,500 Leveraged Public Investments (additional grants and loans)
- $30,000,000 Estimated Private Investment (Value-Added Steel, Transportation Logistics, Energy)

Jobs:

- 65 projected

Three Springs Business Park (Weirton)--$153,000 (EPA)>>$72,408,000

Investments:

- $153,000 USEPA Investment
- $11,008,000 Leveraged Public Investments (additional grants and loans)
- $61,400,000 Estimated Private Investments (Pietro Fiorentini, Barney's Bakery, North American Industrial Services, Rue21, Park Drive Development, Walmart, Bob Evans Restaurant, Comfort Inn, and Fairfield Inn & Suites)

Jobs:

- 195 Created
- 141 Preserved
- 651 Projected

Starvaggi Industries (Weirton)--$24,000 (EPA)>>>$3,000,000 (Investments)

Investments:

- $24,000 USEPA Investment
- $3,000,000 Estimated Private Investment

Jobs:

- 10 Created

Training Center (Weirton)--$224,000 (EPA)>>>$3,500,000 (Investments)

Investments:

- $224,000 USEPA Investment
- $1,700,000 Leveraged Public Investments
- $1,800,000 Estimated Private Investments

Jobs:

- 10 Created

Frontier Group of Companies, Former ArcelorMittal Property (Weirton)--$90,500 (EPA)>>$123,600,000 (Investment)

Investments:

- $90,500 USEPA Investment
- $44,400,000 Leveraged Public Investments (additional grants and loans)
- $79,200,000 Estimated Private Investment

Jobs:

- 50 Created
- 2,500 Projected

Bidell Gas Compression (Weirton)--$20,000 (EPA)>>$5,000,000 (Investment)

Investments:

- $20,000 USEPA Investment
- $4,000,000 Public Investment
- $1,000,000 Estimated Private Investment

Jobs:

- 66 Created
- 174 Projected

The Lodge at the Williams (Weirton)--$77,500 (EPA)>>$2,000,000 (Investment)

Investments:

- $77,500 USEPA Investment
- $2,000,000 Estimated Private Investment

Jobs:

- 12 Created

Jimmy Carey Stadium (Weirton)--$196,000>>$3,017,500 (Investment)

Investments:

- $196,000 USEPA Investment
- $17,500 Leveraged Public Investments (additional grants and loans)
- $3,000,000 Estimated Private Investment

Jobs:

- 24 Created

Newell Porcelain (Newell)--$90,000 (EPA)>>$1,120,000 (Investment)

Investments:

- $90,000 USEPA Investment
- $1,120,000 Estimated Private Investment

Jobs:

- 2 Created
- 70 Projected

Chrysler Dealership (Newell)--$10,000 (EPA)>>$5,500,000 (Investment)

Investments:

- $10,000 USEPA Investment
- $5,500,000 Estimated Private Investment

Jobs:

- 28 Jobs Created

- 12 Jobs Preserved

Rock Springs Business Park (Former TS&T in Chester)--$554,700 (EPA)>>$6,541,500 (Investment)

Investments:

- $554,700 USEPA Investment
- $2,541,500 Leveraged Public Investments (additional grants and loans)
- $4,000,000 Estimated Private Investment

Jobs:

- 60 Projected

Mr. TONKO. Thank you, sir.

And, finally, we move to Mr. Mustafa Santiago Ali for 5 minutes, please.

STATEMENT OF MUSTAFA SANTIAGO ALI

Mr. ALI. Sure. Chairman Tonko, Ranking Member Shimkus, and members of the committee, thank you for doing this. When I was a student, I came to Capitol Hill when John Lewis actually was one of the first to begin to talk about these issues. It is great to see folks on both sides of the aisle coming together and thinking critically about the changes that we need to make, and also how we revitalize our most vulnerable communities.

I would be remiss if I did not also share that I was raised in a family of Baptists and Pentecostal ministers, and also raised in a family of coal miners and factory workers. So I get all of the various challenges that are going on. But the reality is that we have got 100,000 people in our country who are dying disproportionately from air pollution.

We have got 25 million folks in our country who are suffering from asthma, and 7 million children, and it is primarily African-American and Latinx children who are the ones who are going to the emergency rooms and the ones who are losing their lives.

We have also got 2.4 million miles of pipeline that is running through our community that is carrying fossil fuels. Sometimes there are breaches in that, but it is going through all kinds of folks' lands. It is going through indigenous land. It is going through farmers' lands. In many instances, it is ending up on the Gulf Coast, not always, but in communities, in communities like the Manchester community in Houston, Texas, or in Port Arthur, Texas.

When we have these impacts that are happening from air pollution, we need to actually ground it in the reality of what everyday folks are dealing with, because sometimes you have folks that come here and they have these conversations that are theoretical.

So when you go to, as the representative from Michigan talked about the 48217 in the southwest side of Detroit, you literally have children who look out their windows, and they don't see trees. They see the piping. They see the facilities. And they have incredible rates of asthma that is going on, many of them often being rushed to the emergency rooms.

When you go to the Manchester community in Houston, Texas, a hardworking Latino community, and you go to this community, and if you have an old car—and there is nothing wrong with having an old car. I heard a conversation before about old cars. We will call them a classic car.

[Laughter.]

Mr. ALI. And you roll the windows down when you get to that community, you feel like you are breathing in gasoline fumes 24 hours a day, 7 days a week, 365 days a year. And what you will find is you have Cesar Chavez High School there.

For those of you who are in the audience who have ever been an athlete, imagine if you are running around the track, there is an iconic photo that is there with the flaring that is happening in the background. And we expect our children to learn and our country.

Environmental justice touches transportation and housing, public health. It touches job creation, so many different issues that is a part of this paradigm that I am glad you all are thinking critically about.

And what we find is that those 40 million people who are living in our country who are living in poverty, 28 million people who are uninsured—and I know you are thinking critically about making sure that everyone has healthcare coverage. What do you do when you are a part of that 100,000 folks who are losing their lives, or people who are actually getting sick?

So that is the tie that is going on in that space, and that is why it doesn't make any sense. If we have any administration—and I have worked for both Republican and Democratic administrations. When I took my oath, I took it extremely seriously. If you are rolling back the clean power plant, if you are dismantling and trying to deconstruct mercury laws that we have in place, or what is going on with the clean car rule, we know—and the studies that have come out have said more people are going to lose their lives, so why would we do that?

That just doesn't make what I have, which is country boy sense. You just don't put additional people's lives in danger. And we know over the last couple of years the numbers have went up, so it is no longer 100,000 people. The studies have said there is now 10,000 additional people who are losing their lives every year.

Why would we do that when you have folks that are dealing with certified animal feeding operations? You heard the hog farms, the turkey farms, the chicken farms. You also have the impacts that are happening in people's lives, but you also have the impacts that are happening to the water quality. We have these outbreaks of algae and Pfiesteria and all these other types of things that are going on. And if you are a person who is just getting by, you are trying to put food on the table, and now you have these additional impacts that are happening, that just doesn't make sense.

The great thing is—and I can go into the statistics that exist, and all of the water and air issues that there are. The great thing is that we can actually make real change happen. We can help communities in Appalachia. We can help communities on the Gulf Coast. We can help communities in the Rust Belt to be able to be thriving once again. I often talk about moving our most vulnerable communities from surviving to thriving. We can actually do that, and it is going to take your help to make that happen.

I look forward to talking about the examples of how people are actually doing that, coming together, business and industry and others, and I will answer your questions about—and unpacking some of the things that they talked about on the EPA side.

[The prepared statement of Mr. Ali follows:]

Testimony of Mustafa Santiago Ali
Vice President of the National Wildlife Federation

Before the House Committee on Energy and Commerce's Subcommittee on Environment and Climate Change
Hearing on "*Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities*"

Wednesday, November 20, 2019

Chairman Paul Tonko, Ranking Member Shimkus and Members of the Committee, on behalf of the National Wildlife Federation, our 52 state and territorial affiliates, more than 6 million members, and environmental justice communities across our country, thank you for the honor of testifying before you today.

Today's hearing comes at a crucial time as front-line communities are dealing with the cumulative public health impacts from the burning of fossil fuels and the impacts of climate change.

Communities of Color across our nation health and wealth are being impacted by the pollution resulting from the burning of fossil fuels and this same pollution that is a significant driver in the climate crisis that we find ourselves dealing with.

Disproportionately the majority of fossil fuel facilities are located in communities of color, lower income communities and on Indigenous lands. The 2.4 million miles of pipeline crisscrossing our country travels through Indigenous and Farm country and ends up on the gulf coast in vulnerable communities who often have to bare the burdens of toxic exposures.

In our country we have over 100,000 people who are losing their lives each year prematurely to air pollution, that's more folks dying from toxic air than from gun violence. We have 25 million with asthma and 7 million kids. Many of our communities of color and lower-income communities are literally dying for a breath of fresh air.

68% of African Americans live within 30 miles of a Coal Fire Power plant. More than 1 million African Americans live within a half mile of oil and natural gas wells, processing, transmission and storage facilities.

Neighborhoods like the 48217 in Southwest Detroit where 1.6 million pounds of hazardous pollution is released each year from billowing smokestacks above schoolyards and day care centers, as they live in the shadow of the Marathon refinery.

There are communities like the Manchester community in Houston, Texas and Port Arthur Texas surrounded by Petrochemical industries as far as the eye can see and each and every day the residents in these communities feel like they are breathing gasoline fumes.

We cannot forget the freedmen communities like Africa town in Alabama, founded by freed slaves who have been fighting against the impacts of the fossil fuel industry with their lives, as they are inundated with Cancers, Liver and Kidney diseases and breathing difficulties to just name a few of the health impacts faced by our most vulnerable areas and neighborhoods. If this was not enough they now have to also deal with the additional impacts on their communities from climate change.

These communities which have been the sacrifice zones are now also ground zero for many of the storms, floods and other climatic events which we have witnessed over the past few years. In Princeville, NC also founded by freed slaves have been hit by not one but two major floods connected to hurricanes. Houston and Port Arthur, TX also severely damaged by Hurricane Harvey. The communities that have done the least to contribute to the warming of the planet are paying the greatest price. Many have still not been able to return to their neighborhoods and rebuild their homes and businesses.

For all of the impacts that continue to happen in frontline communities there is a pathway forward. We can lessen many of these impacts both in our communities and on our planet by moving forward with a just and equitable transition from fossil fuels, where no one gets left behind and we lower the emissions that are moving us toward a tipping point.

Renewable energy jobs are booming across America, creating stable and high-wage employment for blue-collar workers in some of the country's most fossil fuel-heavy states, just as the coal industry is poised for another downturn.

Economics are driving both sides of this equation: Building new renewable energy is cheaper than running existing coal plants as prices get cheaper every year. By 2025, almost every existing coal plant in the United States will cost more to operate than building replacement wind and solar within 35 miles of each plant.

Multiple states and utilities are setting 100% clean energy goals, creating new demand for workers to build solar panels and wind turbines. Planning for the inevitable coal-to-clean economic transition can create new economic opportunities in every corner of the country – and some forward-thinking policymakers are already heeding this lesson.

With the development of this new economy we must ensure that our most vulnerable communities who have been impacted by the pollution of the fossil fuel industry and climate impacts, can fully participate in this new set of opportunities.

The renewable energy industry has become a major U.S. employer. E2's recent Clean Jobs America report found nearly 3.3 million Americans working in clean energy – outnumbering fossil fuel workers by 3-to-1.

Nearly 335,000 people work in the solar industry and more than 111,000 work in the wind industry, compared to 211,000 working in coal mining or other fossil fuel extraction. Clean energy employment grew 3.6% in 2018, adding 110,000 net new jobs (4.2% of all jobs added nationally in 2018), and employers expect 6% job growth in 2019. (Forbes 2019)

Frontline communities from the streets to the suites are addressing the disproportionate impacts happening in their communities, creating new economic opportunities and lowering the impacts of climate change, that is something that Democrats, Republicans and Independents should be able to support, because it just makes common sense and makes our country stronger.

- New Alpha Development in Florence, SC has been conducting train the trainer events with lower-income residents. Over 100 people have now been trained on solar instillation And in 2020 they will be training Farmers who are trying to lower their electricity cost to maximize their shrinking profitability.

- Across New York City, low-income tenants pay up to 13% of their income on traditional energy from fossil fuels. They also bear some of the highest burdens of climate change. Solar energy is one of the fastest ways to move communities from surviving to thriving. To grow solar in northern Manhattan, WE ACT has launched Solar Uptown Now, a campaign to bring northern Manhattan community members together to purchase solar as a group. The Solar Uptown Now model helps customers choose a solar installer that offers competitive, transparent pricing. Purchasing solar as a group helps to bring down the cost of solar installation for all participants.[1]

- Ivanhoe Community in Kansas City, which was once ravished by drugs and guns, unhealthy housing, illegal dumps, lack of green space and was a food desert. The community now has an urban farm, and a weekly farmers market – which significantly decreases the distance residents have to travel for fresh food. They've cleaned up the illegal dumps and replaced them with parks and play grounds & they have new energy efficient homes for seniors and new and existing members of this thriving community.

- NYC-Environmental Justice Alliance, a 20+ year old organization that works relentlessly towards environmental and social equity in the city of New York by supporting the work of specific community organizations. One such organization is UPROSE, Brooklyn's Sunset Park coalition, which has been working since the 1960s. With their motto, "Manufacturing Zones are the Engine of a Just Transition," they propose Sunset Park's industrial zoning as a potential site for manufacturing and assembling renewable energy parts. This would keep renewable energy jobs local and place power and decision-making within the Sunset Park community, which is rapidly changing as it faces the effects of mega-gentrification. UPROSE is currently planning for community residents to become

[1] https://www.weact.org/en/campaigns/solaruptownnow/

the first cooperative members in the nearby solar farm, which they have slated for completion by winter of 2020.[2]

- ReGenesis Project in Spartanburg, SC once dealing with the impacts from Brownfields & Superfund sites, Toxic facilities, Non-Energy efficient housing, Medically underserved area, lack of jobs and a number of other impacts. After receiving a $20,000 environmental justice small grant have been able to leverage that into over $270,000,000 in positive changes in their community. 500 new green and energy efficient homes, new transportation routes, new medical facilities and mobile health care units, new super market and a community center where seniors and youth come together. They are also moving forward on a 35-acre solar farm to zero out resident's electricity costs (which also helps the environment by lowering greenhouse gas emissions) as well as breaking ground on an Aquaponics and Hydroponics center.

Projects that restore natural systems also create jobs. Restore America's Estuaries reports that coastal restoration "can create more than 30 jobs for each million dollars invested" which is "more than twice as many jobs as the oil and gas and road construction industries combined."

- In Louisiana, a proposed $72 million project to restore a 30,000-acre expanse of degraded marsh near downtown New Orleans known as the Central Wetlands Unit would create 689 jobs (280 direct jobs and 400 indirect and induced jobs) over the project's life.[14] Implementation of the entire $25 billion dollars of restoration in Louisiana's Master Plan over the next fifty years would multiply those jobs hundreds of times over. In Florida, restoration of the Everglades will produce more than 442,000 jobs over the next 50 years and almost 23,000 short- to mid-term jobs for the actual restoration work. Restoring the Everglades is also predicted to produce a return of four dollars for each dollar invested.[3]

These are just a few examples of how change can happen when we support community driven solutions that help our economies and our planet. Yes, we can help our "Most Vulnerable Communities Move from Surviving to Thriving" in Appalachia, The Rust Belt, on the Gulf Coast and in areas across our nation.

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[2] https://www.centerforthehumanities.org/blog/a-limited-guide-to-navigating-a-transition-to-renewables-and-avoiding-the-sharks

[3] https://books.google.com/books?id=0sO3tHPX4hwC&lpg=PA69&dq=Everglades%20will%20produce%20more%20than%20442%2C000%20jobs%20over%20the%20next%2050%20years%20and%20almost%2023%2C000%20short-%20to&pg=PA69#v=onepage&q=Everglades%20will%20produce%20more%20than%20442,000%20jobs%20over%20the%20next%2050%20years%20and%20almost%2023,000%20short-%20to&f=false

Mr. TONKO. Mr. Ali, thank you very much.

And thank you, again, to all of our panelists for tremendous information.

And it is obvious that the pollution burden and negative health consequences from our traditional energy systems have disproportionately fallen on frontline communities. So, Mr. Ali, as our committee thinks through our Nation's transition to a cleaner, more sustainable economy, how can the Federal Government ensure that the opportunities and benefits from this transition reach all communities?

Mr. ALI. Well, one is that we should make some—there is a full environmental justice analysis on all of our policies, programs, and activities, especially the major ones. You have to eventually evolve into that process, but let's get that part straight.

We also have some huge opportunities, and I appreciated the representative from West Virginia sharing about those hard-working men and women in the coal industry over the years. With advanced manufacturing, I know those folks. I know they are great with their minds and their hands. We can get many advanced manufacturing opportunities into our rural area and into our more urban settings.

If you look at some of the work that is currently going on, if you look at—and I wish the representative from New York was still around. If you look at the folks who are in Harlem, in WE ACT, there is an organization there, or UPROSE in Brooklyn. They are actually now putting together an opportunity around advanced manufacturing, around solar, and a number of other things, where they will be bringing real jobs to their people who are right there.

And I will stop there because I see you have another question.

Mr. TONKO. Sure. Does everyone agree, should additional consideration be given to ensure that rural deindustrialized and low-income communities are given the resources and opportunities they need to make sure no community is left behind?

Ms. SANTIAGO. Absolutely. Yes.

Mr. TONKO. Everyone?

Ms. LAVIGNE. Yes.

Ms. HERRING. Yes.

Mr. FORD. Yes.

Mr. TONKO. OK. And we heard from the first panel that EPA's EJ—Environmental Justice Small Grant Program can help build capacity of local groups. Does anyone have any thoughts on the existing EPA program and what more can be done to help expand the possibilities of community-driven solutions to environmental protection and restoration? Anyone?

Ms. SANTIAGO. So, in the context of Puerto Rico, one of the things that we find is difficult in terms of accessing these funds—and I have personally tried to do this—is the language barrier, the fact that many of these documents are not available in Spanish, and we, as U.S. citizens and part of Puerto Rico—sorry, of the U.S.—we do have cultural diversity, and that is part of the reality. And many of these programs are not accessible in that sense.

Mr. TONKO. Does the EPA, Ms. Santiago, do enough to enable public comment and, therefore, advocacy for resources?

Ms. SANTIAGO. No. Unfortunately not. And we saw a very recent example with the proposed rollback, phase 2 rollback, of the coal combustion residuals rule, where it was ruled that impacted primarily Puerto Rico, right, because it had to do with the coal ash piles, the mountains of coal ash, the biggest one being in Puerto Rico, yet EPA failed to translate even one piece of paper on what was being proposed to Spanish.

Secondly, we requested a hearing. We had great assistance from EarthJustice in trying to achieve some measure of participation in the process, such as a hearing on the island. That did not happen. We are very concerned with the way that EPA is not including communities in Puerto Rico in these processes.

Mr. TONKO. Ms. Lavigne, anything that you would comment in terms of the EPA Small Grant Program?

Ms. LAVIGNE. In Louisiana——

Mr. TONKO. Or general outreach in that regard?

Ms. LAVIGNE. In St. James?

Mr. TONKO. By EPA and——

Ms. LAVIGNE. Well, the EPA in Louisiana, we have a hard time getting to meet with them. But I do have a phone number of the director of the EPA in Louisiana, and he is supposed to call me and meet with me to discuss what is going on in St. James.

Mr. TONKO. OK. Ms. Herring, the outreach from EPA and interaction with them in small grants?

Ms. HERRING. The EPA has given small grants to an organization in Warsaw, North Carolina, in Duplin County, Rural Empowerment Association for Community Help. Studies were done on the water and the air quality, and the results were published by Dr. Steve Wayne, Dr. Chris Haney, and there was also a study done by Duke—an assistant professor at Duke University, all confirming that there is negative impacts on people living near these facilities.

Now, the EPA, in 2017, did issue a letter, five-page letter, saying that the State of North Carolina was not doing enough to protect the citizens in southeastern North Carolina. We invited them to come down in 2016, which they did, and that was the result of their findings. And I still that—even though they wrote a letter saying that the State of North Carolina was not doing enough, DEQ is still not holding the industry accountable for their behavior. They themselves admitted that they know this is an antiquated system, so why not do something about it?

Mr. TONKO. OK. Thank you.

I now yield 5 minutes to the ranking member of the subcommittee, Mr. Shimkus, Representative Shimkus, for 5 minutes, please.

Mr. SHIMKUS. Thank you, Chairman.

And first to Commissioner Cribbins, I was touched by your testimony. I represent southern Illinois. During the Depression, they established and created a new national forest there, promising that by taking the land they would then, through tourism, create more jobs than they took away by taking the land. Can you speak to that in respect to your experience with the spotted owl?

Ms. CRIBBINS. Absolutely. I graduated from high school in Coos County in 1990, the year after the spotted owl was listed. And I

can tell you that when I graduated from high school, there were people that were getting a job immediately out of high school and raising a family on it.

Tourism wage jobs do not pay the same that forestry and manufacturing jobs do. So what we find is a lot of families, even with two parents working, are still falling farther and farther into poverty. Their children are still qualifying for free and reduced lunch, and people are not enjoying the American Dream the way they thought they would be able to.

Mr. SHIMKUS. The thing I talk about in this committee quite a bit—I mean, there is the yin and yang of manufacturing and business, and that is the tax base for local school districts and counties. Can you speak to that as a commissioner?

Ms. CRIBBINS. Absolutely. What we find is that, you know, we have a lot of Federal lands in our county that we are unable to tax, and we don't have the business and industry that allows us to grow our tax base in the way that we would like to, and, of course, that is a trickle-down effect because then the tax base of the residents also doesn't grow.

Mr. SHIMKUS. So the payment in lieu of taxes, which we discussed here in Washington numerous times, did not nearly meet the needs to fund the local government services that you need to do as a commissioner?

Ms. CRIBBINS. No. We appreciated the contribution, but, unfortunately, it does not.

Mr. SHIMKUS. Let me go to Mr. Ford. You know, last year we passed—the title of the bill is the Brownfields Enhancement, Economic Redevelopment, and Reauthorization Act, in a bipartisan manner through this committee to help communities. Can you talk about—before I mention that, the EPA just announced the Environmental Justice Progress Report in 2019, and they mentioned that because of this and other things, 149 communities, 151 brownfield grants totaling $64.6 million will be distributed.

For an economic development guy, talk me through why this was a good thing that we should be proud that we did and how it can help distressed communities.

Mr. FORD. I will tell you, what was really cool about that program—and this is the first time I truly appreciated how government worked. Our congressmen approached us and said, "What can we do to give you the tools that you need to better do your job?"

Well, prior to that act, nonprofit organizations could not access that money, only government agencies. And we were just a small nonprofit, two and a half, three people, shared staff, little resources. Not only did that bill give us access to millions of dollars, what you also did, the problem that we had, is that it cost, on average, $100,000 an acre to clean that property—$100,000 an acre.

So if you have got a 5-acre site, and your cap is only $200,000 a grant, you are going to have to take multiple years to clean that property, which is what we did. So what you all did is that you increased that to $500,000, which cut the time it took us to clean up properties in half.

So, again, and that happened in the course of 3 months, and so what I appreciated——

Mr. SHIMKUS. And then tell me what happens once the cleanup occurs. Then what can you do?

Mr. FORD. Oh. Then what happened is, because we always have industries on the hook. I mean, the beautiful thing about our economy is we are growing, and we need to move at the pace of business.

And for I don't want to say the first time, because I appreciate all of the support we get, but what was nice about that is we were getting legislation that was equipping us at the pace of business to ready sites, and we were making business deals at an accelerated rate, actually condensed it in half the amount of time.

And, again, the numbers are right there in your report—a half a billion dollars of investment over the course of 10 years, more money, more resources. Now, I will also tell you, as a poor nonprofit, we could always use more money. But at the same time, it was fantastic how you responded to the need, changing legislation, and getting us the resources we need.

Mr. SHIMKUS. And my time is getting close to being expired, so I thank you for this. To those I didn't get a chance to ask questions, really want to make sure that there is justice provided to all communities. We want economic development. We want to grow the local tax bases, and we want a clean environment. We are trying to get that. Thank you for being here.

And I yield back my time.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentlelady from Delaware, Representative Blunt Rochester, for 5 minutes, please.

Ms. BLUNT ROCHESTER. Thank you, Mr. Chairman. And I really want to thank this important panel. There were so many things that were said that really resonated with me, and particularly the State of Delaware.

One of the things that, as this hearing was coming up, I was thinking about the fact that some people might say, "Well, why don't you just move?," which is so incredible to me. There are so many reasons.

Number one, many people in my State say they can't even find affordable housing. That is number one. Another thing has been mentioned, but we have changing employers and changing industries. So there are some companies that move into a neighborhood and change the dynamics of that neighborhood, and then there are some companies that move out and take away jobs.

Another reason are restrictions on housing. I was visiting a constituent who was living in a trailer that did not have running water, and I asked, you know, "Did you have other options?" She was kicked out of the place where she was living before because her husband was a returning citizen, had just reentered back from prison, and the restrictions on her living in that place meant she had to find somewhere else to live.

And another reason that has been described so well by Ms. Lavigne and Ms. Herring is that for many families there is a history and there is a proud legacy of the land itself.

So I want to first start with a few questions, and it kind of picks up on the panel from before, because I was asking about resources for capacity building, for communities, and whether or not there

were enough resources, whether people even knew that they had those opportunities out there to help them.

Already the three witnesses mentioned your connections to EPA, and whether or not—just a yes or no—if you yourselves have known about the capacity-building grants or received any. Ms. Santiago?

Ms. SANTIAGO. No.

Ms. BLUNT ROCHESTER. Ms. Lavigne?

Ms. LAVIGNE. No.

Ms. BLUNT ROCHESTER. Ms. Herring?

Ms. HERRING. As I stated before, Rural Empowerment Association for Community Help, they have taken advantage of those grants.

Ms. BLUNT ROCHESTER. Right. But not you personally.

Ms. HERRING. But not me.

Ms. BLUNT ROCHESTER. OK. Thank you.

Ms. HERRING. But it does impact my communities.

Ms. BLUNT ROCHESTER. Yes. You need them, and it is——

Ms. HERRING. Yes. Absolutely.

Ms. BLUNT ROCHESTER [continuing]. Very impactful.

And, Mr. Ali, if you could just follow up a little bit on that question about the gap in terms of what is needed and what is out there and how do people actually access it?

Mr. ALI. Sure. So let's make sure we get the narrative correct. Many of the things that you heard the previous panel talk about that they are sharing their successes came out of recommendations from years ago from frontline communities. In the late 1980s, early 1990s, they are the ones that put the recommendations forward to have the Office of Environmental Equity, which became the Office of Environmental Justice, created the Small Grants Program, the Interagency Working Group, so forth and so on.

So there have never been enough resources, but to cut the Environmental Justice Grant Program, something that has shown so much success, something that has actually helped both rural and urban communities to garner the information that is necessary to understand the impacts that are happening inside of their communities, and to help them to be able to build the capacity to start a journey moving forward, does a disservice to all of our communities across our country.

Ms. BLUNT ROCHESTER. And, Mr. Ali, could you give us some examples of either State or local areas—we have heard some great testimony here earlier—that would have—that really could help us, particularly as it pertains to cumulative impact. Could you talk a little bit about that and what we, as the Federal side, could learn?

Mr. ALI. Well, on the cumulative impact side, folks really need to better support the science inside of a number of different agencies to make sure that we have the facts, but that we also are understanding these impacts, because lots of times we will have a single source that we will regulate and that we will look at and not looking at the totality of what is happening inside of communities.

So, and just let me real quickly say also—I know we are running short here on time—there are a number of programs over the years that have shown much success that would benefit all of the folks who are in this room, one with the Environmental Justice Small

Grants Program that has provided close to 1,600 communities now, so I am not sure where they got their numbers from.

The collaborative problem-solving program, which has yielded huge benefits of bringing both business and industry together, along with frontline communities, public health organizations, so forth and so on, to make real change happen. State and Tribal environmental justice programs, to build the capacity inside of the States, and inside of Tribes, was another program that folks could probably find a lot of usefulness in this time. And that also helps us to build the bridge, build the bridge between the States, the counties, the local governments, and frontline communities.

Ms. BLUNT ROCHESTER. In my last 5 seconds, I just want to highlight a few things that you said. Having a seat at the table, that we can coexist, whether it is industry, farms, and communities. And then the last thing, going from the American dream to the American nightmare to rising up.

Thank you so much for your testimony, and thank you for your leadership.

I yield back.

Mr. TONKO. The gentlelady yields back.

The Chair now recognizes the ranking member of the full committee, Representative Walden, for 5 minutes, please.

Mr. WALDEN. Good morning, Chairman. Thank you.

And I want to thank our witnesses. I have read through your testimony. I have been in the middle of some negotiations on other legislation that we are going to take up here in a few minutes in the full committee, but I wanted to come back for some questions, especially for you.

Commissioner Cribbins, thank you for coming out from Oregon. I know what Coos County, to a certain extent, has gone through in terms of loss of jobs over several decades, and I think you reference that in your testimony, and I think one of my colleagues raised the issue of the spotted owl, Mr. Shimkus from Illinois.

And know it is a real tragedy because the communities around us in Oregon are surrounded by renewable forest resources, and yet we have seen 30 mills close, one in Coos Bay earlier this year I understand, and the median family household income is $20,000 per year below our State's average.

When you think about that and the things we could do that are both good for the environment and good for the economy, what comes to mind?

Ms. CRIBBINS. You know, I think the EPA brownfield grants are a great example. We have used those to clean up areas. We have these discussions about industry all the time. Industry does good work when they are there. Unfortunately, when the site becomes vacant, frequently it needs to be cleaned up.

Mr. WALDEN. Right.

Ms. CRIBBINS. We appreciate the partnership of the Federal Government in getting those sites cleaned up and back on the tax rolls.

Mr. WALDEN. Yes. We worked a lot in this committee when I chaired it last Congress in a bipartisan way to get that into an even better partnership for our local friends to be able to take advantage of. And so I think that is really important.

And then, you know, what I have seen over the years is this great reduction in carbon emissions as a result of fuel switching, frankly, from coal to natural gas, with all due respect to my friend from West Virginia, but it has happened.

And I have also seen in some of the international work I have done, including recently when I was overseas in Europe, this issue of Nord Stream 2 and Putin, Russian gas coming into Europe. And I have heard from various countries over time about how much they want us to get our natural gas into the world market, liquefied natural gas.

And I think there is a project that would go—a pipeline through part of the district I represent and end up in Coos County, right?

Ms. CRIBBINS. Absolutely.

Mr. WALDEN. And what would that investment be in your county, if it is approved?

Ms. CRIBBINS. The total project investment is projected to be over a billion dollars. It would be the largest project——

Mr. WALDEN. Billion.

Ms. CRIBBINS [continuing]. In the State of Oregon. Yes.

Mr. WALDEN. Largest project in the State of Oregon. Do you know how many jobs that would create?

Ms. CRIBBINS. It is projected to have 5,000 jobs at least during the construction phase and over 100 permanent jobs that pay well above our average median income for the area. They would be in the 70-to-100,000 range.

Mr. WALDEN. And so when you are thinking about that, what are the impediments that stand in the way of getting this project approved?

Ms. CRIBBINS. Congressman, it is primarily a permitting issue. Yes, it is a permitting issue.

Mr. WALDEN. OK. I will leave that part because I think I know the permitting issue pretty well in the State of Oregon is backtracked on anyway.

Ms. CRIBBINS. Yes, sir.

Mr. WALDEN. It has been a real problem. So these would create family wage jobs that would get cleaner natural gas, and my understanding is some of the takeout contracts would be in Japan where they are using coal now for energy resource. Is that right?

Ms. CRIBBINS. That is correct. And, you know, if we look at emissions, they really have to be looked at on a global scale.

Mr. WALDEN. So, if you are going to reduce emissions and create jobs in depressed areas, it would be projects like this that would make sense to you.

Ms. CRIBBINS. Projects like the Jordan Cove project make sense to rural Oregon because it is an opportunity for rural Oregon to determine its own future.

Mr. WALDEN. And would you get some of the tax revenues from this pipeline as it goes through Coos County as well as the facility itself?

Ms. CRIBBINS. We would. There has been an enterprise zone agreement negotiated for the facility, but the schools primarily would benefit from the tax revenue on the pipeline, and the county to some degree.

Mr. WALDEN. Do you know how much that would be?

Ms. CRIBBINS. I apologize. I don't off the top of my head.

Mr. WALDEN. That is all right.

Ms. CRIBBINS. I could get you the numbers easily.

Mr. WALDEN. Yes. I know some of the counties the pipeline would go through in my district would benefit pretty dramatically, although for I think NIMBY purposes they have not been supported. But at some point here, I have been a fan of putting fuel in pipelines as opposed to necessarily rail or vehicles on the highway. I think it is a safer way to distribute.

And I think utilizing America's great energy reserves help our economy and can help reduce carbon emissions from more-polluting energy sources overseas, such as we are talking about here.

So I want to thank you for coming back. I want to thank all of the panelists for being here. Obviously, when I get an Oregon witness, I am going to focus on that witness, but your testimony is really helpful as well.

With that, Mr. Chairman, I yield back the balance of my time.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentleman from California, Representative Ruiz, for 5 minutes, please.

Mr. RUIZ. Thank you, Mr. Chairman.

Thank you to the witnesses who are here today. I commend your advocacies for environmental justice communities. It is a priority of mine to make sure everyone in my district and across the Nation has access to clean air to breathe and clean water to drink.

And I would like to share with you a little bit about the current environmental justice situation in my district. You see, I grew up in a farm worker community in a trailer park, and in a rural area in the county of Riverside, southern California. For many years, the community has been plagued by environmental hazards that have affected the public's health.

For one, it is a very impoverished area that is underdeveloped, and you have dust and PM10s that is easily kicked up with any kind of traffic on the dirt roads or high winds.

Two, you have agricultural communities. There was a recent report a few years ago where pesticides were sprayed while kids were at a nearby high school. You have noxious air coming from different companies in the area. In fact, one was shut down, Western Environmental from a nearby area.

Now, currently, you have an unpermitted waste recycling facility, unpermitted, that is on private allotted land within a Tribal reservation. So it is under the BIA's jurisdiction, and the Tribe and the BIA has been trying to get this company to stop their operations. But because it is on private land, they continue to do so.

That property has caught on fire about seven times over the last probably 14 months. Recently, it caused havoc. I mean, the fire is still burning for over a month because it is a very complex mulch-fire-type fire. But there is so much smoke, so much smell, the school district shut down, 25 kids had to go to the hospital, 6 kids went via ambulance. It was an environmental injustice.

And, as we know, poor schools, poor neighborhoods, communities of color, minorities, and rural areas face these kind of problems. In addition to that, you have Oasis Mobile Home Park in Thermal, whose water filtration system just broke, they stopped sending

samples. The EPA caught it. Six months later went and found 10 times high arsenic level that was permissible in the water, and now they are being tricky in not providing and not complying with the EPA's order to provide 1 gallon of water per individual in their mobile home park until it is cleared by the EPA.

So my office has been working with the EPA to ensure that residents have access to clean water and working with the BIA and other stakeholders to come up with a comprehensive environmental justice plan for the region.

Mr. Ali, it is good to see you again. We worked together on the environmental justice bill, including cumulative impact, and all of these things that we are talking about is in the Environmental Justice Act that we discussed.

But, after working with the EPA for 24 years, you are keenly familiar with the risk environmental justice communities face. Do you think there is currently an effective system to hold bad actors accountable in these communities?

Mr. ALI. No. And the reason why is because you have a huge cut in the enforcement actions that are happening at the agency, and you have less inspectors that are actually out there inspecting and doing their job.

Mr. RUIZ. In your experience working with the EPA, have the environmental justice grants and the CARE Grant Program helped address environmental justice issues?

Mr. ALI. They have been game changers, and the best folks to talk about that are the communities themselves that saw incredible value in that.

Mr. RUIZ. And do you think these grants are properly funded?

Mr. ALI. No. We need to increase that. We need to take a serious look and then say how many additional dollars are needed based upon all of the applications that come in that never get funded.

Mr. RUIZ. You know, one of the problems that we face in air pollution is that the emergency management departments and FEMA know they are the best at evacuating communities and responding to environmental hazards that are an imminent risk to life or property, right? But what we are talking about here is a cumulative effect of environmental hazards that have created a hazardous situation in which the communities live in already.

So we don't have a national guideline response to what to do in situations where you have smoke in the air when you don't have imminent threat to life or property. And how do we create an emergency response or a public health response to help those members who don't have the capital, don't have the money, to move or to visit other affluent areas where the environmental hazard is not.

So one of the questions, for example, was—one of the recommendations that the community received was stay indoors in a closed AC unit system. We are talking about people living in trailer parks, like I did at one point in my life, using swamp coolers that bring air from the outside that increases the concentration.

And this environmental injustice is in a population that has the highest pediatric asthma hospitalization state in the State of California. So you add all of this together.

Thank you.

Mr. TONKO. The gentleman yields back.

We now recognize the representative from West Virginia, Representative McKinley, for 5 minutes, please.

Mr. MCKINLEY. Thank you, Mr. Chairman.

Ms. Santiago, I had the pleasure 2 weeks ago to go to Puerto Rico. We wanted to see—three of us went down. We wanted to see how the reconstruction was underway, and I was impressed with the robust level of activity, construction activity. I saw roads under constructions, bridges being built.

There was a lot of excitement with the people, and they were talking how much construction activity was taking place in Puerto Rico. Would you agree that it has been pretty active?

Ms. SANTIAGO. Thank you for the question. Unfortunately, I cannot agree.

Mr. MCKINLEY. OK. Well, let me just go on, because you got into my wheelhouse when you mentioned coal ash, and I just want you to know in the construction—because all of the newspapers, everyone else, was talking about how proud they were of the level of construction activity that was underway down there.

Now, do you understand with coal ash it goes into concrete? So the more—you can do more construction if you use coal ash than you can do if you use Portland cement. I am an engineer. I have designed many roads and bridges and concrete mixes. So the more fly ash we can put into it means we can pour more concrete as a result of it.

We also can do it in a road base, and they are using it in road base in Puerto Rico. They are using it in drywall when they are rebuilding after the hurricane came through. It is in the drywall. They are in concrete blocks. It is in bricks. It is—all of the construction material that I saw down there I know was embracing using fly ash.

So there is a market. It is not all going to a landfill. They are going to use it in that product.

But more importantly with it, just so you understand, too, they are using it now—the Department of Defense and Department of Energy are using that coal ash to extract the material for rare earths. And the fact that China is the one that is controlling rare earths, let's be careful about vilifying something that maybe is going to get part of our national defense

Now, in your travels, maybe you missed this, but this was the article in the morning—today's paper in The Financial Times published in London, and it talks about maybe in America we have a problem with burning coal. But the rest of the world has a voracious appetite for that, and China has now just announced they are opening up more power plants this year in China than the entire coal-fired power plants of Europe. Their understanding, they can use this.

So, Ms. Lavigne, let me go to you. I wish you some tremendous success in driving the Formosa Plastics out of Louisiana. Do you have any idea where I would like to see it go? Why don't we bring it up to West Virginia, and let's go to Welch, West Virginia, or let's go to Harlan, Kentucky, or Hazard, Kentucky, that desperately want to see an alternative to mining coal. But those companies aren't coming there.

So I wish you a lot of success in making that happen, and I do—I am very serious about that.

Ms. LAVIGNE. Thank you.

Mr. MCKINLEY. So now I want to turn to Mr. Ford. We worked together. I remember when we had that conversation when we were talking about the legislation we had. It was House Bill 3017. We brought it to you and said, "How can you best—what can we do to improve on this legislation?" And you came up with some excellent ideas, and we tried to embrace those, and we did, the bulk of them.

So I am pleased that we saw a good partnership developing here to be able to get that, and I am proud to be the author of that piece of legislation.

But let me ask you now, in the short time I have left, how can we improve on the brownfield legislation? What is it? What is there more that we can do to make something positive even better? Because we have seen in the Weirton area where you left—that was your previous—the dramatic turnaround, taking over abandoned sites and making them work.

So what can we do to continue that and use that in other places around the country?

Mr. FORD. Two things that I would suggest. Number one, it would—if you could emulate the application process at the EPA that they have in Economic Development Administration—in the EDA, when you all appropriate money to the U.S. EDA, you give them a lump sum of money, and then they have rolling application deadlines that are every month.

In the U.S. EPA, we only have one shot to apply, and that is in December. So if we come up with a project in January, we have to wait until December to apply. And the way we do business today, that is not moving at the pace of business. So if you can change those deadlines to rolling deadlines, that is number one.

Number two, again, going back to the math, $100,000 per acre to clean up properties per the current requirements in the United States. So, again, $500,000, that was generous when you are looking at these small sites. But when you have a site like we currently have at the former steel mill, ArcelorMittal in Weirton, that is 600 acres. Do the math to clean that up.

So, and multiply that times the number of abandoned industrial sites that we have. There is never enough money. But what I have also found out is it is also a product of capacity, and what we do appreciate is that, every time we brought a problem to EPA, to Congress, you have always delivered, and I thank you for that.

Mr. MCKINLEY. Thank you. I yield back.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentlelady from California, Representative Matsui, for 5 minutes, please.

Ms. MATSUI. Thank you very much, Mr. Chairman, and I want to thank the witnesses for being here today, especially elevating voices from communities across the country that often get overlooked. Thank you for being here.

As we consider the impacts of climate change and the solutions to prevent further warming of our planet, it is absolutely critical that we ensure we are not leaving any communities behind. Wheth-

er it is from poorly designed transportation corridors, the influence of large industrial or agricultural corporations, or the negligence of companies storing coal ash waste, we see the same issue facing frontline communities across the country, and this absolutely must stop.

While there are tools within the Federal Government to address environmental justice issues, such as NEPA or Title VI of the Civil Rights Act of 1964, we are certainly—and should be—doing more to ensure that no one is left behind.

Ms. Herring, thank you for being here today and sharing your story. I am horrified by what you and your family and your neighbors have been through but inspired by the fight you have brought to polluters and the message you are sharing today, especially the recent victory achieved through Title VI.

While we all know this is an important victory, obvious issues with the law persist. Before it even became an issue, what could have prevented the devastation your community saw from increased hog farm operations near your home? And have you seen other local governments engaged with communities in a way that might have prevented these operations from occurring?

Ms. HERRING. When the hog operations first came into our communities, we were not aware of them. When I approached the industry about this, they said that the hog growers talked to their neighbors. They never talked to their neighbors.

When these facilities were first built, they were hidden. We didn't even know where the stink was coming from, but it was coming from these facilities. So when you don't know where the pollution is coming from, you don't know really who to approach about the issue.

Ms. MATSUI. Right.

Ms. HERRING. But because of the deforestation and the continual cutting down of trees, all of these facilities, the landscape in southeastern North Carolina, as far as you can drive, all you see are CAFOs. And these CAFOs are having a negative impact on our lives.

Ms. MATSUI. Sure.

Ms. HERRING. And it has devalued our property, has impacted our health, and we don't even—we are not even able to enjoy our property rights, which is to simply walk outside, if you so desire, sit outside on your porch, cut your flowers, whatever. There is just no activity outside at all. We are just basically held prisoners in our own homes, and we had no idea what was going on.

Ms. MATSUI. Certainly. So, although EPA expressed agreement that minority populations are being disproportionately impacted, do you feel that there were limitations on how EPA was interpreting Title VI to prevent as much progress as could have been made in protecting your home and the community?

Ms. HERRING. When we approach the EPA and invite them to come down, this was all based on the Title VI, and the 1964 civil rights law guarantees that corporations cannot take Federal funds and discriminate, but that is what they are doing.

There is over 2 million pigs in Duplin County, with a population of 60 people.

Ms. MATSUI. OK.

Ms. HERRING. And the EPA did not and does not pressure DEQ, when they were renewing these State swine permits, to include safeguards for the community people. We were totally left out of the decision.

Ms. MATSUI. OK. So United States Commission on Civil Rights' Report on Environmental Justice issued in 2016 found a lack of enforcement and significant delays in EPA's handling of complaints under Title VI.

Mr. Ali, you worked at EPA. What effect would delays on Title VI complaints have on communities?

Mr. ALI. It puts their lives in greater danger. So they are continually—that is the interesting thing. People always want to move so slowly in a process, and they forget that everyday folks are the ones that are having to breathe in and drink these various toxins that are impacting their health and their life. And you just can't continue to do that.

Ms. MATSUI. So you feel that these civil rights complaints are not being taken as seriously as they should be?

Mr. ALI. When I was there, I thought that there could be more attention to it. In the previous panel, they said that they have cleaned everything up, so we will have to see.

Ms. MATSUI. What could they do to better move forward here?

Mr. ALI. There should be stronger community engagement. There should be more transparency in the process. We should make sure that the expertise that needs to exist inside of the Title VI programs are there. That means that you have got to hire the right folks, and you have also got to actually spend real time out in people's communities to see what they are dealing with.

I understand the law, but there is also another component, that there are real impacts that are happening to real people, and we need to be utilizing the law in a better fashion.

Ms. MATSUI. OK. Well, thank you, and I yield back.

Mr. TONKO. The gentlelady yields back.

The Chair now recognizes the gentleman from California, Mr. McNerney, for 5 minutes, please.

Mr. MCNERNEY. You caught me off guard there, Mr. Chairman.

Again, I thank the panelists. This has been a very informative set of discussions.

Mr. Ali, we have heard from witnesses how industrialization has deleterious effects on the surrounding communities. Do you believe we can have prosperity, including a variety of industries, along with a healthy environment?

Mr. ALI. I believe we should be focused on cleaner industries. For those that have been impactful, we need to get them to clean up, and we also need to make sure there are opportunities for greener and cleaner types of businesses to be in especially our most vulnerable communities.

Mr. MCNERNEY. Well, do you think that well-thought-out and fairly enforced government regulation would help industry be more clean and healthy?

Mr. ALI. I do.

Mr. MCNERNEY. You know, we have heard a lot from the other side of the aisle that we need to reduce regulations across the

board, and I think that is counterproductive in terms of environmental justice.

Mr. ALI. You know what is always interesting, Representative, is that, when it comes to communities of color, when it comes to the police, no one ever has a problem with there being more enforcement in that space. But when it comes to the environment, they don't want to have more enforcement, although our most vulnerable communities will continue to tell you that they want stronger enforcement.

Mr. MCNERNEY. Thank you for that comment. Well, at the time of your stepping down from the EPA, you mentioned that the Agency's leadership had not given, quote, "any indication that they are focused or interested in helping vulnerable communities." What was your reaction to the first panel's EPA witnesses this morning?

Mr. ALI. Well, I thought it was interesting that many of the ideas that myself and others had came up with, they had now started to use that language, so that was interesting. Secondly, it is very difficult—and I understand the dynamics that they had to deal with, but the reality of the situation is that this administration, besides brownfields and Superfund work, has done nothing to better protect the communities that are being disproportionately impacted.

If you look at the 85 regulations and statutes that have been rolled back and are being deconstructed, all of those are necessary for people to have the basic protections in place.

Mr. MCNERNEY. Well, thank you. In your opinion, has the EPA become more focused or interested in helping frontline communities since the time you left?

Mr. ALI. I think it would be difficult for them to say that they are, considering that now more people are dying based upon their own analysis and the various things that they have been rolling out. So I am not sure how you say that you care about these communities and that you are protecting them better.

Mr. MCNERNEY. Well, do you see any way for the EPA to change course and engage those communities in a fair and meaningful way?

Mr. ALI. Yes. Open the doors, allow frontline communities and others who have expertise in this space to make sure that the various actions that you are moving forward on are actually going to be more protective, make sure that you actually have a senior advisor for environmental justice in the Environmental Protection Agency that gives advice to the Administrator.

Mr. MCNERNEY. Well, it is evident that the climate crisis we are facing disproportionately impacts low-income communities and communities of color. Can you speak more to the public health emergency that has arisen in these communities as a result of climate change?

Mr. ALI. Oh, without a doubt. The numbers that you have seen are going to continue to increase. You are going to lose more lives to air pollution. You are going to lose more lives in places like Princeville, North Carolina, which no longer has 50-year floods. They now have 100-year and 500-year floods.

You are going to see more things that happen in places like Puerto Rico. So all of these various things are going to be exacerbated because of the extreme rain events. The lagoons are going to

have breaches, and all of the things you have heard people talk about, from coal waste to the waste from animals, is going to get into our water system.

Mr. MCNERNEY. What do you think is of impact to—I mean, specifically, climate change, why do you think climate change is impacting poorer communities specifically?

Mr. ALI. Because our communities are hit first and worst. We have the least ability to escape. We are in low-lying areas. If you look at our public housing, traditionally it has been built in some of the most vulnerable areas. If you look at what has been going on with our transportation routes, when you have these extreme heat events, you are going to have more impacts that are happening from air pollution.

Our communities are the sacrifice zones. They always have been, and now it is just being magnified. I often call it the double whammy effect. If you look where the fossil fuel facilities are located, they are disproportionately in our communities. If you look at the pipelines, disproportionately in our communities. If you look at the transportation routes that have been put in place in our country, disproportionately in our communities. All of this is going to be even more magnified by the impacts that are happening from climate change.

Mr. MCNERNEY. All right. Thank you, Mr. Chairman. I yield back.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentlelady from California, Representative Barragán, for 5 minutes, please.

Ms. BARRAGÁN. Well, thank you. I want to thank the witnesses for being here today and for your work on this issue.

Mr. Ali, you and I know each other very well. Thank you for your work, for being a champion on environmental justice, and for working with our office on highlighting the environmental injustices that are happening and the work that you have done for so long.

And, frankly, we need more change agents like you on the ground who are speaking truth to power, who are telling people what is happening, and to ring the bell of the urgency. We heard this morning from one of my colleagues across the aisle talk about this like there was no urgency, talk about it like this is some made-up issue that just the far left has a concern with. But this is our climate, and this is environmental racism going on in our very communities, where communities of color are being disproportionately impacted, and they are hit, as you said, the worst and first. So thank you.

As climate change leads to more severe weather, communities of color will be disproportionately impacted. It is critical we empower communities and enhance their ability to bounce back from a disaster. Mr. Ali, can you speak to resilient strategies Congress can support to address the issue?

Mr. ALI. I mean, there are a number of different things that we can do. One of them is around natural infrastructure. We don't have enough conversations about that, about how we can restore our wetlands and our other types of water bodies that are out there. There are examples of literally hundreds of thousands of jobs that will be created.

Just look at Florida. If we begin to address the needs that exist in that space—in Louisiana, there are examples also of how people are rebuilding some of the marshes and other things that are there. But we can also, as we talked about earlier, I think that jobs and economic opportunities are also a part of the equation of how we make change happen, and that is why I am a huge proponent of advanced manufacturing opportunities. As we get folks more connected to these new sets of jobs that will be available, that are available and will be available, you will see a change in the culture and the way that we approach this.

You will also see a lowering of emissions. So we have opportunities around wind and solar that everybody talks about, but we also have opportunities around thermal and tidal, and there are huge amounts of parts that go into that, that we could be doing advanced manufacturing in those areas that need them the most.

So there are a number of things that we can do for both mitigation, adaptation, and all of the other things that are going to be necessary.

Ms. BARRAGÁN. Have you seen any legislation that you particularly like, think that we should be moving on? Or something maybe you haven't seen that you would recommend that we include in this bill that is being drafted, the 100 percent by 2050?

Mr. ALI. Well, I mean, I appreciate, after so many decades, that folks are actually starting to unpack this. And just the other day, folks sort of shared with folks the Environmental Justice for All and some of the new bills that are coming out. I would just like to see us also think critically about these new sets of jobs and how, even in a green economy, we still have disparities in that space, we still have very small ownership by people of color in that space, and I think that that is important because it sends a message that you are a part of this, that you are valued, and that your voice and innovation matters.

So the worker training part is important, but also the ownership part is very extremely important.

Ms. BARRAGÁN. Thank you.

Ms. Lavigne, my district shares some of the same challenges that the St. James Parish is facing. In our case, heavy industry and urban oil drilling has made the air unhealthy. In your testimony, you request a moratorium on the oil, gas, and petrochemical industry in your parish. Can you expand on the importance of this? And do you have any thoughts as to how we could apply a moratorium for distressed communities like yours and mine nationwide?

Ms. LAVIGNE. Well, in St. James, we have 12 petrochemical plants within a 10-mile radius. And those that we have, some of them are expanding. We are asking for a moratorium for them not to expand these. That is already there, and we are asking for them not to let any more come into St. James.

We have seven districts in St. James, and they are putting all of the industry in the 4th and 5th districts. So we need something to stop the industry from coming in.

Ms. BARRAGÁN. Mr. Ali, with just the few seconds I have left, do you have any recommendations for how we can make the clean energy sources such as solar more accessible to low-income communities?

Mr. ALI. We have to make the resources available, one on the capacity side, also on the education side, and then, again, going back to work with the Small Business Administration and others. Let's make sure that folks understand how to—if they don't, how to get their businesses up and running, and then let's partner with those existing entities that maybe already have experience in that place.

So let's build some bridges, some ambassadorships, all of these different things that may definitely help those garner the necessary skills and abilities to be successful in that space.

Ms. BARRAGÁN. All right. Thank you.

I yield back.

Mr. TONKO. The gentlelady yields back.

The Chair now recognizes the gentleman from California, Representative Peters, for 5 minutes, please.

Mr. PETERS. Thank you, Mr. Chairman, and thanks to the witnesses. I know it has been a long session.

I wanted to talk a little bit about sea-level risk and relocation. According to the 2018 National Climate Assessment, there are 49.4 million housing units along the coastal shoreline and coastal water shore. The communities and homes and businesses worth at least $1.4 trillion sit within about 8 miles of the coast. Many of those are frontline communities, as you have described.

A couple of examples, experiences we have had, have not been all that smooth, and I will just describe them. In Alaska, in Newtok, in 2018, the Alaska Denali Commission, which funds rural infrastructure projects, awarded $15 million to relocate 350 people to nearby Nelson Island. Those people had been forced to move there in the first place. It is a Tribe.

But it is estimated that it will be 2023 before enough homes are built for everyone, and the Army Corps estimates in the end it will cost $130 million to relocate the village. So that is 350 people, $130 million.

The other example is in Louisiana. At Isle de Jean Charles, is that close? Is that close? In Louisiana. It is 2 hours west of New Orleans. And this is a community of 60 to 80 residents, and we have earmarked $48 million for that. We have purchased land for $12 million out of that 48 million.

In 2016, the Department of Housing and Urban Development, under President Obama, awarded $1 billion in disaster resilience grants to 13 States, $48 million for this group in Louisiana. The State bought a 515-acre farm 35 miles north of the island for about $12 million, but program eligibility is limited to permanent residents and those displaced by Hurricane Isaac in 2012. Residents are required to maintain the property as a primary residence for 5 years.

Most residents here belong to the Biloxi-Chitimacha-Choctaw Tribe, but the Tribal Community Council has recommended withdrawal from the project because of unresolved concerns about the terms of the settlement. So you have two issues going on. One is, there is not going to be enough money to do this for everyone at these rates. And two is, we don't appear to have engaged the community in a way that was effective to provide the relief that they need.

And so let me ask you, and anyone who wants to answer, how should—is there a good model for the Federal Government developing a way to engage local communities in developing relocation plans like this? Ms. Cribbins?

Ms. CRIBBINS. I would be happy to jump in. I think, you know, working at the local government level, while we always appreciate its early consultation and discussion, I think it is really tempting for all of us to come up with solutions and then tell people what the solutions are that we have figured out for them.

But, frankly, these communities want to be engaged early on in the process, and they want to know what their options are. And if there are other options, we should be exploring them. For example, in my county, there have been two large projects that have restored very marginal farmlands from willing sellers to marshlands.

And that is because we have had repeated flooding in my community. We are a coastal community. So projects like that can help negate the need to do these relocations.

Mr. PETERS. Mr. Ali, you have spoken a lot, but you do have a unique perspective. You were a founding member of the EPA's Office of Environmental Justice. You serve as a board member for the Robert Wood Johnson Foundation and Union of Concerned Scientists. And you are widely regarded as a global leader for grassroots climate change activism.

Given your experience on both sides, inside and outside of the big gray buildings, do you think that Congress should create a lead Federal entity or sort of a national agency to deal with climate change and relocation?

Mr. ALI. Most definitely. We are going to need something like that, if we are going to be able to address, as you have said, the economic challenges that exist in that space. And the other thing that we don't talk about is culture, so how do we protect culture in this space also?

If you look at the Gullah Geechee off the South Carolina/North Carolina coast, they are also going to lose their land because of what is going on. You mentioned our indigenous brothers and sisters in Louisiana. So we have got to be mindful also, and we have got to also make sure that people are honored in that space and that their housing values, that whatever we are going to give—not give because they are part of our family, our American family—that they have enough to be able to move as a full community if they choose to.

Just one last thing. There is a model plan for public participation that was created by frontline communities and others for the engagement of folks. So we have tools that are out there that we could utilize.

Mr. PETERS. If that is written down, we would love to get it from you.

Mr. ALI. Sure.

Mr. PETERS. And my time is expired. I yield back. Thank you, Mr. Chairman.

Mr. TONKO. The gentleman yields back.

The Chair now recognizes the gentleman from Illinois, the chair of the Subcommittee on Energy that reports to the standing Com-

mittee on Energy and Commerce, Representative Bobby Rush. Bobby, you are recognized for 5 minutes of questioning, please.

Mr. RUSH. I want to thank you, Mr. Chairman, and I want to think all of our witnesses for participating in today's hearing. Our environmental policies must address the disparities associated with pollutants and climate change.

Mr. Chairman, I see our witnesses, and when I see this wide array of witnesses before us, my heart and my mind and my spirit centers on Chicago, and which one on—in Chicago. And The Chicago Sun-Times recently reported that under this administration, the EPA Chicago Region 5 staffing levels have hit an all-time low, and compliance inspections are down 60 percent.

This decline is 30 percent higher than the national average of diminishing environmental law compliance inspections. According to the EPA, Mr. Chairman, environmental justice is achieved by equal protection from environmental health hazards and equal access to environmental protection.

And I have a question for Dr. Ali. Dr. Ali, how does a 60 percent reduction in Federal compliance inspections and declining staff levels provide constituencies like mine with equal protection and access to the same protection as described in the aforementioned policy and definition of the EPA?

Mr. ALI. It makes it impossible for your communities and other communities that look like yours to have equal protection under the law. What it does is it sends a very clear message that African-American lives don't matter, that Latinx lives don't matter, that indigenous and Pacific Islander lives don't matter, and that even low-income White lives don't matter.

Mr. RUSH. Chicago has been called the epicenter of the dreaded asthma disease. According to the NRDC, low-income communities in the south side of Chicago are exposed to extremely elevated levels of toxic air and industry-related health hazards.

Dr. Ali, what impact does EPA's mitigation or regional inspections and resources have on already-exacerbated health problems that persist in those communities and similarly situated communities all across the Nation?

Mr. ALI. Yes, sir. Well, you remember the toxic doughnut that existed. Hazel Johnson is the mother of the environmental justice movement, and they are on the south side of Chicago. There was a toxic doughnut for years, with all of those emissions that were going into those communities.

So what you are finding today is that the actions that are currently going on by the Environmental Protection Agency are going to shorten people's lives, expose them to more diseases, and, unfortunately, we are going to lose more lives if we continue down the path that we are currently traveling.

Mr. RUSH. You mentioned the name Hazel Johnson. I was the chairman of the Chicago City Council Committee on Public Utilities and the Environment, and I had an opportunity to be associated with Hazel. And all that we knew, we all stand on the shoulders of Hazel Johnson. And I don't know, I think that it is about time that she gets the honor that is due to her, because she is the mother of the environmental justice movement, and she should be honored.

Mr. Chairman, with that, I am running out of time. I thank you for allowing me to be on this committee for these purposes, and I yield back the balance of my time.

Mr. TONKO. Well, you are most welcome, Mr. Chair, and thank you. The gentleman yields back.

And the Chair now recognizes the gentlelady from Illinois, Representative Schakowsky, for 5 minutes for questioning, please.

Ms. SCHAKOWSKY. Thank you. I am going to—I am sitting in a hole in my seat. So I have to—there we go.

Thank you, Mr. Chairman.

But, mostly, I really wanted to rush back to thank all of you who are in frontline communities for coming here. The issue of environmental justice is so very, very important.

So frontline communities face two of the worst consequences of the climate crisis. First, you are more likely to come in contact with hazardous substances, toxic chemical emissions, and other pollutants that are often emitted alongside greenhouse gases. And, second, you are disproportionately affected by worsening natural disasters. One-in-century floods are now like every couple of years. I have seen that in Illinois, in my district.

The Environmental Protection Agency's mission to protect humans, and the environmental health has really been eroded every day by this administration. And there has been over 80 deregulation actions, just in this administration alone.

So, Ms. Santiago, where are you, Ms. Santiago? OK. Coal-fired power plants pose particular threats to people that are living around them from coal to—coal ash has been such a problem in communities in Illinois. So the question is, do you believe that clean drinking water is a human right? And, in your experience, has the EPA protected your rights?

Ms. SANTIAGO. Clean drinking water is absolutely a human right, and the EPA is currently not protecting. There are about five rollback measures that would take away protections for drinking water. For example, the phase 2 rollback of the coal combustion residuals rule would take away the ability to monitor, to sample, groundwater at sites where coal ash waste has been deposited.

And so that is one way in which coal plants can continue to operate without providing guarantees to people that they are not contaminating the water supplies, and there are a whole slew.

There is also the wastewater that comes into contact with coal ash that is now one of the rollbacks being proposed, is to allow that to discharge into water bodies without treatment. There is the rollback that has to do with the impoundments, the so-called coal ash impoundments, where coal ash is stored in a wet form. Ninety-two percent of those impoundments throughout the United States have been found to be contaminating water bodies.

If that is taken away, and it has already been the extent—the closure dates that were supposed to go into effect have already been extended, there is a proposal to extend those closure dates and allow those impoundments to continue to leach heavy metals into water supplies.

So that is just three examples, but there are more, of how the current actions that the EPA is taking endanger the water supply of people of the United States.

Ms. SCHAKOWSKY. Is there anyone on this panel who thinks that the Environmental Protection Agency is doing the job that it was supposed to do? I don't see any—I don't see any takers on that.

I am just wondering, aside from water quality and air quality, are there other issues that you brought to the table, any of you, that we need to hear about?

Mr. ALI. Well, I will just say that the other—there are two sides to the coin of what we are discussing. There are the environmental injustices that you have heard us talk about and folks are trying to get their arms around and dealing with these impacts. The other side of the coin is environmental justice. How do we revitalize communities? How do we make sure that real positive change is happening?

And you heard some folks talk about brownfields. I am going to call out three projects very quickly, and I hope that when folks do CODELs they actually go there.

Ms. SCHAKOWSKY. I am running out of time here.

Mr. ALI. One is the Environmental Health Coalition at National City in San Diego. Two is the Ivanhoe community, which is in Kansas City, which is led by Ms. Margaret May. And the third one is the Regenesis project in Spartanburg, South Carolina, that took a $20,000 environmental justice small grant and leveraged the almost $300 million in changes in that community that was labeled as the other sides of the tracks. That is a conversation we need to have.

Ms. SCHAKOWSKY. So it is not just stopping the harm. It is improving the communities. Thank you.

I yield back.

Mr. TONKO. The gentlelady yields back. And that, I believe, concludes all of the Members who chose to question the panelists.

I would like to thank all of our witnesses from Panel I and now Panel II for joining us at today's hearing. You have offered great information.

I remind Members that, pursuant to committee rules, they have 10 business days by which to submit additional questions for the record, to be answered by our witnesses. I would ask that each witness respond promptly to any such questions that you may receive.

Also, I request unanimous consent to enter the following into the record. We received a letter from Representative McKinley on behalf of the City of Welch. We have a GAO report entitled "Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern." A study entitled "Environmental Injustice in North Carolina's Hog Industry."

A study by the Environmental Working Group entitled "Under the Radar: New Data Reveals NC Regulators Ignored Decades-Long Explosion of Poultry CAFOs." A study entitled "Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations."

A study entitled "Industrial Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics, and American Indians."

A complaint under Title VI of the Civil Rights Act of 1964 submitted by EarthJustice. A letter from EPA to the North Carolina

Department of Environmental Quality. A letter outlining "Faith Principles for a Green New Deal" from Interfaith Power & Light.

An FDA statement on concerns with Medicare device availability due to certain sterilization facility closures. An EPA statement on its recent actions to address ethylene oxide. And EPA's annual Environmental Justice Progress Report for fiscal year 2019.

I ask that all of these—I request unanimous consent to enter all of these into the record. Without objection, so ordered.

[The information appears at the conclusion of the hearing.[1]]

Mr. TONKO. At this time, the subcommittee is adjourned.

[Whereupon, at 1:59 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

[1] The GAO and EPA reports and the Title VI complaint have been retained in committee files and also are available at https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=110247.

Environmental Injustice in North Carolina's Hog Industry

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Rapid growth and the concentration of hog production in North Carolina have raised concerns of a disproportionate impact of pollution and offensive odors on poor and nonwhite communities. We analyzed the location and characteristics of 2,514 intensive hog operations in relation to racial, economic, and water source characteristics of census block groups, neighborhoods with an average of approximately 500 households each. We used Poisson regression to evaluate the extent to which relationships between environmental justice variables and the number of hog operations persisted after consideration of population density. There are 18.9 times as many hog operations in the highest quintile of poverty as compared to the lowest; however, adjustment for population density reduces the excess to 7.2. Hog operations are approximately 5 times as common in the highest three quintiles of the percentage nonwhite population as compared to the lowest, adjusted for population density. The excess of hog operations is greatest in areas with both high poverty and high percentage nonwhites. Operations run by corporate integrators are more concentrated in poor and nonwhite areas than are operations run by independent growers. Most hog operations, which use waste pits that can contaminate groundwater, are located in areas with high dependence on well water for drinking. Disproportionate impacts of intensive hog production on people of color and on the poor may impede improvements in economic and environmental conditions that are needed to address public health in areas which have high disease rates and low access to medical care as compared to other areas of the state. *Key words*: African Americans, environmental health, environmental justice, epidemiology, geographic information systems, rural health. *Environ Health Perspect* 108:225–231 (2000). [Online 8 February 2000] *http://ehpnet1.niehs.nih.gov/docs/2000/108p225-231wing/abstract.html*

Environmental injustice refers to the disproportionate burden of pollution on people of color and the poor (*1–3*). In contrast to rural America's traditional image of unspoiled territory free of industrial pollution, poor rural communities have been targeted in recent years for urban, industrial, and military wastes that are unwanted by communities with larger populations and more political power (*4–6*). Other threats of environmental injustice in rural areas have come about because of the industrialization of agricultural activities (*7,8*). In this work we consider the environmental justice implications of the transformation of hog production in North Carolina from a system dominated by small independent farmers to large vertically integrated agribusiness production.

Between 1985 and 1998 North Carolina moved from fifteenth to second in hog production among U.S. states, with approximately 10 million head outnumbering the state's human population of approximately 7.5 million (*7,9*). The expansion of production has been accompanied by a declining number of operations and an increasing average size of operations (*10*). In 1998, market prices for hogs dropped to their lowest levels since the 1920s, which accelerated the demise of smaller independent producers. Most hogs are now produced by operators who work under contract to corporate integrators, which provide the management plan and own the animals, feed, and transportation; the operators own the land, buildings, and waste (*11*). In the past, hog production was dispersed throughout the state, but it has become consolidated in the coastal plain region, which concentrates waste and the potential for environmental damage in a region that is sensitive because of low-lying flood plains and high water tables (*10*).

Intensive swine production may pose environmental health dangers because of the high volume of waste, the chemical and microbial content of the waste, and the practice of using liquid waste management systems that are not isolated from the environment (*12*). In intensive hog production facilities, referred to as confined animal feeding operations (CAFOs), thousands of hogs are housed in large buildings. Waste is collected in cesspools for anaerobic decomposition and is subsequently sprayed on fields. Airborne emissions from confinement houses, cesspools, and spray fields contain ammonia, hydrogen sulfide, hundreds of volatile organic compounds, dusts, and endotoxins. These mixtures, which cause respiratory dysfunction in hog confinement-house workers (*13–28*) and possibly lower level symptoms in nearby residents (*29,30*), are highly obnoxious odorants that affect quality of life (*29–31*) and may be associated with mood disorders and lowered immune function (*32,33*).

Leaking cesspools and waste sprayed on fields can contaminate groundwater with nitrates and pathogens. The North Carolina State Health Department's (Raleigh, NC) well-testing program for the neighbors of intensive hog operations has documented elevated nitrates from hog operations (*34*). Groundwater contamination is a particular problem in eastern North Carolina because the water tables are high and many wells are shallow and unlined. No active population-based surveillance data are available to document pathogen contamination or the incidence of infections. Hog operations also contaminate surface waters, which may lead to high pathogen loads, eutrophication, and the promotion of algae and dinoflagellate growth (*35–39*).

The coastal plain region of North Carolina is also part of the southern Black Belt, a region where the agricultural economy was first built on the basis of slave labor and where a majority of rural African Americans in the United States still reside. The concentration of hog production in this poor region of the state has therefore raised the issue of environmental injustice (*40*). As in the case of other environmental justice problems, the presence of this polluting industry is a threat to public health because it may lower land values and quality of life and impede healthier economic developments that are needed in communities which suffer from low wages, lack of access to medical care, and poor nutritional options. Environmental injustice in the North Carolina hog industry has previously been investigated for counties (*7,9*) and U.S. Census Bureau (Suitland, MD) block groups (*41*). Using data for census block groups (areas of approximately 500 households), we

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examined the extent to which hog CAFOs are located disproportionately in communities with high levels of poverty, high proportions of nonwhite persons, and high percentages of households dependent on well water. In addition, because agricultural activities are located in rural areas where land is inexpensive, and because many rural areas are poor and nonwhite, we also considered whether relationships between the locations of hog CAFOs and poverty, race, and well use can be explained by the rural nature of these areas.

Materials and Methods

We obtained a list of all animal operations registered with the North Carolina Division of Water Quality (DWQ; Raleigh, NC) as of February 1998. Animal operators report information on the number of head, species and type of animals, aspects of the liquid waste management system, the latitude and longitude coordinates of the facility, and the name of the corporate integrator, if any, with whom the operator has a contract. Swine operations are required to register with the DWQ if they have > 250 head and if they use a liquid waste management system. The steady state live weight (SSLW) of the herd was calculated by the DWQ as a function of the number of head of each type (breeding sows, farrow to wean pigs, wean to feeder pigs, feeder to finish hogs, boars, and gilts) and the average weight for each type hog. Finished hogs, ready for market, weigh approximately 240 lb.

Of the 3,039 animal operations in the database, 2,585 were swine operations (Figure 1). Facilities with missing data or head counts < 250 were excluded. We located the facilities within the state using latitude and longitude data. For 257 facilities, geographic coordinates placed the facility outside of the county of operation, outside the state, or the coordinates were missing. Missing and incorrect geocoordinates were corrected using local maps, geographic information systems software, and the driving instructions provided to state inspectors. The DWQ was contacted to provide information for operations that were missing road instructions or had incomplete instructions, and on those that were out of business. Operations with coordinates inside the correct county were not examined further. Three university-owned operations, which are not subject to the same commercial location considerations as other facilities, were excluded from the analysis. The remaining 2,514 swine CAFOs were included in the analysis (Figure 1).

We used geographic coordinates for the swine operations to locate the facilities within the boundaries of block groups. The number of facilities in each block group was the dependent variable in analyses quantifying the association between number of hog CAFOs and the characteristics of block groups. Because airborne emissions from hog CAFOs may affect the environment well beyond their boundaries, we also conducted analyses considering buffer zones of 1 and 2 miles, in which the count of operations for a block group consisted of the number of hog CAFOs that were within 1 or 2 miles of the block group's boundaries.

Information on race, poverty, and water source was obtained for 1990 census block groups, the smallest geographical unit for which economic and demographic data can be obtained and the unit most closely approximating neighborhoods or communities. The 1990 census provided the most recent block group level geographic information available, and corresponded to the time during which hog production in North Carolina began to accelerate rapidly. Three environmental justice variables of interest were defined as the percentage nonwhite population, the percent of persons in poverty, and the percent of households that used well water. We also obtained the total number of persons, land area in square miles, and population density for each block group.

Some areas of the state, including metropolitan areas, have no presence of the commercial swine production industry. These areas, including mostly white Appalachia and some largely African American areas in central cities of the Piedmont, could have skewed the evaluation of the relationship between hog operations and the environmental justice variables. Therefore, we excluded from the analysis 14 of the state's 100 counties that did not border a county with a hog CAFO and the state's five cities with 1990 populations > 100,000. The remainder of the state considered in the analysis included 4,177 block groups with a population of approximately 4.9 million persons.

Relationships between the environmental justice variables (poverty, race, and water source) and the presence of hog CAFOs were first evaluated by summing the total number of hog CAFOs in quintiles of the distribution of each environmental justice variable. Because quintiles have the same number of block groups by definition, the ratio of the number of hog CAFOs in each higher quintile as compared to the lowest quintile of the variable is equal to the prevalence ratio of the number of operations per block group at higher levels as compared to the lowest level. This unadjusted measure is referred to as a crude ratio.

We prepared maps to show the spatial distribution of the major study variables. Chloropleth maps of poverty, race, and population density are keyed to bar graphs indicating the numbers of block groups in each category. Because block groups vary greatly in land area and because the visual impact of the chloropleth map is influenced by land area, categories based on quintiles of block groups are not sensitive to the spatial distribution of the variables. Therefore, we chose category boundaries for maps to reflect the distribution of each variable.

Agricultural operations of all types are located in rural areas, where population density is low and land is inexpensive. Rural areas have higher poverty rates, much of the southern Black Belt is rural, and rural areas are often not served by municipal water systems.

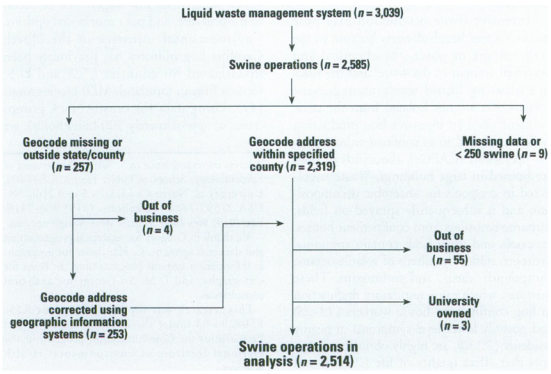

Figure 1. The identification of swine CAFOs from the DWQ data, February 1998.

It was therefore of interest to determine the extent to which excess numbers of hog operations in poor, nonwhite, and well-water-dependent communities could be considered a function of their low population density. We used Poisson regression to model the relationship between the natural log of population density and the number of hog operations per block group. We used linear, quadratic, and cubic terms for the log of population density to obtain an adequate fit of the model to the data. Higher order terms did little to improve the fit of the model.

Because Poisson models were overdispersed (model deviance/degrees of freedom > 1), we set the scale parameters for the models equal to the overdispersion values, which ranged from 1.6 to 1.8. We included indicator variables to represent each of the higher quintiles and we calculated the ratios of the number of hog CAFOs in block groups in each higher quintile of the environmental justice variables as compared to the lowest. We adjusted these ratios for population density using the cubic polynomial regression. Models were fit separately for operations under contract to corporate integrators and for those that were independent.

Results

Figure 2 shows the locations of hog CAFOs in North Carolina and the areas of the state excluded from the analysis. Each red dot represents one hog operation. The dense area of operations in the southeastern part of the state is centered on Duplin and Sampson Counties, the two largest hog-producing counties in the United States.

The size distribution of the 2,514 North Carolina hog CAFOs is shown in Table 1. The smallest 277 operations had an SSLW of < 100,000 lb each, which accounted for 11.0% of the operations and 1.4% of the state's SSLW. The SSLW of the largest 369 operations was ≥ 1 million pounds, which accounted for 14.7% of the operations and 44.4% of the SSLW in the state.

The geographic distribution of poverty is shown in Figure 3. Figure 3B shows the number of block groups in each category of poverty. For example, the categories with 0–5 and 5–10% persons in poverty each include approximately 1,000 block groups. Low-poverty areas predominate in the central Piedmont region of the state, whereas the higher poverty areas are located in the eastern coastal plain and in the northwest region (the edge of Appalachia).

Figure 4 shows the percentage nonwhite population. Most of the approximately 1,800 block groups with < 10% nonwhite population are located in the western part of the study area. These include 454 block groups that are 100% white. Areas with larger proportions of nonwhite population (mostly African Americans) are primarily in the eastern part of the state. An exception to the primarily African American makeup of the state's nonwhite population is Robeson County, located just southeast of the angle formed by the two straight lines along the central southern boundary of state. Robeson County is home to the Lumbee Indians and its population is approximately one-third Native American.

Table 2 presents the characteristics of block groups in relation to the environmental justice variables. Larger numbers of persons in the lowest categories of poverty live in a smaller land area, which results in higher population densities in areas with less poverty. Block groups in the lowest quintile of poverty contained only 43 hog CAFOs with 17.5 million lb of hogs, an average of 406.8 thousand lb/operation. In comparison, there are 225 hog operations in the second quintile

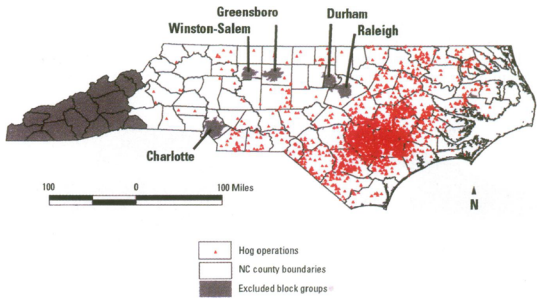

Figure 2. North Carolina study areas and locations of intensive hog operations, 1998.

Table 1. SSLW of North Carolina hog CAFOs, 1998.

SSLW (millions of pounds)	Operations (*n*)	Operations (%)	Cumulative SSLW (millions of pounds)	SSLW (%)
0.02 to < 0.10	277	11.0	20.8	1.4
0.10 to < 0.25	583	23.2	97.6	6.8
0.25 to < 0.50	708	28.2	268.2	18.6
0.50 to < 1.0	577	23.0	414.5	28.8
1.0 to < 10.1	369	14.7	639.7	44.4
Total	2,514	100	1,440.8	100

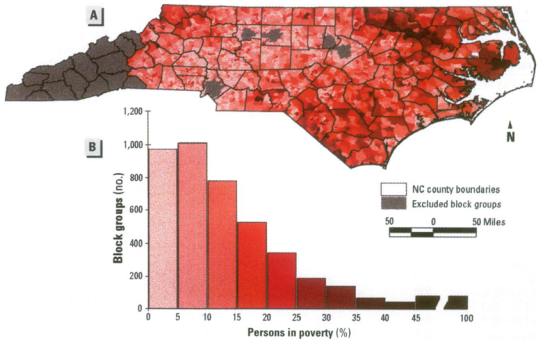

Figure 3. (*A*) The percent of persons in poverty in North Carolina, 1990. (*B*) The number of block groups in each category of poverty.

of poverty, 585 in the third, and > 800 in the fourth and fifth quintiles. Increases in total SSLW in areas with higher poverty levels are due to both larger numbers of operations and higher SSLW per operation.

Table 2 also shows the distribution of persons, land area, and hog operations for categories of the percentage nonwhite population. Population densities are lowest in the fourth and fifth quintiles of the percentage nonwhite variable. The 123 hog CAFOs in the lowest quintile have an SSLW of 48 million lb. The number of hog CAFOs in higher quintiles of the percentage nonwhite population increases to a maximum of 820 in the fourth quintile. The largest SSLW is in the highest quintile, 513 million lb, and the average size of operations increases with increases in the percentage nonwhite population.

Table 2 also presents information for block groups in quintiles of percentage of households using well water. This variable is most clearly related to population density, which declines from 1,315.4 persons/square mile in areas where < 1% of households have well water to 53.9/square mile in areas where > 85% of households have well water. Only five hog CAFOs, with a total SSLW of 1.2 million lb, are found in the lowest quintile of well-water use. Almost half of all hog CAFOs are located in block groups where > 85% of households have well water.

Although Table 2 shows clearly that there are more hog CAFOs in areas with higher percentages of persons in poverty, nonwhite persons, and households that use wells, it also shows that areas with the highest levels of these characteristics have lower population density, indicating that they are more rural areas. Population density is generally low throughout the eastern part of the state as compared to much of the Piedmont (Figure 5). Figure 6 shows that the number of hog operations per block group is strongly related to population density and that the observed number of operations per block group is predicted well by a cubic polynomial on a log–log scale. The number of operations per block group is lowest at the highest density, reaches a peak at approximately 20 persons/square mile, and declines somewhat at the lowest levels of density. The total number of operations in each category, shown in Figure 6 beside the observed values for the number of operations per block group, shows that the vast majority of operations are in block groups with fewer than 100 persons/square mile.

Table 3 summarizes the relationship between environmental justice variables and the presence of hog CAFOs in terms of the ratio of the number of operations per block group among block groups in the higher quintiles as compared to the lowest quintiles. The crude ratio of the number of operations per block group can be calculated from the data in Table 2. The ratio, adjusted for population density, is shown in the second column under each variable in Table 3. The large ratios for the higher levels of poverty, which vary from 5 to 20, are substantially reduced with adjustment for the rural nature of those areas. Adjusted ratios increase in a stepwise fashion with higher levels of poverty, from 3.0 in the second quintile to 7.2 in the highest.

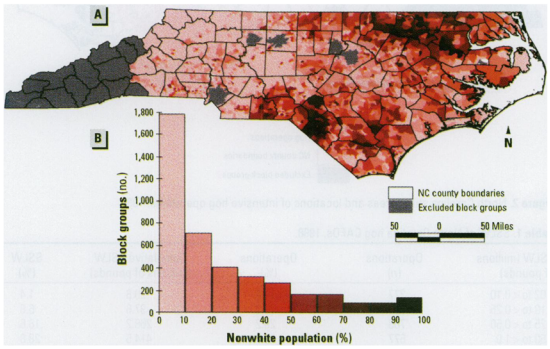

Figure 4. (*A*) The percentage nonwhite population in North Carolina, 1990. (*B*) The number of block groups in each category of the percentage nonwhite population.

Table 2. Characteristics of block groups in relation to poverty, race, and water source.

Characteristic	Block groups (*n*)	No. persons (thousands)	Land area (thousands of square miles)	Population density (people per square mile)	Total operations	Pounds of hogs (millions)	SSLW per operation (thousands)
Poverty (%)							
0 to < 4.9	835	1,118	4.7	238.0	43	17.5	406.8
4.9 to < 8.8	835	1,069	7.2	148.0	225	100.6	447.0
8.8 to < 13.6	836	966	9.4	103.0	585	284.9	486.9
13.6 to < 21.0	835	930	11.3	82.1	850	503.6	592.5
21.0 to 100	836	853	9.4	90.5	811	534.3	658.8
Nonwhite (%)							
0 to < 2.3	835	840	7.3	114.5	123	48.0	390.2
2.3 to < 9.3	835	1,048	6.3	165.2	165	78.1	473.6
9.3 to < 20.8	836	1,039	8.0	129.5	623	306.2	491.5
20.8 to < 44.2	835	1,103	10.5	105.5	820	495.5	604.3
44.2 to 100	836	907	9.9	91.7	783	513.0	655.1
Well water (%)							
0 to < 1.0	835	897	0.7	1,315.4	5	1.2	246.0
1.0 to < 16.4	835	1,068	3.4	314.4	185	91.6	495.1
16.4 to < 46.1	836	1,039	8.3	124.5	386	205.9	533.4
46.1 to < 85.5	835	1,020	12.7	80.5	734	450.5	613.7
85.5 to 100	836	914	17.0	53.9	1,204	691.6	574.4
Total[a]	4,177	4,937	42.1	117.4	2,514	1,440.8	573.1

[a]Sum for each variable.

Crude ratios for the percentage nonwhite population are smaller than the crude ratios for the percent of persons in poverty, ranging from 1.3 in the second quintile to 6.7 in the fourth quintile. Furthermore, the ratios are less affected by adjustment for population density. The ratio for the second quintile increases to 1.9, whereas ratios in the fourth and fifth quintiles are somewhat decreased. Adjusting for population density, the third, fourth, and fifth quintiles of the percentage nonwhite population have approximately 5 times as many hog CAFOs as those in the lowest quintile.

Hog CAFOs show a strong and monotonically increasing relationship to the percent of households using well water, with prevalence ratios ranging from 37.0 in the second to 240.8 in the fifth quintile. Most of this strong relationship, however, can be explained by the lower population density of areas with a high dependence on wells. Adjusted ratios in higher quintiles as compared to the lowest range between 4 and 5.

Table 4 shows the prevalence ratios for hog CAFOs in block groups cross-classified by poverty and the percentage nonwhite population, adjusted for population density. Block groups in the 0–5% poverty and 0–2% nonwhite population category are considered the referent group. Table 4 shows that increases in the percentage nonwhite population have little effect on number of hog operations among block groups in the lowest poverty group. Similarly, only modest increases in the numbers of operations are seen with increasing poverty levels among block groups in the lowest percent nonwhite category. However, prevalence ratios increase dramatically in areas with higher proportions of poor and nonwhite persons, reaching a ratio of 9 times as many operations in block groups with ≥ 12% poverty and ≥ 10% nonwhite population, adjusted for population density.

Most of the growth in NC pork production during the 1990s has been in large operations managed for corporate integrators rather than in independent operations. Therefore, we repeated the analyses for poverty and race separately for operations that listed corporate integrators on their permit applications (n = 1,603) and those that did not (n = 911). Prevalence ratios for integrator and independent CAFOs, adjusted for population density, are shown in Table 5. Although there is an excess of both types of operations in areas with greater percentages of poor and nonwhite populations, the excess is substantially larger for integrator operations at every level of poverty and race. Among the areas in the poorest quintile of block groups there are 20 times more integrator CAFOs than in the least-poor quintile, adjusted for differences in population density, whereas the excess of independent CAFOs in those areas is only 3.5 times. Similarly, block groups in the highest three quintiles of the percentage nonwhite population show an excess of integrator operations of 7 to 8 times, whereas the excess of independent operations is approximately 3 times.

Our analyses reported above consider only populations within the block groups containing hog CAFOs as potentially affected. However, airborne emissions and water pollution from CAFOs may travel some distance. Therefore, we reclassified the number of hog CAFOs in each block group considering 1- and 2-mile buffers around each operation. In these analyses, the number of hog operations in a block group is considered the number within the block group's boundaries plus the number within 1 or 2 miles of the block group, under the assumption that CAFOs located within 1 or 2 miles may impact the populations of neighboring block groups. We conducted analyses for the percent of persons in poverty and the percentage nonwhite population using the cubic polynomial model to adjust for population density. The ratios for the percent of persons in poverty were somewhat reduced, ranging between 2.2 and 5.9 under 1 and 2-mile buffers, as compared to a range of 3.0–7.2 with no buffer (Table 3). The ratios for the percentage nonwhite population were similar to ratios using a zero buffer, ranging from 1.9 to 5.3.

Discussion

We examined the locations of North Carolina's approximately 2,500 intensive hog confinement facilities in relation to poverty levels, race, and household water source of neighboring populations. These facilities are located disproportionately in communities with higher levels of poverty, higher proportions of nonwhite persons, and higher dependence on wells for household water supply. The disproportionate location of hog CAFOs in these areas raises numerous public health and social justice issues (*7,9,42,43*). Intensive swine production and its attendant pollution are concentrated in areas of North Carolina that have the highest disease rates (*44,45*), the least access to medical care, and the greatest need for positive economic development and better educational systems (*46*). The adverse effects of hog CAFOs on the quality of life and on community aesthetics (*29–31*) threaten the community economic and social developments that are fundamental to improved public health (*47*).

This study did not address siting decisions for particular hog operations. The reasons why a facility is located in a specific place are, in some ways, particular to the historical situation, business climate, local culture, and personal or family decision making. However, the pattern of location of industries reflects institutional factors and the political and economic power of local populations.

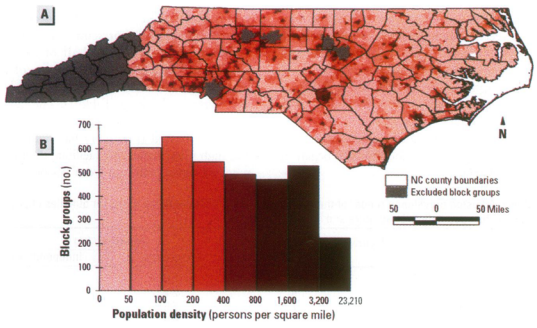

Figure 5. (*A*) North Carolina population density, 1990. (*B*) The number of block groups in each category of population density.

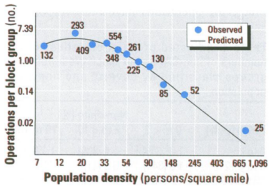

Figure 6. Number of operations per block group in relation to population density.

Table 3. Crude and adjusted prevalence ratios of numbers of hog CAFOs per block group for quintiles of poverty, nonwhite population, and well-water source.

	Poverty (%)		Nonwhite (%)		Well water (%)	
Quintile	Crude ratio[a]	Adjusted ratio[b]	Crude ratio[a]	Adjusted ratio[b]	Crude ratio[a]	Adjusted ratio[b]
I	1.0	1.0	1.0	1.0	1.0	1.0
II	5.2	3.0	1.3	1.9	37.0	4.9
III	13.6	5.5	5.1	5.1	77.2	4.2
IV	19.8	6.4	6.7	5.1	146.8	4.2
V	18.9	7.2	6.4	4.7	240.8	4.7

[a]Unadjusted ratio of number of operations, higher quintile as compared to the first quintile. [b]Adjusted for population density, cubic polynomial.

These institutional inequalities are critically important issues to consider in addressing the public health problem of the disproportionate burden of polluting industries among poor and nonwhite populations (*1,2,5,40,48*).

Both poverty and race are strongly related to the location of hog operations, as shown in Tables 2 and 3. However, the combination of the two characteristics is of particular interest (Table 4). Increasing levels of poverty have only a modest effect in block groups with < 2% nonwhite populations. Similarly, increasing levels of nonwhite populations have little effect on the prevalence of hog operations among the block groups with < 5% poverty. It is the combination of a high percentage nonwhite populations and high poverty levels that is associated with the greatest excess of hog CAFOs, reaching a prevalence ratio of almost 10 for block groups with ≥ 12% poverty and ≥ 10% nonwhite population as compared to block groups with < 5% poverty and < 2% nonwhite population.

The industrialization of agriculture has brought about not only changes in size, but also in ownership. All of the hog operations considered in this research are large and fall under state regulations for intensive livestock operations. However, among these large operations, some are owned and operated by independent farmers who make their own management decisions. Other operations are owned by or are operated under contract with large agribusiness integrators that own and control the animals, feed, veterinary supplies, transportation, financing, and marketing of the product. Although both types of operations are large and industrialized, integrator operations have been responsible for most of the recent expansion of the industry (*7*). Because of their corporate structures, they may be in the best position to locate facilities based on economic considerations such as proximity to other operations, transportation routes, and slaughterhouses, as well as low land prices and the low local political power of host communities. Furthermore, there is a net decrease in jobs in regions where hog production has been industrialized because of the displacement of the independent producers who purchased locally (*49*). The concentration of hog CAFOs in poor and nonwhite areas is much greater for integrator than for independent operations (Table 5). Because the industry is moving rapidly toward greater economic concentration while family-owned businesses are in decline (*9,10,50*), the evidence of greater environmental injustice for integrator operations suggests that this problem may increase in the future.

This study was conducted using census block groups as the units of analysis. These areas, averaging approximately 500 households, are the smallest unit for which population data are available from the U.S. census and should provide better sensitivity and specificity to the characteristics of populations in greatest proximity to hog operations than would larger geographic units. The most recent block group data available are from 1990; more recent economic data from other sources are not available with this level of geographic detail. In any case, 1990 is an appropriate year for which to measure socioeconomic characteristics in our study of the location of hog operations because the period of rapid growth in the industry began in the late 1980s.

Table 4. Adjusted prevalence ratios[a] of the numbers of hog CAFOs per block group for block groups classified by poverty and nonwhite population.

	Nonwhite (%)		
Poverty (%)	0 to < 2	2 to < 10	10 to 100
0 to <5	1.0[b] (264)[c]	1.4 (335)	1.1 (254)
5 to < 12	1.8 (341)	3.6 (419)	7.0 (635)
12 to 100	1.7 (186)	3.1 (202)	9.6 (1,541)

[a]Adjusted for population density, cubic polynomial. [b]Referent group. [c]Number of block groups in parentheses.

We depended on data from the DWQ for information on the locations and characteristics of intensive livestock operations in February 1998. Because a moratorium on the construction of new industrial operations was imposed by the North Carolina General Assembly in March 1997 (*7*) and has not yet been lifted (as of 1999), information from 1998 remains relevant. However, the validity of analyses reported here depend on the quality of information recorded by the state. We detected and corrected hundreds of errors in latitude/longitude coordinates for North Carolina hog CAFOs that were not located in the correct county according to the database (Figure 1). The extent of within-county errors in the data is unknown. Information on the size of the operation depends on the quality of data provided by the operator. The database contains information on a number of other characteristics of interest, such as the start date of the operation, the size and number of cesspools, and the acreage of spray fields. Unfortunately, these data were too incomplete to use in our analyses. Future studies of environmental justice and public health impacts of this industry would benefit from more complete and accurate data.

The public health implications of environmental injustice in the North Carolina hog industry are of special concern. Exposures in the environment of confinement houses are clearly related to impaired respiratory function, occupational asthma, and organic dust syndrome (*51*). This is an occupational health concern in areas with a large industry presence. In addition, environmental exposures to airborne emissions from hog CAFOs may be associated with respiratory effects (*29,30*) and impaired mood (*32,33*) in neighboring populations. Groundwater from hog CAFOs has been contaminated by nitrates in North Carolina (*34*). This is a special concern considering the findings presented here, which show that approximately half of the hog CAFOs are located in block groups of the state where > 85% of households depend on well water for drinking (Table 2). The eastern coastal plain of the state where most operations are located (Figure 1) has sandy soils and high water tables that facilitate the movement of water pollution from cesspools and

Table 5. Adjusted prevalence ratios[a] of the numbers of hog CAFOs per block group for quintiles of poverty and nonwhite population: integrators and independents.

	Poverty (%)		Nonwhite (%)	
Quintile	Integrators	Independents	Integrators	Independents
I	1.0[b]	1.0[b]	1.0[b]	1.0[b]
II	7.2	1.9	2.4	1.5
III	16.2	2.7	7.5	3.4
IV	17.7	3.5	8.0	2.9
V	20.7	3.5	7.0	3.0

[a]Adjusted for population density, cubic polynomial. [b]Referent group.

spray fields into groundwater, and older rural homes occupied by the poor and people of color often have shallow wells with less protection from contamination. Surface water pollution is a concern because of the spread of microbial contamination and the nutrient loading of rivers and estuaries.

Community concerns about environmental injustice in the distribution of hog operations in North Carolina are real. Predominantly poor and nonwhite communities that host a disproportionate number of hog CAFOs have a great need for positive economic development, environmentally sound industry, and better schools and medical care. Such community resources are important to public health (*47*). However, future prospects for these communities are threatened by an industry that produces highly obnoxious odors and reduces the quality of life for neighbors (*29–31*), which can hamper the growth of cleaner industries, reduce land values, and contribute to loss of locally owned land (*9,40*). Our findings should be taken into consideration as growth, technological change, and environmental remediation in the industry are considered.

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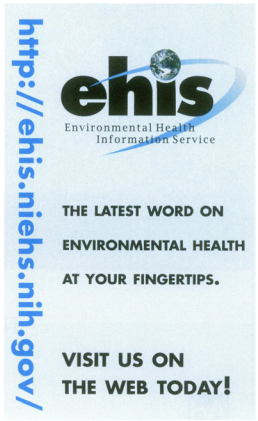

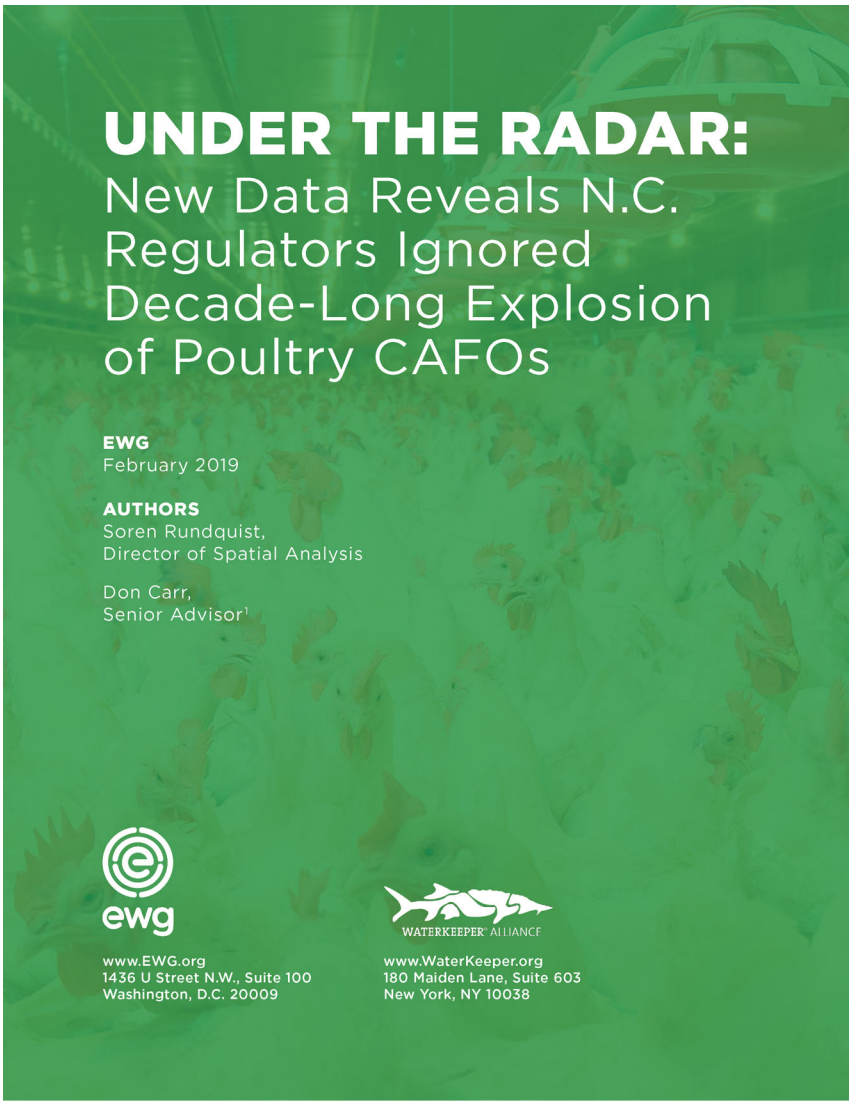
UNDER THE RADAR:
New Data Reveals N.C. Regulators Ignored Decade-Long Explosion of Poultry CAFOs
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February 2019
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ABOUT EWG

The Environmental Working Group is the nation's most effective environmental health research and advocacy organization. Our mission is to conduct original, game-changing research that inspires people, businesses and governments to take action to protect human health and the environment. With your help—and with the help of hundreds of organizations with whom we partner—we are creating a healthier and cleaner environment for the next generation and beyond.

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1. EWG staff members Audrey Lothspeich, GIS Analyst, and Sarah Porter, Senior GIS Analyst, made critically important contributions to this project.

Although North Carolinians' attention has rightly been focused on the state's dense concentration of factory swine farms—concentrated animal feeding operations, or CAFOs, which produce 10 billion gallons of bacteria-laden, liquefied hog waste per year—the state's poultry industry has grown dramatically with little notice.

In a state long known for industrial hog production, new EWG research reveals there are now more than twice as many poultry CAFOS as swine operations in North Carolina.

The news is particularly relevant as state regulators debate the terms of the state permit regulating swine waste management. If you're setting standards for pigs, you can't ignore the enormous recent growth of the poultry industry that has largely flown under the radar.

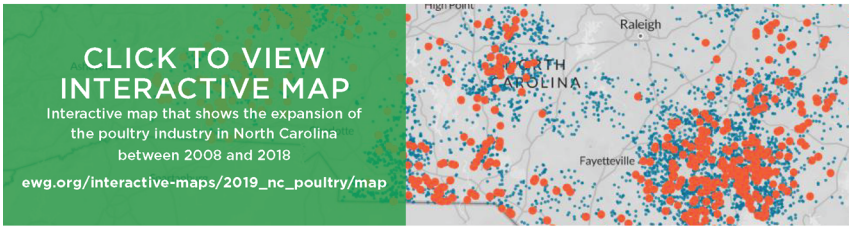
According to the U.S. Department of Agriculture, in 1997 there were 147 million birds in the state—egg-laying chickens, broiler chickens and turkeys. Not coincidentally, 1997 was also the year when a moratorium on new hog facilities in North Carolina went into effect and the legislature ordered the state Department of Agriculture and Consumer Affairs to develop a plan to phase out anaerobic lagoons and spray fields as the primary methods of disposing of swine waste.

Fast forward to 2018. According to EWG's recent analysis, poultry numbers leaped to 516 million animals, and swine lagoons still litter the state.

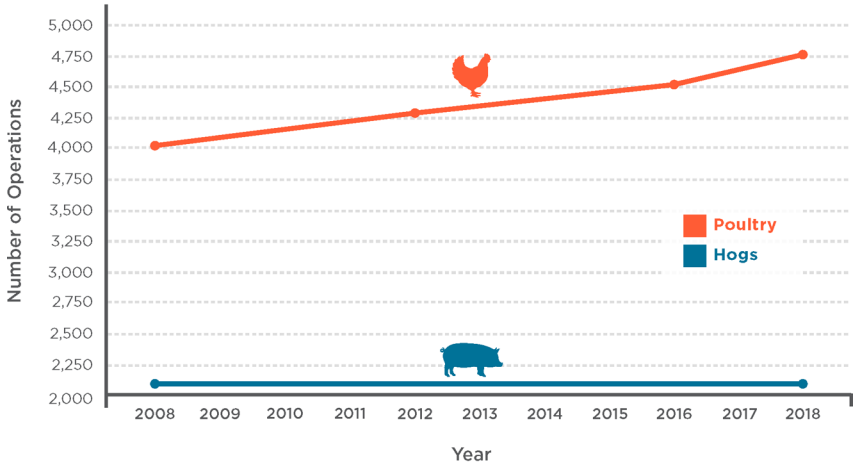
Our research shows that new poultry operations grew steadily across the state between 2008 and 2016, with more than 60 new operations added a year. The growth rate doubled between 2016 and 2018, with more than 120 operations added a year. In total, between 2008 to 2018, 738 new industrial-scale poultry farms were added.

The expansion of industrial-scale poultry operations on the coastal plain worsens the plight of residents already suffering from hundreds of swine operations. In the two counties that are home to almost half of all the swine operations in North Carolina, 82 million poultry are packed in between four million pigs.

Duplin and Sampson counties have historically been the epicenter of swine pollution, with 43 percent of all hog operations. As of 2018, they are the top two counties for poultry CAFOs, layering 762 poultry operations onto 931 existing hog operations. A staggering 23 percent of all new poultry operations tracked by EWG are located in these two counties.

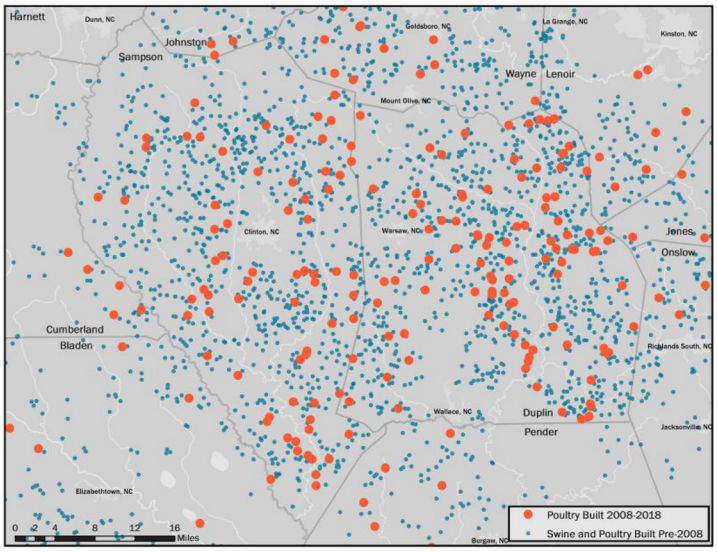


Growth of NC CAFOs Over Time



Source: EWG via North Carolina Department of Environmental Quality Permitted Animal Facilities (January 2018)

Poultry Operations Packed Into Sampson and Duplin Counties



Source: EWG, Waterkeeper Alliance and North Carolina Department of Environmental Quality

And within the confines of Duplin and Sampson counties, factory farms are tightly clustered. An astonishing 93 percent of the poultry operations are within three miles of at least 20 other poultry or swine farms.

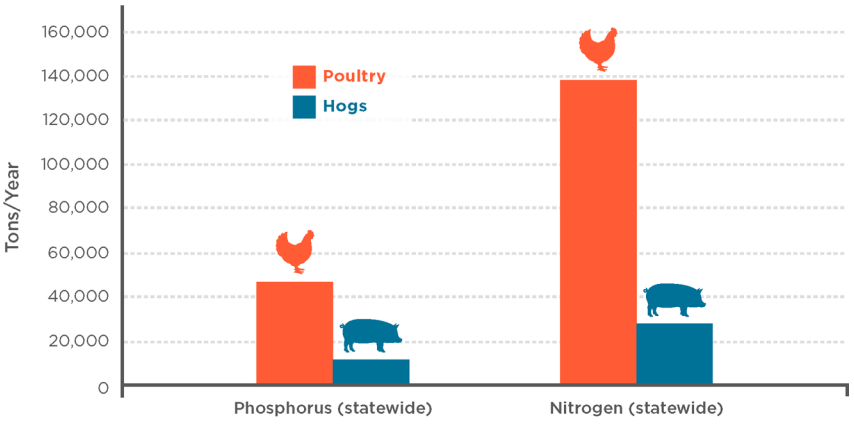
The rapid growth in North Carolina's unregulated poultry sector means that across the state, poultry are now a bigger source of nutrient pollution than pigs.

North Carolina's 4,700 poultry farms create five million tons of nutrient-laden poultry waste a year. That's on top of the 2,100 swine operations, which generate enough liquified waste to fill more than **15,000 Olympic-size swimming pools every year.** EWG's calculations show there is 4.8 times more nitrogen waste from poultry than from pigs and 4.1 times more phosphorous waste from poultry than from pigs.[2] EWG's findings compare favorably with the **Basinwide Manure Production Report** prepared by the state's Department of Environmental Quality, or DEQ, that concluded poultry waste generated three times the nitrogen and six times the phosphorus as pigs in 2014.

The vast majority of poultry operations in the state do not require a permit and operate with impunity. Although the 1997 moratorium on new and expanded hog facilities in North Carolina was precipitated by hurricanes hammering farms in floodplains, 74 poultry operations have been built in the vulnerable area densely concentrated around three rivers—the Lumber, the Neuse and the northeastern area of the Cape Fear. Seven of those operations are new since Hurricane **Matthew**. After Hurricane **Florence**, an EWG and Waterkeeper Alliance investigation found that 35 poultry operations were flooded, 21 of which were actually outside the floodplain.

Poultry waste, which is mixed with feathers and bedding to form so-called dry litter and is then spread on fields, is

Statewide Nutrient Pollution



Source: EWG via 2018 North Carolina Agricultural Chemicals Manual

Source: Waterkeeper Alliance

kept in large piles, where rain can wash the nutrient-heavy pollution into nearby rivers. One of the few regulations on this waste is that it must not be left uncovered for more than 15 days. But these minimal regulations are rarely enforced, as DEQ does not inspect poultry operations unless there is a complaint. Worse yet, the water quality staff of the seven regional offices responsible for responding to complaints was slashed by 41 percent between 2011 and 2016 because of budget cuts.

As EWG's new data and maps clearly show, there's been an explosion of growth in the poultry sector that has largely flown under the radar.

The deluge of nutrient-saturated, biohazardous material churned out by North Carolina animal agriculture poses serious threats to public health. As such, the rampant growth in the state's poultry industry must be factored in when state regulators meet in the coming days to renew the anemic general permit governing swine animal feeding operations.

NC regulators are required under state law to consider the cumulative impact of similar operations—hogs and poultry—on the environment because toxic runoff from both poultry and swine operations pollute the very same water bodies.

The issue of environmental justice is another reason regulators should factor the burgeoning poultry industry's excessive pollution into their deliberations about the swine permit.

In January 2017, the U.S Environmental Protection Agency **issued a stern letter** to the North Carolina DEQ expressing "deep concern about the possibility that African Americans, Latinos, and Native Americans have been subjected to discrimination as the result of NC DEQ's operation of the Swine Waste General Permit program, including the 2014 renewal of the Swine Waste General Permit." This echoed long-standing fears that factory farm waste disproportionally impacts minority communities.

Clearly, this recent and dramatic expansion of avian agribusiness and the threat these operations pose to the environment should be factored into regulators' deliberations over the general swine permit. The DEQ must also press ahead quickly to complete its **community mapping tool** to ensure fair treatment of all citizens when permitting and regulating factory farms.

The health and well-being of North Carolina's citizens hang in the balance.

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2. As much as 80 percent of the nitrogen stored in pig manure pits ends up in the air as ammonia—a serious air pollutant.

ORIGINAL ARTICLE

Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations

Julia Kravchenko, Sung Han Rhew, Igor Akushevich, Pankaj Agarwal, H. Kim Lyerly

BACKGROUND Life expectancy in southeastern North Carolina communities located in an area with multiple concentrated animal feeding operations (CAFOs) after adjusting for socioeconomic factors remains low. We hypothesized that poor health outcomes in this region may be due to converging demographic, socioeconomic, behavioral, and access-to-care factors and are influenced by the presence of hog CAFOs.

METHODS We studied mortality, hospital admissions, and emergency department (ED) usage for health conditions potentially associated with hog CAFOs—anemia, kidney disease, infectious diseases, and low birth weight (LBW)—in North Carolina communities located in zip codes with hog CAFOs (Study group 1), in zip codes with > 215hogs/km^2 (Study group 2), and without hog CAFOs (Control group). We compared cause-specific age-adjusted rates, the odds ratios (ORs) of events in multivariable analyses (adjusted for 6 co-factors), and the changes of ORs relative to the distance to hog CAFOs.

RESULTS Residents from Study groups 1 and 2 had higher rates of all-cause mortality, infant mortality, mortality of patients with multimorbidity, mortality from anemia, kidney disease, tuberculosis, and septicemia, and higher rates of ED visits and hospital admissions for LBW infants than the residents in the Control group. In zip codes with > 215hogs/km^2, mortality ORs were 1.50 for anemia ($P < 0.0001$), 1.31 for kidney disease ($P < 0.0001$), 2.30 for septicemia ($P < 0.0001$), and 2.22 for tuberculosis ($P = 0.0061$).

LIMITATIONS This study included a lack of individual measurements on environmental contaminants, biomarkers of exposures and co-factors, and differences in residential and occupational locations.

CONCLUSION North Carolina communities located near hog CAFOs had higher all-cause and infant mortality, mortality due to anemia, kidney disease, tuberculosis, septicemia, and higher hospital admissions/ED visits of LBW infants. Although not establishing causality with exposures from hog CAFOs, our findings support the need for future studies to determine factors that influence these outcomes, as well as the need to improve screening and diagnostic strategies for these diseases in North Carolina communities adjacent to hog CAFOs.

Among North Carolina communities, including both high-income and low-income communities, the lowest life expectancy was observed in southeastern North Carolina [1]. Higher risks of chronic kidney disease and low birth weight (LBW) infants have also been reported for this region [2, 3]. These geographic variations in life expectancy and health outcomes have been suggested to correlate with region-specific health behaviors, access to care, and environmental characteristics [1]. One unique environmental characteristic of southeastern North Carolina is the presence of multiple hog concentrated animal feeding operations (CAFOs) [4]. The average number of hogs per farm in North Carolina is much higher than in the areas with hog CAFOs in 2 other US leaders in hog industry—the states of Iowa and Minnesota. Because the population density in southeastern North Carolina is substantially higher than in the areas with hog CAFOs in Iowa and Minnesota, the population of the communities adjacent to hog CAFOs is much greater. Consequently, the proximity of multiple high-density hog CAFOs to a large population makes this region uniquely suited to studying the potential impact of CAFOs on environment and human health.

Previous studies of the potential relationship between health and hog CAFOs were mostly focused on the occupational health risks among CAFO workers [3, 5, 6]. The residents living in close proximity to hog CAFOs may also be at risk as they are chronically exposed to contaminants from land-applied wastes and their overland flows, leaking lagoons, and pit-buried carcasses, as well as airborne emissions, resulting in higher risks of certain diseases [3, 6, 7-20]. In fact, previous survey based studies of residential communities reported significant health risks for residents, including higher risks of bacterial infections, higher frequencies of symptoms of respiratory and neurological disorders, and depression [3, 6, 7, 12, 14, 19, 20-22].

We identified the established health conditions and indicators that were previously used to evaluate community health, including the known medical conditions associated

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with occupational or residential exposure to CAFOs. These included an increased risk of anemia and kidney disease (which may serve as an indicator of chronic exposure to toxins) [23-26], miscarriage [27], and LBW infants (which may serve as an indicators of maternal and fetal health) [2]. In addition, a higher prevalence and broader spectrum of antibiotic-resistant microorganisms in areas adjacent to hog CAFOs [28-30] has raised concerns about infections in both occupational and residential settings [31]. Therefore, the outcomes of anemia and kidney disease, acute infection (septicemia) and chronic communicable infection (tuberculosis), and LBW infants were analyzed as indicators of health in communities adjacent to hog CAFOs.

We focused our study on assessing the outcomes of these specific disorders in residential communities in southeastern North Carolina. Our objective was to determine whether, or to what extent, poor health outcomes are associated with the additional impact of hog CAFOs beyond disparities associated with demographics, socioeconomic characteristics, behavioral risks factors, or access to medical care. Furthermore, these health conditions served as potential opportunities for interventions if the determined health outcomes were poor.

Materials and Methods

Data. Data on disease-specific mortality were obtained from a publicly available data source at the State Center for Health Statistics for 2007-2013 [32]. Data on emergency department (ED) visits and hospital admissions were obtained from the Healthcare Cost and Utilization Project's (HCUP) State Emergency Department Database (SEDD) [33] and State Inpatient Database (SID) [34] for 2007-2013. The North Carolina analysis represents part of the larger study on health outcomes in the communities adjacent to hog CAFOs that includes other US states with commercial hog production (eg, Iowa and Minnesota). Therefore, we used the HCUP's state-specific database containing the data in a uniform format facilitating multi-state comparisons and analyses of geographic patterns and time trends in health care utilization, access, and outcomes across multiple US states. The SEDD captures discharge information on all ED visits that do not result in an admission and contains more than 100 clinical and non-clinical variables. Information on patients that are initially seen in the ED and then admitted to the hospital is included in SID, which encompasses almost 97% of all US hospital discharges. The SID and SEDD data for North Carolina for the period analyzed in this study had several issues that were addressed in performed analysis. For example, the 2011-2012 North Carolina SEDD included 2 types of erroneous records, such as duplicated records for ED visits that did not result in an admission to the same hospital and records for ED visits that did result in an admission to the same hospital. The SID dataset for North Carolina for 2007-2008 had problems with the coding of discharge disposition. These issues were identified and resolved according to the guidelines provided by the HCUP Data Center.

The list of swine animal operations registered in North Carolina contained information on geographic locations and the number of swine in each CAFO facility. Information was obtained from the North Carolina Division of Water Resources (NC DWR) for the year 2009. The animal operations are defined by General Statute 143-215.10B as feedlots involving 250 or more swine with a liquid waste management system.

Zip-code-level data on median household income (scaled by $10,000) and education level (defined as a percentage of people aged 25+ who attained an educational level higher than a bachelor's degree) were obtained from the 2010-2014 American Community Survey. County level data on the numbers of primary care providers (per 100,000 residents) and the percent of uninsured individuals was obtained from the Area Health Resources Files (AHRF) for 2008 and 2010-2013. County level data on prevalence of current smokers in age-specific groups were obtained from the Behavioral Risk Factor Surveillance System (BRFSS, CDC) for 2008-2013.

Methods. We studied the health outcomes in two study groups. Study group 1 included the residents of North Carolina communities located in zip codes with hog CAFO(s): 221 zip codes with approximately 2,260,000 residents. Study group 2 represented a subset of Study group 1. This group included North Carolina communities located in zip codes with the highest upper quartile of hog density (with > 215hogs/km^2): 56 zip codes with approximately 400,000 residents. North Carolina communities located in zip codes without hog CAFOs represented the Control group: 601 zip codes with approximately 7,200,000 residents. Geographic locations of zip codes for two Study groups and the Control group are shown in Figure 1.

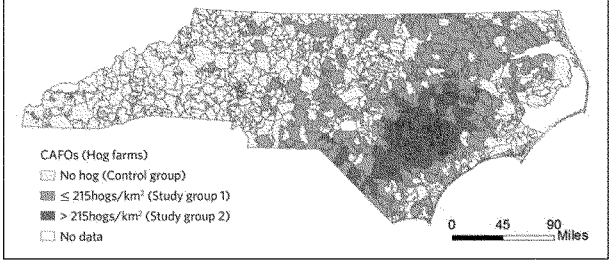
We compared disease-specific mortality, hospital admissions, and ED visits in these groups for the 2007-2013 period. All-cause, infant mortality, and outcomes of anemia, kidney disease, tuberculosis, septicemia, and LBW infants (see Appendix for respective ICD codes) were studied as the health indicators, with disease-specific mortality as primary outcome. The main predictor was the presence of a hog CAFO in a given zip code. Analyses were performed for underlying cause of death/primary diagnosis and for underlying-plus-secondary causes of death/primary-plus-secondary diagnoses. The illustration of the relations in assessment of potential impact factors/outcome associations used in multivariable analysis is shown in Supplemental Figure S1 in the Appendix.

Age-adjusted rates. We empirically estimated disease-

APPENDIX 1.
The International Classification of Diseases (ICD) codes used in the analysis

This appenix is available in its entirety in the online edition of the NCMJ.

FIGURE 1.
Density of Hogs in Zip Codes in Study Group 1 and Study Group 2, Locations of Registered at NC DWR Hog CAFOs in NC, and Locations of Zip Codes without Registered at DWR Hog CAFOs (Control Group), 2009



specific, age-adjusted rates of mortality, hospital admission, and ED visits (per 100,000). 95% confidence intervals (CIs) were estimated based on the approximation suggested by Keyfitz [35]. We compared these rates between Study groups 1 and 2 and the Control group, and additionally to North Carolina and the US average (for mortality rates).

Logistic regression analysis. We used logistic regression analysis (adjusted by age, median household income, education, health insurance coverage, numbers of primary care providers, and smoking prevalence) to evaluate whether a proportion of disease-specific deaths (as well as a proportion of disease-specific hospital admissions and ED visits) among all-cause deaths/all hospital admissions/all ED visits statistically differed between the studied groups. The Control group was a referent group for calculating ORs. This analysis allowed for minimization of potential bias due to uncertainties in population counts in North Carolina zip codes over the study period. SAS Proc Logistic (the SAS 9.4 statistical package; SAS Institute, Cary, NC) was used to evaluate ORs, 95% CIs, and p-values.

The DiSC analysis. We developed and applied an approach we termed the Distance from the Source of potential Contamination (DiSC) analysis to investigate the changes in ORs for all studied health outcomes with closer proximity to the CAFO. The core of this analysis is the new zip-code-specific continuous measure of potential exposures from hog CAFOs constructed using the exact address of each CAFO and the population counts in all census blocks in each zip code. We hypothesized that the risk of mortality (or hospital admission or ED visit) is proportional to the number of hogs in a CAFO, maximal at the location of a CAFO, and decreases with remoteness from a CAFO according to two-dimensional normal distribution (ie, "bell-shaped" distribution) of potential contaminants. Its standard deviation σ is the measure of the distance from the CAFO at which the level of potential contaminants drops 2-fold. The functional form is justified by the theory of diffusion from a point source [36]. The zip-code-specific measures of potential contaminants from CAFOs were modeled by summing the contributions of all census block groups in a given zip code:

$$E_z(\sigma) = \frac{\sum_i p_{iz} \sum_n N_n f(d_{niz}, \sigma)}{\sum_i p_{iz}}$$

where n enumerates all CAFOs; N_n is the number of hogs in the CAFO n; i enumerates all census block groups in a zip code z; p_{iz} is population of census block group i in zip-code z; and $N_n f(d_{niz}, \sigma)$; where $f(d_{niz}, \sigma) = \frac{1}{\sqrt{2\pi}\sigma} \exp\left(-\frac{d_{niz}^2}{2\sigma^2}\right)$ is the modeled contaminant level from a specific CAFO in a census block group (where d_{niz} is the distance between them). Since there are no direct measurements that allow for estimating σ, we performed radius-specific analyses corresponding to 4 values of σ: ie, at 2, 5, 10, and 20 kilometers (km). A zip-code-specific value of $E_z(\sigma)$ was then used in the logistic regression analysis to evaluate the associations with disease-specific outcomes in multivariable analysis. The evaluated ORs are per a unit of $E_z(\sigma)$. The OR estimates for different σ are comparable because the measures are normalized equally: sums of contaminant levels over all zip-codes equal the total number of hogs in all CAFOs for any σ.

Sensitivity analyses. Because hog CAFOs are predominantly located in rural North Carolina, and access to medical care likely differs in urban and rural areas, we i) excluded zip codes of the cities of Charlotte and Raleigh, and also ii) excluded 18 urbanized areas defined in the US Census Bureau criteria for urban-rural areas as having ≥ 50,000 residents.

FIGURE S1.
Illustration of the Relations in the Assessment of Potential Impact Factors-Outcome Associations

This figure is available in its entirety in the online edition of the NCMJ.

We also used the generalized estimating equation (GEE) method to account for possible correlations between records in specific zip codes.

We used the greedy matching algorithm [37] to perform propensity score-based matching of zip codes from Control group to zip codes in Study group 2 by demographic and socioeconomic characteristics (see Appendix for detailed description of the matched groups and their characteristics presented in Table S1).

Ethics statement. All data analyses were designed and performed in accordance with the ethical standards of a responsible committee on human studies and with the Helsinki Declaration (of 1975, revised in 1983) and have been approved by the Duke University Health System Institutional Review Board.

Results

Demographic and socioeconomic characteristics. The residents of communities adjacent to hog farms were more diverse than the average North Carolina community. There were more African-American (28.8% vs. 19.3%, $P < 0.001$) and American-Indian (2.4% vs. 0.8%, $P < 0.05$) residents in zip codes with hog CAFOs (Study group 1) compared to the Control group (see Supplemental Tables S2 and S3 in Appendix). Study group 1 also had a lower median household income ($39,005 vs. $46,414, $P < 0.001$), fewer college-educated people with bachelor's or higher degrees (16.5% vs. 24.2%, $P < 0.001$), and a lower number of primary care health providers (54 vs. 76 per 100,000 residents, $P < 0.001$). The differences were even more pronounced for the residents of communities located in zip codes with > 215hogs/km^2 (Study group 2): 31.3% ($P < 0.001$) of the residents were African Americans and 4.1% were American Indians ($P < 0.001$). People from Study group 2 had the lowest (among the studied groups) median household income ($36,520, $P < 0.001$), percent of residents with bachelor's or higher degrees (13.7%, $P < 0.001$), and number of primary care providers (51/100,000, $P < 0.001$) (see Supplemental Tables S2 and S3).

TABLE S1.
Characteristics of Matched Group A, Matched Group B, and Study Group 2, NC, 2007-2013

This table is available in its entirety in the online edition of the NCMJ.

[1]Means are evaluated without weights representing zip-code populations.
n/a, non-applicable.

TABLE S2.
Descriptive Table of the 3 Studied Groups of NC Communities with and without Hog Concentrated Feeding Animal Operations (CAFOs): Race-Specific Population Groups, Socioeconomic Characteristics, Smoking Prevalence, and Access-To-Care Characteristics, NC, 2007-2013

This table is available in its entirety in the online edition of the NCMJ.

*$P < 0.05$.
**$P < 0.001$.

TABLE S3.
Person-Years of Observations in Race-Specific Groups of the Residents of NC Communities from the 3 Studied Groups, NC, 2007-2013

This table is available in its entirety in the online edition of the NCMJ.

Mortality rates. Cause-specific mortality rates of all studied diseases were higher in North Carolina communities located in zip codes with > 215hogs/km^2 (Study group 2) compared to the North Carolina and US averages (see Table 1). The all-cause mortality rate in Study group 2 was as high as 934/100,000.

The residents from Study group 2 aged ≤ 24 years old had much higher all-cause mortality rates (92.7/100,000) than mortality rates in North Carolina (69.8/100,000) and the US (62.2/100,000) for this age group (see Table 1). Conditions originating in the perinatal period may have substantially contributed to the differences in mortality at younger ages; the mortality rate among infants under 1 year old in Study group 2 was as high as 495/100,000. This is much higher than both the US average (317/100,000) and the North Carolina average (398/100,000). The groups that contributed the most to increased mortality rates due to perinatal conditions were newborns affected by maternal trauma and by disorders related to length of gestation and fetal growth (see Table 1). The rates of infant death related to maternal trauma were much higher in North Carolina communities located in zip codes with > 215hogs/km^2 (149/100,000) than the United States and North Carolina averages. The rates of death related to the length of gestation and fetal growth were higher in both North Carolina (North Carolina average) and Study group 2 compared to the US average.

Patients from Study group 2 with multimorbid conditions such as co-existing septicemia and kidney disease, septicemia and anemia, or septicemia and kidney disease and anemia had mortality rates 1.5-2.2 times greater than North Carolina and 1.8-1.9 times greater than the US average mortality rates for patients with the same respective co-existing diseases (see Supplemental Figure S2 in Appendix). For all studied diseases, the age-adjusted mortality rates were higher in Study group 1 than in the Control group, but lower than in Study group 2 (see Table 2), except for tuberculosis: its mortality did not significantly differ between Study groups 1 and 2.

To highlight the magnitude of higher mortality in the region, we modeled Study group 2 as an independent geo-

TABLE 1.
Age-Adjusted Mortality Rates (Per 100,000) in NC Communities with > 215hogs/km² (Study Group 2) Compared to the NC and US Average, 2007-2013. (95% Confidence Intervals are Shown in the Parentheses)

Disease	Age and race group	The US average[1]	The NC average[a]	NC communities with > 215hogs/km²
All-cause mortality	All ages, all races	750 (749.5-750.2)	803[a] (801.3-805.6)	934[ab] (922.7-944.8)
	White, all ages	745 (744.5-745.2)	780[a] (777.9-782.6)	858[ab] (844.7-871.2)
	AA,[2] all ages	903 (901.6-904.1)	923[a] (917.4-928.4)	969[ab] (947.9-989.4)
	Age ≤ 24 years old, all races	62.2 (62.0-62.4)	69.8[a] (68.7-70.9)	92.7[ab] (86.3-99.1)
Conditions of perinatal period	All races, age < 1 year old	317 (314.4-318.6)	398[a] (381.1-408.5)	495[ab] (420.7-569.5)
Newborns affected by maternal trauma	All races, age < 1 year old	74.6 (73.6-75.6)	102[a] (95.7-109.1)	149[ab] (110.6-195.3)
Disorders related to length of gestation and fetal growth	All races, age < 1 year old	112 (110.6-113.1)	163[a] (154.8-171.8)	169[a] (128.3-218.4)
Anemia (underlying cause)	All races, all ages	1.5 (1.5-1.5)	1.9[a] (1.8-2.0)	2.6[ab] (2.1-3.2)
	AA, all ages	3.0 (2.9-3.0)	3.6[a] (3.3-4.0)	5.3[ab] (3.9-7.1)
Kidney disease (underlying cause)	All races, all ages	14.6 (14.5-14.6)	18.3[a] (18.0-18.6)	24.8[ab] (23.0-26.6)
	White, all ages	13.3 (13.3-13.4)	14.8[a] (14.5-15.2)	18.3[ab] (16.3-20.2)
	AA, all ages	28.1 (27.9-28.3)	34.9[a] (33.8-36.0)	37.7[a] (33.6-41.8)
Tuberculosis (underlying + secondary cause)	All races, all ages	0.31 (0.30-0.32)	0.30 (0.26-0.35)	0.63[ab] (0.32-0.81)
Septicemia (underlying cause)	All ages, all races	10.8 (10.7-10.8)	13.5[a] (13.2-13.67)	16.6[ab] (15.1-18.1)

[1]Mortality rates are obtained from the Centers for Disease Control and Prevention Multiple Cause of Death data (https://wonder.cdc.gov/mcd.html).
[2]African-American.
[a]Statistically significant difference compared to the US average.
[b]Statistically significant difference compared to NC average.

graphic unit and compared its overall and disease-specific mortality rates to the US states with the highest mortality rates (see Supplemental Table S4 in Appendix). In this model, the geographic area encompassing Study group 2 would be ranked number 4 in the United States for the highest all-cause mortality, number 1 in the United States for mortality from anemia as underlying cause, number 1 for kidney disease, number 2 for septicemia, and number 3 for tuberculosis as underlying-plus-secondary cause.

The rates of hospital admissions and ED visits. For most of the studied diseases, the rates of hospital admissions and ED visits (see Table 2) were higher in Study group 1 than in the Control group, but lower than in Study group 2. Rates did not differ between Study groups 1 and 2 for anemia hospital admissions and ED visits (as primary diagnosis), ED visits for tuberculosis, and LBW hospital admissions (as primary-plus-secondary diagnosis); however, these rates were still higher than in the Control group.

Logistic regression analysis. After adjustment for 6 co-

FIGURE S2.
Mortality Rates among Patients with Co-Existing Anemia, Kidney Disease, and Septicemia: The US Average, NC Average, and NC Communities with > 215hogs/km² (Study Group 2), 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

This figure is available in its entirety in the online edition of the NCMJ.

TABLE S4.
Age-Adjusted Mortality Rates (Per 100,000) in NC Communities with > 215hogs/km² (Study Group 2): Ranks of This Area among the US States and District of Columbia with the Highest Mortality, 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

This table is available in its entirety in the online edition of the NCMJ.

[a]Mortality rates were calculated using the Multiple Cause of Death data from the Centers for Disease Control and Prevention (https://wonder.cdc.gov/mcd.html).

factors, the ORs for death, hospital admissions, and ED visits for most of the studied diseases in Study group 1 were > 1.0 (see Table 3). The ORs in Study group 2 were significantly higher than in Study group 1 for kidney disease (all 3 outcomes), tuberculosis (hospital admissions), anemia (all 3 outcomes), tuberculosis (ED visits), septicemia (mortality), and LBW (ED visits) (see Table 3).

DiSC analysis. After adjustment for 6 co-factors, the studied outcomes had similar distance-related patterns: the ORs were higher in close proximity to a hog CAFO than in more distant communities (see Table 4). For example, mortality ORs for kidney disease were the highest in communities located within 2 km of a CAFO (OR = 1.14, $P < 0.0001$), then decreased to 1.02 ($P < 0.0001$) at 20 km. For hospital admissions, the OR for kidney disease was 1.22 ($P < 0.0001$) at 2 km, 1.08 at 5 km ($P < 0.0001$), 1.04 at 10 km ($P < 0.0001$), and 1.03 at 20 km ($P < 0.0001$). The most pronounced changes in ORs were observed between 2 km and 5 km from the CAFO.

Sensitivity analysis. After exclusion of urban areas, no significant changes were observed for mortality risks. Slightly lower ORs than in the main analysis were observed for hospital admissions, and slightly higher ORs were observed for ED visits. The results of GEE analysis also confirmed the main study results; one exclusion was some minor changes in hospital admissions.

Locations of matched zip codes are shown in Supplemental Figure S3 (Appendix): compared to "clustered" locations of zip codes with > 215hogs/km^2, non-CAFOs zip codes are sparsely located in different regions of North Carolina. The mortality rates of all studied diseases and hospital admission/ED visit rates of kidney disease, tuberculosis, and LBW were higher in Study group 2 than in matched zip codes

TABLE 2.
Age-Adjusted Rates (per 100,000) of Mortality, Hospital Admissions, and ED Visits in NC Communities with Hog CAFOs (Study Group 1), NC Communities with > 215hogs/km^2 (Study Group 2), and NC Communities without Hog CAFOs (Control Group), 2007-2013. Underlying Cause/Primary Diagnosis and Underlying-Plus-Secondary Cause/Primary-Plus-Secondary Diagnosis. (95% Confidence Intervals Are Shown in the Parentheses)

		Underlying cause/Primary diagnosis			Underlying+secondary cause/ Primary+secondary diagnosis		
Outcome	Disease	Study group 1	Study group 2	Control group	Study group 1	Study group 2	Control group
Mortality	All-cause mortality	866[a] (861.1-870.0)	934[b] (922.7-944.8)	773 (770.4-775.2)	866[a] (861.1-870.0)	934[b] (922.7-944.8)	773 (770.4-775.2)
	Anemia	2.3[a] (2.1-2.6)	2.6[a] (2.1-3.2)	1.7 (1.6-1.8)	28.4[a] (27.6-29.2)	35.5[ab] (33.4-37.7)	17.0 (16.7-17.4)
	Kidney disease	21.1[a] (20.4-21.8)	24.8[ab] (23.0-26.6)	17.1 (16.7-17.5)	101[a] (99.1-102.1)	119[ab] (114.6-122.5)	75.4 (74.7-76.2)
	Tuberculosis	0.32[a] (0.21-0.42)	0.24[a] (0.04-0.43)	0.13 (0.12-0.14)	0.52[a] (0.42-0.61)	0.63[a] (0.32-0.81)	0.23 (0.22-0.34)
	Septicemia	15.5[a] (14.9-16.1)	16.6[a] (15.1-18.1)	12.7 (12.4-13.0)	67.9[a] (66.7-69.1)	75.1[ab] (71.9-78.2)	50.9 (50.3-51.5)
Hospital admissions	Anemia	112[a] (110.7-114.0)	113[a] (108.6-116.4)	87.4 (86.6-88.2)	1,989[a] (1,982-1,996)	2,179[ab] (2,162-2,196)	1,642 (1,638-1,645)
	Kidney disease	164[a] (162.3-166.2)	187[ab] (181.6-191.4)	128 (126.6-128.6)	1,809[a] (1,802-1,815)	2,031[ab] (2,015-2,048)	1,369 (1,366-1,372)
	Tuberculosis	1.8[a] (1.6-2.0)	3.1[ab] (2.4-3.7)	1.0 (0.9-1.1)	4.0[a] (3.7-4.3)	6.2[ab] (5.3-7.1)	2.4 (2.3-2.6)
	Septicemia	296[a] (293.6-298.8)	313.1[ab] (306.7-319.5)	239 (237.8-240.4)	437[a] (433.9-440.2)	468[ab] (460.3-475.9)	344 (342.1-345.2)
	Low birth weight	n/a	n/a	n/a	2.2[a] (1.9-2.4)	2.5[a] (1.9-3.1)	1.5 (1.4-1.6)
ED visits	Anemia	84.8[a] (83.3-86.2)	85.4[a] (81.9-88.9)	71.4 (70.6-72.1)	605[a] (600.8-608.4)	682[ab] (672.2-691.7)	480 (478.1-481.9)
	Kidney disease	26.4[a] (25.6-27.2)	33.2[ab] (31.1-35.3)	19.6 (19.2-20.0)	547[a] (543.4-550.5)	643[ab] (634.0-652.3)	376 (373.9-377.2)
	Tuberculosis	0.22 (0.13-0.32)	0.33 (0.12-0.53)	0.14 (0.11-0.14)	1.04[a] (0.8-1.13)	1.42[a] (1.03-1.93)	0.72 (0.62-0.74)
	Septicemia	15.4[a] (14.8-16.0)	20.1[ab] (18.4-21.7)	13.7 (13.4-14.0)	26.2[a] (25.4-26.9)	35.4[ab] (33.3-37.6)	21.1 (20.7-21.5)
	Low birth weight	n/a	n/a	n/a	3.0[a] (2.7-3.3)	4.7[ab] (3.9-5.5)	1.6 (1.5-1.7)

[a]Statistically significant difference compared to the Control group.
[b]Statistically significant difference compared to Study group 1.
n/a, non-applicable.

TABLE 3.
Age-Adjusted Rates (per 100,000) of Mortality, Hospital Admissions, and ED Visits in NC Communities with Hog CAFOs (Study Group 1), NC Communities with > 215hogs/km² (Study Group 2), and NC Communities without Hog CAFOs (Control Group), 2007-2013. Underlying Cause/Primary Diagnosis and Underlying-Plus-Secondary Cause/Primary-Plus-Secondary Diagnosis. (95% Confidence Intervals Are Shown in the Parentheses)

		Underlying cause/Primary diagnosis		Underlying+secondary cause/ Primary+secondary diagnosis	
Outcome	Disease	Study group 1	Study group 2	Study group 1	Study group 2
Death	Anemia	1.24 (1.11-1.36), $P = 0.0012$	1.39 (1.15-1.64), $P = 0.0077$	1.34 (1.30-1.38), $P < 0.0001^{\#}$	1.50[a] (1.43-1.57), $P < 0.0001^{\#}$
	Kidney disease	1.13 (1.09-1.17), $P < 0.0001^{\#}$	1.27[a] (1.19-1.35), $P < 0.0001^{\#}$	1.18 (1.16-1.20), $P < 0.0001^{\#}$	1.31[a] (1.27-1.35), $P < 0.0001^{\#}$
	Tuberculosis	2.77[a] (2.33-3.21), $P < 0.0001^{\#}$	2.12 (1.19-3.04), $P = 0.1125$	2.23 (1.93-2.54), $P < 0.0001^{\#}$	2.22 (1.65-2.79), $P = 0.0061$
	Septicemia	1.07 (1.02-1.12), $P = 0.0120$	1.08 (0.97-1.17), $P = 0.1633$	1.18 (1.15-1.20), $P < 0.0001^{\#}$	2.30[a] (2.11-2.48), $P < 0.0001^{\#}$
Hospital admissions	Anemia	1.07 (1.05-1.09), $P < 0.0001^{\#}$	1.07 (1.03-1.11), $P = 0.0022$	1.03 (1.03-1.04), $P < 0.0001^{\#}$	1.12[a] (1.11-1.14), $P < 0.0001^{\#}$
	Kidney disease	1.09 (1.07-1.11), $P < 0.0001^{\#}$	1.21[a] (1.18-1.24), $P < 0.0001^{\#}$	1.15 (1.15-1.16), $P < 0.0001^{\#}$	1.33[a] (1.32-1.34), $P < 0.0001^{\#}$
	Tuberculosis	1.48 (1.31-1.64), $P < 0.0001^{\#}$	2.81[a] (2.54-3.08), $P < 0.0001^{\#}$	1.39 (1.28-1.50), $P < 0.0001^{\#}$	2.30[a] (2.11-2.48), $P < 0.0001^{\#}$
	Septicemia	1.03 (1.02-1.04), $P < 0.0001^{\#}$	1.03 (1.00-1.05), $P = 0.0324$	1.06 (1.05-1.07), $P < 0.0001^{\#}$	1.08 (1.06-1.10), $P < 0.0001^{\#}$
	LBW	n/a	n/a	1.44 (1.25-1.62), $P < 0.0001^{\#}$	1.40 (1.04-1.76), $P = 0.0661$
ED visits	Anemia	1.02 (1.00-1.05), $P = 0.0721$	1.08[a] (1.03-1.13), $P = 0.0028$	1.08 (1.07-1.09), $P < 0.0001^{\#}$	1.21[a] (1.19-1.23), $P < 0.0001^{\#}$
	Kidney disease	1.05 (1.00-1.09), $P = 0.0431$	1.26[a] (1.18-1.34), $P < 0.0001^{\#}$	1.23 (1.22-1.24), $P < 0.0001^{\#}$	1.43[a] (1.41-1.45), $P < 0.0001^{\#}$
	Tuberculosis	1.38 (0.84-1.93), $P = 0.2451$	2.26 (1.33-3.19), $P = 0.0868$	1.24 (1.01-1.47), $P = 0.0721$	2.22[a] (1.84-2.61), $P < 0.0001^{\#}$
	Septicemia	0.89 (0.82-0.96), $P = 0.0013$	0.82 (0.69-0.96), $P = 0.0057$	0.98 (0.92-1.03), $P = 0.3671$	0.99 (0.89-1.09), $P = 0.8742$
	LBW	n/a	n/a	1.53 (1.34-1.73), $P < 0.0001^{\#}$	2.45[a] (2.13-2.76), $P < 0.0001^{\#}$

[a]Statistically significant difference between the Study groups 1 and 2.
[#]Remains significant under Bonferroni correction.
n/a, non-applicable.

without CAFOs (the results are presented in the Appendix, Table S5).

Discussion

We found that people living in southeastern North Carolina communities located near hog CAFOs had poorer outcomes for a variety of health conditions in different age groups than the residents of North Carolina communities located in zip codes without hog CAFOs; they had higher mortality due to infections, anemia, kidney disease, and perinatal conditions, and higher rates of hospital admissions and ED visits for LBW infants. The observed higher rate of all-cause mortality is consistent with the lower life expectancy in this area [1].

While the precise causes of higher anemia rates observed in our study are unclear, other studies have suggested that exposure to ammonia, hydrogen sulfide, methane, and particulate matters (PMs) near the CAFOs [23, 24], contamination of water and soil with zinc [25], exposure to the antibiotic chloramphenicol previously widely used to treat infections in hogs [26], and inappropriate human use of veterinary medications (certain NSAIDs or antibiotics) [38] cause anemia. Moreover, anemia is an independent risk factor of death in patients with chronic diseases [39, 40], a complication of renal failure [41] and tuberculosis [42], and a risk factor for preterm birth and LBW infants [43].

Earlier studies reported that workers in the swine

FIGURE S3.
Locations of Matched NC Zip Codes without Hog CAFOs (Matched Group A and Matched Group B) and Locations of Zip Codes with > 215hogs/km² (Study Group 2)

This figure is available in its entirety in the online edition of the NCMJ.

TABLE 4.
The Distance from the Source of Potential Contamination ("DiSC") Analysis: ORs of Mortality, Hospital Admissions, and ED Visits in NC Communities Located within Different Distances from Hog CAFOs: Underlying-Plus-Secondary Causes of Death/Primary-Plus-Secondary Diagnoses, Logistic Regression, Multivariable Analysis (Adjusted by Age, Income, Education, Health Insurance, Smoking, and Availability of Primary Care Providers), 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

		The distance from hog CAFO			
Outcome	Disease	2 km	5 km	10 km	20 km
Death	Anemia	1.11 (1.05-1.18), $P < 0.0001$	1.05[a] (1.03-1.07), $P < 0.0001$	1.04 (1.03-1.05), $P < 0.0001$	1.03 (1.03-1.04), $P < 0.0001$
	Kidney disease	1.14 (1.11-1.18), $P < 0.0001$	1.06 a (1.05-1.07), $P < 0.0001$	1.03 (1.03-1.04), $P < 0.0001$	1.02 (1.02-1.03), $P < 0.0001$
	Tuberculosis	1.37 (0.95-1.79), $P = 0.1442$	1.12 (0.96-1.27), $P = 0.1621$	1.09 (1.02-1.16), $P = 0.0231$	1.07 (1.03-1.11), $P < 0.0001$
	Septicemia	1.11 (1.06-1.15), $P < 0.0001$	1.04[a] (1.03-1.06), $P < 0.0001$	1.03 (1.02-1.03), $P < 0.0001$	1.02 (1.02-1.09), $P < 0.0001$
Hospital admissions	Anemia	1.06 (91.05-1.07), $P < 0.0001$	1.02[a] (1.02-1.03), $P < 0.0001$	1.01 (1.01-1.02), $P < 0.0001$	1.01 (1.01-1.01), $P < 0.0001$
	Kidney disease	1.22 (1.21-1.23), $P < 0.0001$	1.08[a] (1.08-1.09), $P < 0.0001$	1.04[a] (1.04-1.04), $P < 0.0001$	1.03[a] (1.03-1.03), $P < 0.0001$
	Tuberculosis	1.59 (1.44-1.75), $P < 0.0001$	1.18[a] (1.13-1.24), $P < 0.0001$	1.09[a] (1.06-1.12), $P < 0.0001$	1.06 (1.04-1.07), $P < 0.0001$
	Septicemia	1.10 (1.08-1.11), $P < 0.0001$	1.04[a] (1.03-1.04), $P < 0.0001$	1.02[a] (1.02-1.02), $P < 0.0001$	1.02 (1.01-1.02), $P < 0.0001$
	LBW	1.21 (0.97-1.46), $P = 0.1272$	1.06 (0.97-1.15), $P = 0.1913$	1.04 (0.99-1.08), $P = 0.1112$	1.03 (1.01-1,06), $P = 0.0082$
ED visits	Anemia	1.15 (1.14-1.17), $P < 0.0001$	1.05[a] (1.05-1.06), $P < 0.0001$	1.03[a] (1.02-1.03), $P < 0.0001$	1.02 (1.02-1.02), $P < 0.0001$
	Kidney disease	1.23 (1.21-1.24), $P < 0.0001$	1.08[a] (1.08-1.09), $P < 0.0001$	1.04[a] (1.04-1.05), $P < 0.0001$	1.03[a] (1.03-1.03), $P < 0.0001$
	Tuberculosis	1.99 (1.69-2.29), $P < 0.0001$	1.30[a] (1.19-1.40), $P < 0.0001$	1.13[a] (1.08-1.18), $P < 0.0001$	1.07[a] (1.04-1.10), $P < 0.0001$
	Septicemia	1.14 (1.06-1.22), $P < 0.0001$	1.06[a] (1.03-1.09), $P < 0.0001$	1.03 (1.02-1.04), $P < 0.0001$	1.02 (1.01-1.03), $P < 0.0001$
	LBW	2.28 (2.12-2.44), $P < 0.0001$	1.39[a] (1.34-1.45), $P < 0.0001$	1.20[a] (1.17-1.22), $P < 0.0001$	1.13[a] (1.11-1.14), $P < 0.0001$

[a]Statistically significant difference from the value of the result at shorter vs. longer distances (eg, 5 km vs. 2 km, or 10 km vs. 5 km) within the same row in the table.

industry have a higher risk for tuberculosis; however, this disease has been recently eradicated from US livestock [44]. Our findings on higher rates of tuberculosis likely result from the impact of a combination of factors in this North Carolina region where co-existing medical and social determinants may exacerbate each other [6, 10]. While no information is currently available on potential risk of occurrence of antibiotic-resistant strains of *Mycobacterium tuberculosis* in the communities adjacent to hog CAFOs, this aspect may require detailed analysis. The increased risk of undiagnosed latent tuberculosis that may be present in these communities, which may have a higher number of foreign-born residents [45], also requires attention. Co-existence of factors that may promote tuberculosis from its latent to active form (eg, diabetes, immunosuppression, and other conditions) needs to be accounted for when developing a strategy for improving identification of latent and active cases (ie, through screening) and treatment adherence in patients who require therapy.

Higher mortality rates for infants living in North Carolina zip codes with > 215hogs/km^2 represent an important health issue for this population that requires the immediate attention of public health and health care specialists. Maternal trauma and the length of gestation and fetal growth contribute the most to infant mortality in these North Carolina communities and can be targeted by special programs on maternal and child health. Higher rates of LBW infants in North Carolina communities adjacent to hog CAFOs are an important parameter of maternal and child health, not only because of the immediate medical care needed for such infants, but also because of their increased lifetime risk of chronic diseases (eg, higher risk of development of diabetes mellitus, arterial hypertension, ischemic heart disease, depression, respiratory diseases, and chronic kidney disease) [46]. Targeted programs in North Carolina communities adjacent to hog CAFOs could provide information about health issues related to women's and children's health to women of childbearing potential,

as well as supporting mothers and children from pregnancy through birth and beyond.

The DiSC analysis in our study highlighted a potential opportunity for associating residential and occupational exposures in communities located in close proximity to hog CAFOs; poorer health outcomes among the residents of communities located within 2-5 km from CAFOs could be due to additional exposures because of potential employment at CAFOs. That may provide some guidance as to the most efficient use of resources to screen and diagnose diseases/conditions found to be highly prevalent in these communities.

In this study we do not establish causality between exposures from hog CAFOs and higher risk of mortality, hospital admissions, or ED visits for studied diseases in communities adjacent to CAFOs. One interpretation of our findings could be that people who reside in such communities may simultaneously be affected by multiple risk factors including low income and education, higher smoking prevalence, and lower access to medical care. Nonetheless, after adjusting for such co-factors or comparing zip codes with similar co-factors, persistently poorer health outcomes were observed in the communities located in zip codes with hog CAFOs. Furthermore, the DiSC analysis demonstrated a higher risk of poorer health outcomes in closer proximity to the CAFO. Our sensitivity analysis showed that patterns of use of medical care among the residents of these North Carolina communities may also contribute to the differences in health outcomes. For example, residents of rural North Carolina areas (where most of the hog CAFOs are located) are more likely to use EDs when searching for medical assistance and less likely use hospitals (due to problems with access such as transportation issues, problems with medical insurance coverage, or behavioral patterns of preferring EDs to a staying in a hospital).

The limitations of this study include: i) a lack of individual measurements of exposure, co-factors, and potential biomarkers of exposure; ii) potential misclassification of exposure from spray fields, accounting for weather, season and wind direction, exposure to poultry facilities, and coal power plants; iii) limited list of population characteristics in currently available dataset to match the compared population groups; and iv) potentially different residential and occupational locations for the same person. Further studies must address these limitations. The problems of identifying potential causative agents and evaluation of dose-response relationships in hog CAFOs studies are discussed in the literature; it is difficult to account for all required factors in occupational health studies, but the detection of specific exposures and diseases in residential communities is even more challenging due to additional complexities caused by dispersion of environmental agents, different exposure pathways, and variability of individual susceptibility to contaminants [6].

Community based research has been gaining prominence as a source of information for medical decision-making. It has been recognized that detailed individual-level data on co-factors are rarely available in the US; therefore, opportunities for individual-level analyses that account for multiple risk factors are very limited. To obtain information on health outcomes in certain populations, public health specialists and policymakers have begun to shift their attention from an exclusive focus on individual-level studies toward community level analyses. When contributions of specific risk factors to health outcomes in communities can be evaluated, this information can be used for optimization of resource allocation for medical interventions designed to improve health outcomes [47].

Conclusion

Southeastern North Carolina communities located in close proximity to hog CAFOs are characterized by poor indicators of health that are not solely due to the impact of converging demographic, socioeconomic, behavioral, and access-to-care factors, but are also due to the additional impact of multiple hog CAFOs located in this area. Although causality with specific exposures from hog CAFOs was not established, our findings suggest research is needed in environmental factors that may influence these outcomes. In addition, these findings suggest an immediate need for improved screening, diagnosis, and intervention for conditions including infant mortality and LBW infants that were found to be overrepresented in these communities. Poor health outcomes in North Carolina communities adjacent to hog CAFOs may also need to be addressed by improving access to medical resources, and future studies to determine the contribution of factors that influence these outcomes are needed. **NCMJ**

TABLE S5.
Age-Adjusted Cause-Specific Rates (per 100,000) of Mortality, Hospital Admissions, and ED Visits in Communities Located in Zip Codes with > 215hogs/km² (Study Group 2) and in Communities Located in Zip Codes Matched by Percent of African Americans, Percent of Children and Adults Aged 65+ in Population, and Median Household Income (Matched Group A) and Additionally Matched by Percent of the Residents Aged 25+ with Bachelor or Higher Degree (Matched Group B), NC, 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

This table is available in its entirety in the online edition of the NCMJ.

*Statistically significant difference when compared to Study group 2.
n/a, non-applicable.

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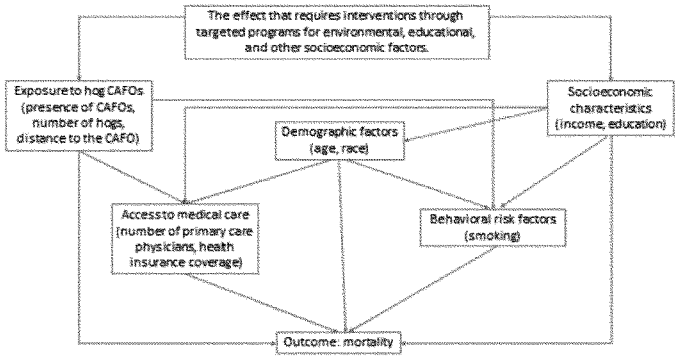
79502 APPENDIX 1.

APPENDIX 1.
The International Classification of Diseases (ICD) Codes Used in the Analysis

ICD-9 codes (used for analysis of HCUP data)	
280-285	Anemia (includes Iron deficiency anemias, Other deficiency anemias, Hereditary hemolytic anemias, Acquired hemolytic anemias, Aplastic anemia and other bone marrow failure syndromes, Other and unspecified anemias)
580-589	Kidney disease (Nephritis, Nephrotic Syndrome, and Nephrosis)
010-018	Tuberculosis
038	Septicemia, 995.91 – Sepsis
V21.3	Low birth weight
ICD-10 codes (used for analysis of Multiple Cause of Death data)	
D50-D53, D55-D59, D60-D64	Anemia (includes Nutritional anemias, Hemolytic anemias, Aplastic and other anemias and other bone marrow failure syndromes)
N00-N19	Kidney disease (includes Glomerular diseases, Renal tubule-interstitial diseases, Acute kidney failure and chronic kidney disease)
A15-A19	Tuberculosis
A40, A41	Septicemia (includes Streptococcal sepsis, Other sepsis)
P07.1	Low birth weight newborn
P00-P96	Conditions originating in perinatal period
P00-P04	Newborns affected by maternal trauma
P10-P15	Disorders related to length of gestation and fetal growth

79502 APPENDIX 2.

FIGURE S1.
Illustration of the Relations in the Assessment of Potential Impact Factors-Outcome Associations



79502 APPENDIX 3.

APPENDIX 3.
Sensitivity Analysis

2a) Proc Genmod was used for GEE analysis

2b). The propensity score for matching zip codes without CAFO to zip codes with > 215hogs/km^2 (Study group 2) was evaluated using the percent of African Americans, percent of children and people aged 65+ among the residents, as well as median household income, and percent of people with a bachelor's or higher degree. The greedy matching algorithm [37] was used to match zip codes with close propensity scores.

The Matched group A included 56 zip codes that were matched by using the percent of African Americans, percent of children (aged 0-19) and people aged 65+ among the residents, and median household income. The Matched group B included 55 zip codes matched by above listed characteristics of Matched group A and additionally by the percent of people with a bachelor's or higher degree. Characteristics of matched zip codes (i.e., the results on balancing the variables in the matched groups) for the Matched group A and Matched group B are presented in Table S1.

79502 APPENDIX 4.

TABLE S1.
Characteristics of Matched Group A, Matched Group B, and Study Group 2, NC, 2007-2013

Variable	Matching design 1 Mean[1]±SE (95%CI)		Matching design 2 Mean[1]±SE (95%CI)	
	Matched group A	Study group 2	Matched group B	Study group 2
% of African-Americans	28.4±2.9% (22.8%-34.1%)	28.92±1.8% (25.5%-32.4%)	27.1%±3.0% (21.2%-33.0%)	28.9%±1.8% (25.4%-32.4%)
% of children (0-19 years old)	26.8±0.6% (25.7%-27.9%)	27.1±0.4% (26.2%-27.9%)	25.5%±0.6% (24.4%-26.6%)	27.3%±0.4% (26.3%-28.0%)
% of adults (65+ years)	14.0±0.6% (12.9%-15.2%)	14.3±0.4% (13.5%-15.2%)	15.0%±0.6% (13.8%-16.2%)	14.3%±0.4% (13.5%-15.2%)
Median household income (US dollars)	$35,640±$1,118 ($33,450-$37,831)	$36,521±$919 ($34,719-%38,322)	$34,933±$1,161 ($32,658-$37,208)	$36,527±$936 ($34,693-$38,362)
% of people with bachelor or higher degree education among those aged 25+ years	n/a	n/a	9.16%±0.8% (7.7%-10.7%)	11.1%±0.5% (10.2%-12.0%)

[1]Means are evaluated without weights representing zip-code populations.
n/a, non-applicable.

Then, age-adjusted total mortality rate and cause-specific rates of mortality, hospital admissions, and ED visits were compared between Matched group A and B and Study group 2 for underlying cause of death or primary diagnosis and for underlying-plus-secondary cause of death or primary-plus-secondary diagnosis. As shown in Table S5, mortality rates for total mortality and anemia and kidney as underlying causes were higher in Study group 2 than in Matched group A and B. Also, mortality rates of anemia, kidney disease, tuberculosis, and septicemia were higher in Study group 2 than in both matched groups for these diseases as underlying-plus-secondary causes of death. Hospital admission and ED visit rates were higher in Study group 2 than in Matched group A and B for kidney disease and tuberculosis (for primary diagnoses and for primary-plus-secondary diagnoses). ED visits rate for children with LBW also was higher in Study group 2 than in both matched groups (for primary-plus-secondary diagnosis).

79502 APPENDIX 5.

TABLE S2.
Descriptive Table of the 3 Studied Groups of NC Communities with and without the Hog Concentrated Feeding Animal Operations (CAFOs): Race-Specific Population Groups, Socioeconomic Characteristics, Smoking Prevalence, and Access-To-Care Characteristics, NC, 2007-2013

Characteristics	NC communities with hog CAFOs (Study group 1)	NC communities with > 215hogs/km^2 (Study group 2)	NC communities without hog CAFOs (Control group)
Race (%):			
White	63.9%**	58.3%**	73.7%
African-American (AA)	28.8%*	31.3%**	19.3%
American Indian	2.4%*	4.1%**	0.8%
Asian	0.8%**	0.3%**	2.5%
Other	4.1%	6.0%**	3.7%
Median household income	$39,005**	$36,520**	$46,414
Bachelor or higher degree education	16.5%**	13.7%**	24.2%
Availability of primary care providers (per 100,000 population)	54**	51**	76
Percent of uninsured individuals	18.2%	18.5%	17.8%
Smokers prevalence among those aged 24+ years old	24.4%	25.9%**	24.0%

*$P < 0.05$.
**$P < 0.001$.

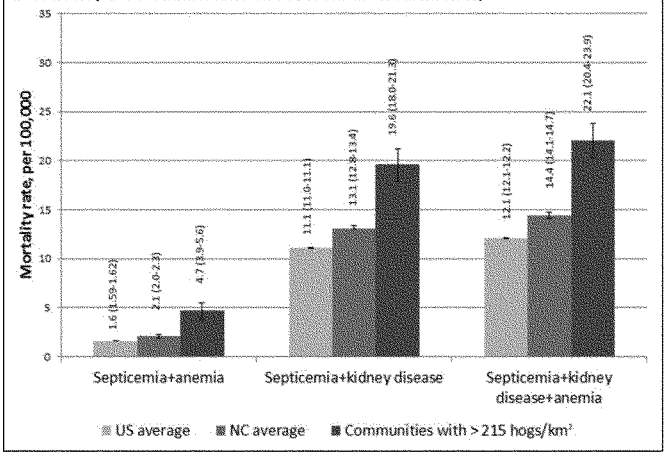
79502 APPENDIX 6.

TABLE S3.
Person-Years of Observations in Race-Specific Groups of the Residents of NC Communities from the 3 Studied Groups, NC, 2007-2013

Race	NC communities with hog CAFOs (Study group 1)	NC communities with > 215hogs/km^2 (Study group 2)	NC communities without hog CAFOs (Control group)
White	10,054,073	1,588,477	36,675,276
African-American (AA)	4,528,375	851,839	9,593,021
American Indian	370,901	111,226	411,900
Asian	129,901	8,574	1,242,243
Other	642,425	162,896	1,870,849

79502 APPENDIX 7.

FIGURE S2.
Mortality Rates among Patients with Co-Existing Anemia, Kidney Disease, and Septicemia: The US Average, NC Average, and NC Communities with > 215hogs/km² (Study Group 2), 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)



79502 APPENDIX 8.

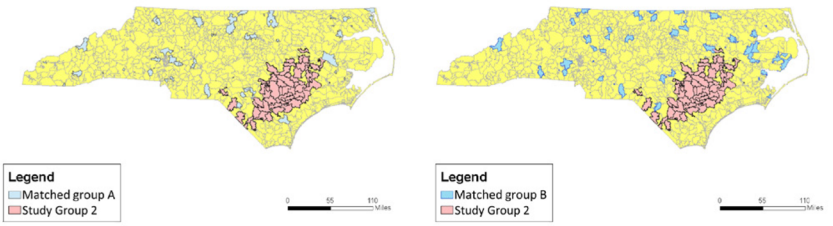
TABLE S4.
Age-Adjusted Mortality Rates (per 100,000) in NC Communities with > 215hogs/km² (Study Group 2): Ranks of This Area among the US States and District of Columbia with the Highest Mortality, 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

Disease, cause of mortality	NC communities with > 215hogs/km²	Rank of the area with > 215hogs/km² among the US states with the highest mortality	The US states (with their current respective ranks)[a] with mortality rates closest to the rates of the area with > 215hogs/km²	
All-cause mortality	934 (922.7-944.8)	#4	#3 Alabama	940 (936.7-943.1)
Anemia:				
• as underlying cause,	2.6 (2.1-3.2)	#1	#1 Mississippi	2.3 (2.1-2.5)
• as underlying+secondary cause	35.5 (33.4-37.7)	#1	#1 West Virginia	24.4 (23.7-25.2)
Kidney disease:				
• as underlying cause,	24.8 (23.0-26.6)	#2	#1 Louisiana	26.2 (25.7-26.8)
• as underlying+secondary cause	119 (114.6-122.5)	#1	#1 West Virginia	96.2 (94.7-97.7)
Tuberculosis:				
• as underlying+secondary cause	0.63 (0.32-0.81)	#3	#2 District of Columbia	0.73 (0.49-1.04)
Septicemia:				
• as underlying cause,	16.6 (15.1-18.1)	#7	#6 Alabama	17.0 (16.6-17.4)
• as underlying+secondary cause	75.1 (71.9-78.2)	#2	#1 District of Columbia	83.6 (80.7-86.4)

[a]Mortality rates were calculated using the Multiple Cause of Death data from the Centers for Disease Control and Prevention (https://wonder.cdc.gov/mcd.html).

79502 APPENDIX 9.

FIGURE S3.
Locations of Matched NC Zip Codes without Hog CAFOs (Matched Group A and Matched Group B) and Locations of Zip Codes with > 215hogs/km^2 (Study Group 2)



79502 APPENDIX 10.

TABLE S5.
Age-Adjusted Cause-Specific Rates (per 100,000) of Mortality, Hospital Admissions, and ED Visits in Communities Located in Zip Codes with > 215hogs/km^2 (Study Group 2) and in Communities Located in Zip Codes Matched by Percent of African Americans, Percent of Children and Adults Aged 65+ in Population, and Median Household Income (Matched Group A) and Additionally Matched by Percent of the Residents Aged 25+ with Bachelor or Higher Degree (Matched Group B), NC, 2007-2013. (95% Confidence Intervals Are Shown in the Parentheses)

		Underlying cause/Primary diagnosis			Underlying+secondary cause/ Primary+secondary diagnosis		
Outcome	Disease	Study group 2	Matched group A	Matched group B	Study group 2	Matched group A	Matched group B
Mortality	Total mortality	934 (922.7-944.8)	867* (857.9-875.3)	920* (908.6-930.8)	934 (922.7-944.8)	867* (857.9-875.3)	920* (908.6-930.8)
	Anemia	2.65 (2.2-3.2)	2.1* (1.6-2.5)	1.8* (1.3-2.2)	35.5 (33.4-37.7)	20.6* (19.2-21.9)	24.1* (22.3-25.9)
	Kidney disease	24.8 (23.0-26.6)	20.9* (19.6-22.3)	22.5* (20.7-24.2)	119 (114.6-122.5)	90.1* (87.2-92.9)	107* (103.3-110.9)
	Tuberculosis	0.21 (0.04-0.38)	0.11 (0.01-0.20)	0.04* (0.04-0.13)	0.55 (0.28-0.82)	0.25* (0.10-0.40)	0.24* (0.06-0.42)
	Septicemia	16.6 (15.1-18.1)	15.9 (14.7-17.1)	16.7 (15.2-18.2)	75.1 (72.0-78.2)	62.7* (60.3-65.0)	67.6* (64.6-70.6)
Hospital	Anemia	113 (108.6-116.4)	116 (112.3-118.6)	141* (136.3-145.3)	2,179 (2,162-2,196)	1,867* (1,854-1,880)	2,165 (2,148-2,183)
	Kidney disease	187 (181.6-191.4)	152* (148.5-155.8)	175* (170.4-180.1)	2,031 (2,015-1,2048)	1,713* (1,701-1,725)	1,864* (1,848-1,880)
	Tuberculosis	3.1 (2.4-3.7)	1.7* (1.4-2.1)	0.86* (0.51-1.21)	6.2 (5.3-7.2)	3.7* (3.2-4.3)	2.4* (1.9-3.0)
	Sepsis	313.1 (306.7-319.5)	272* (267.4-277.2)	324* (317.2-330.4)	468 (460.3-475.9)	396* (390.4-402.2)	466 (458.4-474.3)
	Low birth weight	n/a	n/a	n/a	2.5 (1.9-3.1)	1.5* (1.2-1.9)	2.3 (1.7-2.9)
ED visits	Anemia	85.4 (81.9-88.9)	88.5 (85.8-91.3)	115* (111.0-119.3)	682 (672.2-691.7)	570* (563.0-577.0)	729* (718.6-739.0)
	Kidney disease	33.2 (31.1-35.3)	25.1* (23.6-26.6)	31.7 (29.6-33.8)	643 (634.0-652.3)	517* (510.7-524.2)	633 (623.7-642.3)
	Tuberculosis	0.32 (0.11-0.53)	0.15* (0.04-0.25)	0.08* (0.03-0.18)	1.4 (1.0-1.9)	0.89* (0.62-1.17)	0.61* (0.32-0.90)
	Sepsis	20.1 (18.5-21.7)	12.1* (11.1-13.2)	21.3 (19.6-23.0)	35.5 (33.3-37.6)	20.1* (18.7-21.4)	33.1 (31.0-35.2)
	Low birth weight	n/a	n/a	n/a	4.7 (3.9-5.5)	1.04* (0.74-1.34)	1.9* (1.4-2.5)

*Statistically significant difference when compared to Study group 2.
n/a, non-applicable.

Industrial Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics and American Indians

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August 29, 2014

Summary

Background: In 2014, the North Carolina Department of Environment and Natural Resources (NC-DENR) issued a swine waste management general permit (the General Permit), which is expected to cover more than 2,000 industrial hog operations (IHOs). These facilities house animals in confinement, store their feces and urine in open pits, and apply the waste to surrounding fields. Air pollutants from the routine operation of confinement houses, cesspools, and waste sprayers affect nearby neighborhoods where they cause disruption of activities of daily living, stress, anxiety, mucous membrane irritation, respiratory conditions, reduced lung function, and acute blood pressure elevation. Prior studies showed that this industry disproportionately impacts people of color in NC, mostly African Americans.

Methods: We obtained records on the sizes and locations of permitted IHOs from NC-DENR and calculated the steady state live weight (SSLW) of hogs as an indicator of the amount of feces and urine produced at each IHO. We obtained block-level information on race and ethnicity from the 2010 census of the United States. We compared the proportions of people of color (POC), Blacks, Hispanics, and American Indians living within 3 miles of an IHO to the proportion of non-Hispanic Whites. We quantified relationships between race/ethnicity, presence of one or more IHOs, and the SSLW of IHOs, using Poisson regression and linear regression to adjust for rurality.

Results: Analyses based on a study area that excludes the state's five major cities and western counties that have no presence of this industry show that the proportion of POC living within 3 miles of an industrial hog operation is 1.52 times higher than the proportion of non-Hispanic Whites. The proportions of Blacks, Hispanics and American Indians living within 3 miles of an industrial hog operation are 1.54, 1.39 and 2.18 times higher, respectively, than the proportion of non-Hispanic Whites ($p<0.0001$). In census blocks with 80 or more percent people of color, the proportion of the population living within 3 miles of an industrial hog operation is 2.14 times higher than in blocks with no people of color. This excess increases to 3.30 times higher with adjustment for rurality. Adjusted for rurality, the SSLW of hogs within 3 miles of a census block increases, on average, 100,000, 64,000, 243,000, and 93,000 pounds for every 10 percent increase in POC, Black, Hispanic, and American Indian population ($p<0.0001$).

Conclusions: IHOs in NC disproportionately affect Black, Hispanic and American Indian residents. Although we did not examine poverty or wealth in this study, the results are consistent with previous research showing that NC's IHOs are relatively absent from low-poverty White communities. This spatial pattern is generally recognized as environmental racism.

Background

Swine production in North Carolina (NC) changed dramatically during the last decades of the 20th century. Between 1982 and 2006 the number of hog operations in the state declined precipitously while the hog population increased from approximately 2 to 10 million (Edwards and Driscoll 2009). Production became concentrated in eastern NC (Furuseth 1997).

Traditional NC producers raised small numbers of hogs, commonly fewer than 25, and hogs were one of several commercial crops on diversified farms (Edwards and Driscoll 2009). In contrast, industrial producers raise large numbers of hogs, often many thousands, in confinement houses that are designed to vent toxic gases and particles into the environment. Animal wastes are flushed into open cesspools and then sprayed on nearby fields. Pollutants emitted by IHOs include hydrogen sulfide, ammonia, a wide array of volatile organic compounds, and bioaerosols including endotoxins and other respiratory irritants (Cole et al. 2000) (Schiffman et al. 2001).

The negative impacts of particles and gases inside IHO confinements on worker health have been extensively described (Cole et al. 2000; Donham 1993; Donham et al. 1995; Donham et al. 2000; Donham 1990). Environmental pollutants from IHOs affect people who are more susceptible than workers due to young or old age, asthma or allergies, or other conditions. An extensive body of peer-reviewed scientific evidence shows that IHOs release contaminants into neighboring communities where they affect the health and quality of life of neighbors. Many of these studies have been conducted in NC. Hydrogen sulfide concentrations within 1.5 miles of IHOs in NC are associated with neighbors' ratings of hog odor and inability to engage in routine daily activities (Wing et al. 2008), increased stress and anxiety (Horton et al. 2009), irritation of the eyes, nose and throat, respiratory symptoms (Schinasi et al. 2011), and acute elevation of systolic blood pressure (Wing et al. 2013). A study of NC public middle school children who participated in an asthma survey, which was conducted by the NC Department of Health and Human Services, found that children attending schools within three miles of an IHO had more asthma-related symptoms, more doctor-diagnosed asthma, and more asthma-related medical visits than students who attended schools further away (Mirabelli et al. 2006). The same study reported a 23% higher prevalence of wheezing symptoms among children who attended schools where staff reported noticing livestock odor inside school buildings twice or more per month compared to children who attended schools where no livestock odor was reported (Mirabelli et al. 2006). Other studies in NC (Tajik et al. 2008) (Wing and Wolf 2000) (Bullers 2005) (Schiffman et al. 1995) and elsewhere (Donham et al. 2007) (Thu et al. 1997) (Radon et al. 2007) also document negative impacts of IHO air pollution on neighbors' health and quality of life.

Liquid contaminants from IHOs are released to the environment through leakage of animal waste storage pits, runoff from land application of liquid wastes, atmospheric deposition, and failure of the earthen walls of waste pits (Burkholder et al. 2007). Overflow of waste pits during heavy rain events results in massive spills of animal waste into neighboring communities and waterways. For example, in late September, 1999, 237 NC IHOs were located in flooded areas identified from satellite imagery provided by the NC Division of Emergency Management (Wing et al. 2002). Parasites, bacteria, viruses, nitrates, and other components of liquid IHO waste pose threats to human health (Burkholder et al. 2007; Cole et al. 2000).

Routine use of sub-therapeutic doses of antibiotics to promote weight gain of hogs promotes antibiotic resistance, making infections in humans more difficult to treat (Silbergeld et al. 2008). Airborne bacteria, including antibiotic resistant strains, have been isolated from IHO air emissions (Schulz et al. 2012) (Green et al. 2006) (Gibbs et al. 2006), and antibiotic resistant bacteria are associated with animal vectors near industrial animal operations, including flies (Graham et al. 2009), rodents (van de Giessen et al. 2009), and migratory geese that land on NC's IHO liquid waste pits (Cole et al. 2005). A recent medical records study from Pennsylvania shows that people living near IHO liquid waste application sites have elevated rates of infection with methicillin resistant *Staphylococcus aureus* (Casey et al. 2013). NC industrial livestock workers carry strains of *Staphylococcus aureus* that are associated with swine, including antibiotic resistant strains (Rinsky et al. 2013). These bacteria could be spread by liquid waste and airborne particles.

Using information from the United States Census of 1990 and locations of IHOs reported by the North Carolina Department of Environment and Natural Resources (NC-DENR) in 1998, we showed that the state's IHOs were disproportionately located in areas where more people of color (POC), primarily African Americans, live (Wing et al. 2000). We concluded that their disproportionate location in communities of color represented an environmental injustice. Since 1998 additional IHOs have obtained permission to operate and others are no longer in business. Additionally, between 1990 and 2010 the state's population size and spatial distribution changed due to births, deaths and migration. In this report we update our previous findings by evaluating whether IHOs operating under the general permit issued on March 7, 2014, will disproportionately impact POC, Blacks, Hispanics, and American Indians.

Materials and Methods

Lacking a list of the unique IHOs operating under the General Permit finalized in 2014, we used a list of all permitted industrial animal operations provided by NC-DENR on January 24, 2013 that we had prepared for prior research. First we excluded all non-swine operations from the list. Next we excluded swine operations with expired permits and permits with an allowable head count equal to zero. We also excluded permits that did not appear on a list of permitted animal operations published by DENR in January, 2014. We merged multiple permits issued for the same facilities to obtain a total head count for each operation. However the head count may be misleading as a measure of the pollution from each IHO because some facilities primarily house small pigs while others primarily house large hogs. We therefore calculated each facility's total steady state live weight (SSLW) using NC-DENR's formula based on the number and average weight of each growth stage of swine permitted at the facility. We interpret SSLW as a summary measure of the feces and urine produced by the swine of different growth stages at each facility.

Following the protocol provided in our previous study we excluded facilities operated by research institutions because they are subject to different location and management decisions than are commercial operations (Wing et al. 2000). Finally, we excluded facilities that do not hold a certificate of coverage to operate under the General Permit because they operate under individual permits or National Pollutant Discharge Elimination System general permits. The resulting facilities should closely approximate those expected to seek to continue operating under

the renewed General Permit. The renewed General Permit takes effect on October 1, 2014, at which time we plan to update the list created for this research.

The vulnerability of people of any race/ethnicity to having polluting facilities nearby can be affected by the race and ethnicity of other people in their community. For example, African-Americans who live in areas primarily populated by non-Hispanic Whites have, generally, a lower susceptibility to being near polluting facilities than African-Americans who live in areas primarily populated by Hispanics or American Indians. We therefore conducted our primary analyses of disproportionate impact using the POC category. We also conducted analyses for specific racial/ethnic categories. We defined the following racial/ethnic categories: non-Hispanic White (non-Hispanics who identified as White and no other race), POC (all people not categorized as non-Hispanic white), Black (people who identified themselves as African-American or Black with or without any other race), Hispanic of any race, and American Indian (people who identified themselves as American Indian with or without any other race). We used block-level race/ethnicity-specific population counts from the US Census of 2010.

As large-scale agricultural facilities, IHOs are not located in major cities. Following the protocol adopted in our prior research, we defined a study area for our primary analyses that excluded census blocks in the five major metropolitan areas of NC (Charlotte, Winston Salem, Greensboro, Durham and Raleigh) as well as 19 western counties that neither have an IHO nor border a county that has an IHO. We conducted additional analyses for the entire state.

We considered residents of blocks to be affected by IHOs within three miles of the block centroid. Blocks were categorized as either having, or not having, an IHO within three miles. Additionally, we calculated the total permitted SSLW of hogs within three miles of the centroid of each block as a measure of the total potential influence of pollutants from nearby IHOs on the residents of the block.

As in our prior study, we also calculated the population density of each block, defined as the number of people per square mile. Population density is a measure of rurality, which is strongly related to the availability of land for agriculture and the price of land. Racial/ethnic groups in NC differ in their urban vs. rural residence, making them differentially susceptible to types of polluting facilities that locate in rural vs. urban locations. For example, a larger proportion of non-Hispanic Whites in NC live in remote rural areas than do Blacks, the racial comparison is affected not only by the susceptibility of Whites vs. Blacks to IHOs, but also by differences in whether they live in rural vs. urban areas. By adjusting for population density (or rurality), we compare racial vulnerability to IHOs for racial groups within each level of rurality. This adjustment is analogous to other statistical adjustments in epidemiology, as when the death rates of two countries are compared: even though death rates at every age may be higher in a poor than a rich country, the poor country may have a lower overall death rate simply because it has a younger age distribution. In that case, age-adjustment is used to compare mortality in the two countries just as we use density-adjustment to compare the proximity to IHOs in areas with different racial/ethnic make-up.

We used weighted Poisson regression to quantify relationships between race/ethnicity and the presence of one or more IHOs within three miles of a block. We used weighted linear regression to quantify relationships between race/ethnicity and the SSLW of hogs permitted within three miles of a block. We used census block populations as weights. In density-adjusted models we included variables for the natural log of population density raised to the first, second and third power. As in our prior analysis, this cubic model fit the data well and additional power terms added little to the model fit (Wing et al. 2000). For the two largest racial/ethnic groups other than non-Hispanic Whites, POC and Blacks, we categorized race/ethnicity in groups of blocks 20% in width compared to blocks with no POC using indicator variables. Due to smaller numbers in these categories we did not fit models with indicator variables for Hispanics and American Indians. We also considered the percent of population of each race/ethnicity as a continuous variable, estimating the added burden of IHOs for a 10% increase in the population.

This study involves neither random sampling nor randomization of exposure to IHOs, therefore statistical significance testing is inappropriate and confidence intervals do not correspond to the probability that the true values of measures of association are within the interval. However, the US-EPA considers statistical significance in its assessment of environmental racism. We therefore report p-values for differences in proportions of each racial/ethnic group within 3 miles of an IHO using t-tests. We report 95% confidence intervals (CIs) as measures of precision of the associations estimated from regression models. 95% CIs that exclude the null value (1.0 for ratios and 0.0 for differences) are commonly considered to be statistically significant at $p<0.05$.

Results

We estimate that 2,055 IHOs were operating under the General Permit in January 2014, and that they were permitted to house approximately 1.2 billion pounds of swine (Table 1). The 160 (7.7%) IHOs permitted to house between 20 and 100 thousand pounds accounted for only 1% of the total permitted SSLW. The 342 (17.2%) IHOs permitted to house between 1 and 10.2 million pounds accounted for 46.5% of the total.

Table 2 shows that there are over 6.5 million residents of the study area. Approximately 986,000 (15.1%) of these live in census blocks whose centroid is within 3 miles of an IHO that operates under the General Permit. This includes 602,380 non-Hispanic Whites and 383,522 POC. 13.1% of non-Hispanic Whites and 19.9% of POC in the study area live in blocks within 3 miles of an IHO.

Based on the study area population in Table 2, Table 3 shows ratios of percentage of POC living within 3 miles of an IHO compared to the percentage of non-Hispanic Whites living within 3 miles of an IHO. The percentage of POC living within 3 miles of an IHO is 1.52 times higher than the percentage of non-Hispanic Whites. The percentages of Blacks, Hispanics and American Indians living within 3 miles of an IHO are 1.54, 1.39 and 2.18 times higher, respectively, than non-Hispanic Whites. If residents of the study area had been randomized to live within 3 miles of an IHO, the probabilities of observing differences of these magnitudes or greater are less than 0.0001; the observed differences are considered to be highly statistically significant.

We calculated these same ratios based on the entire state population of 9,535,483. The percentages of POC, Blacks, Hispanics and American Indians living within 3 miles of an IHO are 1.38, 1.40, 1.26 and 2.39 times higher than the percentage of non-Hispanic Whites, respectively. These ratios are considered to be highly statistically significant.

Figure 2 shows the percent of people living within 3 miles of an IHO in relation to the percent of people of color in blocks. In areas with less than 20% POC, just over 10% of the population lives within 3 miles of an IHO. In areas with 60-80% POC, over 20% of the population lives so close to an IHO. In areas with more than 80% POC, more than a quarter of the population lives within 3 miles of an IHO.

Table 4 presents ratios of the percent of people living within 3 miles of an IHO in blocks with >0 to <20%, 20 to <40%, 40 to <60%, 60 to <80% and 80 to 100% POC compared to blocks with no POC. The total population in these categories ranges from 526,305 in blocks with 60 to <80% POC to 2,577,015 in blocks with >0 to <20% POC. Ratios are statistically significantly elevated for all areas with more than 40% POC with or without adjustment for rurality. Ratios on the right side of Table 4 are adjusted for rurality. These ratios increase with the percentage POC. The highest ratios occur in areas with more than 80% POC, where over three times as many people live near IHOs, adjusted for rurality, compared to areas with no POC. These excesses are considered to be highly statistically significant.

Table 5 shows the results of analyses for Blacks parallel results to in Table 4 for all POC. Although ratios are somewhat lower for Blacks than POC, the percent of people living within 3 miles of an IHO is statistically significantly elevated in all groups of blocks that are more than 40% Black, with or without adjustment for rurality. In areas that are 80% or more Black, twice as many people live within 3 miles of an IHO compared to areas with no Blacks, a disparity that increases to three times more with adjustment for rurality. These excesses are considered to be highly statistically significant.

Table 6 presents the increased percent of the population living within 3 miles of an IHO for each additional 10 percent of the population of POC, Blacks, Hispanics, and American Indians. This analysis is similar to the results in Tables 4 and 5, but rather than using categories, the relationship between race/ethnicity and proximity to IHOs is modelled as a linear function. For every ten percent increase in POC, the proportion of people residing within 3 miles of an IHO increases, on average, by 10.7%. These values are 9.4, 8.5, and 16.2 for Blacks, Hispanics, and American Indians, respectively. Adjusting for rurality, 14.8% more people reside within 3 miles of an IHO for each additional ten percent POC. Adjusted values are 13.0, 16.3 and 11.8 for Blacks, Hispanics and American Indians, respectively. These linear relationships between race/ethnicity and living near IHOs are considered to be highly statistically significant.

Table 7 shows the difference in SSLW of hogs within 3 miles of residents of blocks with >0 to <20%, 20 to <40%, 40 to <60%, 60 to <80% and 80 to 100% POC compared to blocks with no POC. Blocks in categories with more than 20% POC have, on average, between 177 and 510 thousand pounds more hogs within 3 miles than blocks with no POC. Adjusting for population density, blocks with more than 60 percent POC have, on average, more than three-quarters of a

million pounds more hogs permitted within 3 miles than areas with no POC. These excesses are considered to be highly statistically significant.

Table 8 presents parallel results for percentage Black population. As for POC, areas with more than 20% Black residents have an excess SSLW of hogs compared to areas with no Black residents, and differences are greater with adjustment for rurality. Adjusted for population density, blocks with more than 40% Black residents have between 493,000 and 620,000 more pounds of hogs within 3 miles than areas with no Black residents. These excesses are considered to be highly statistically significant.

Table 9 provides the average additional SSLW of hogs permitted in areas with POC for each percent increase in specific racial/ethnic categories. Adjusted for population density, the permitted SSLW of hogs within 3 miles of blocks increases 100, 64, 242, and 92 thousand pounds for each ten percent increase in POC, Black, Hispanic, and American Indian population, respectively. These linear relationships between race/ethnicity and SSLW are considered to be highly statistically significant.

Figure 3 depicts the data analyzed above. Each dot represents an IHO that was operating under the General Permit in 2014. IHOs are concentrated in NC's Coastal Plain Region, between the Piedmont and Tidewater. The red areas of Figure 3 indicate that this region has more people of color than other parts of the study area.

Conclusion

IHOs operating under the NC-DENR General Permit in 2014 are disproportionately located near communities of color. The disparities are considered to be highly statistically significant for Blacks, Hispanics, American Indians, and all POC. IHOs pollute local ground and surface water. They routinely emit air pollutants that negatively impact the quality of life and health of nearby residents. In addition to their well-documented effects on physical, mental and social well-being, residents of areas with a high density of IHOs, and especially residents of color, have been subjected to intimidation including threats of legal action, violence, and job loss (Wing 2002). The industry's close ties with local and state government officials help it to avoid regulation that could protect neighbors, and creates barriers to democracy in rural communities of color (Thu 2001, 2003). These discriminatory impacts could be reduced by decreasing the density of production and use of technologies that prevent releases of pollutants.

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Figure 1
North Carolina study area, 2014

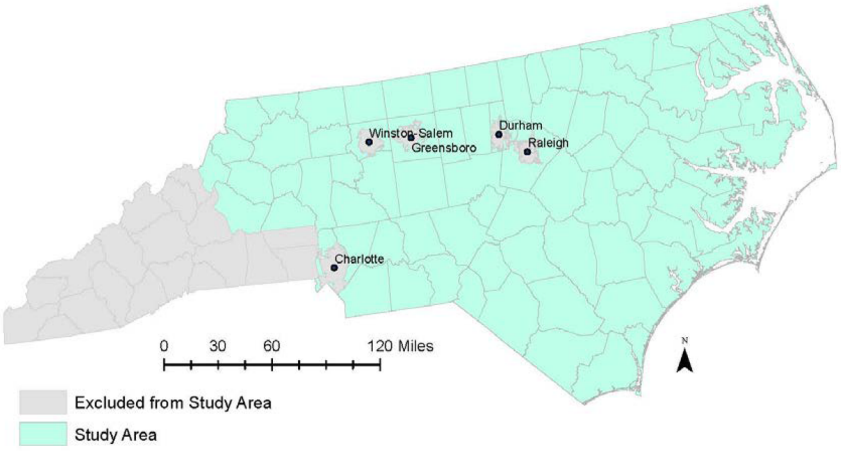

Figure 2
Percent of population living within 3 miles of an IHO
in relation to percent people of color, NC, 2014

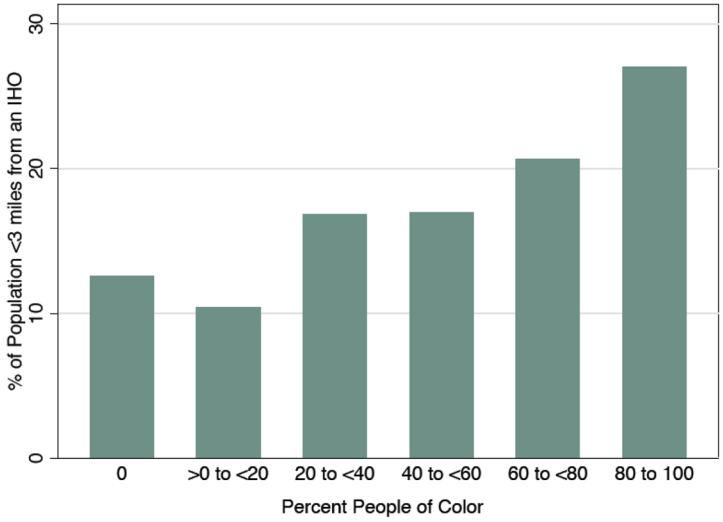

Figure 3
Racial and ethnic composition of census blocks and the locations
of NC IHOs operating under the General Permit, 2014

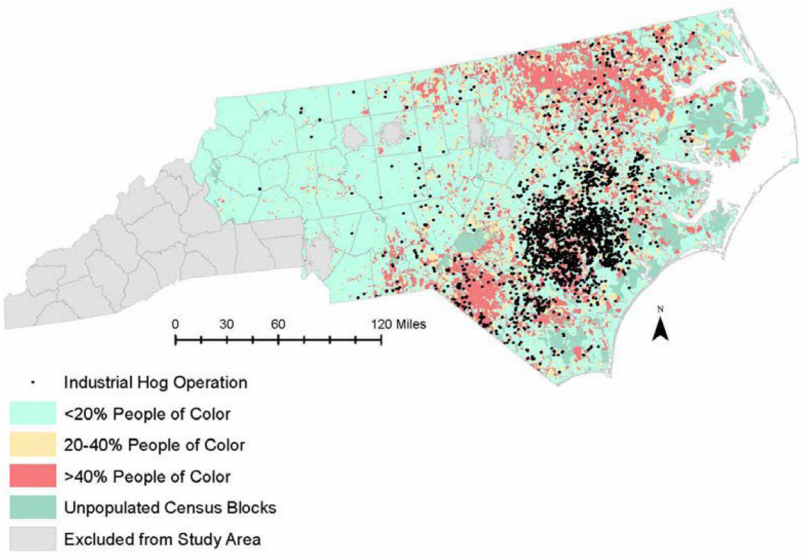

Table 1
Steady state live weight of IHOs
operating under the General Permit, NC, 2014

Permitted SSLW[1]	Number of IHOs	Percent of IHOs	Total SSLW[1]	Percent of total SSLW
20-	160	7.7	12,574	1.0
100-	447	21.6	76,626	5.9
250-	577	28.1	222,003	17.1
500-	529	25.4	383,918	29.6
1,000-10,200	342	17.2	603,354	46.5
Total	2055	100.0	1,298,474	100.0

[1]Thousands of pounds

Table 2
Racial and ethnic composition of NC census blocks within 3 miles
of an IHO and more than 3 Miles of an IHO, 2014

	≤3 miles from an IHO		>3 miles from an IHO		
Racial Category	Number	Percent	Number	Percent	Total[1]
Non-Hispanic white	602,380	13.1	4,003,455	86.9	4,605,835
POC[1]	383,522	19.9	1,548,276	80.1	1,931,798
Black	277,199	20.2	1,096,795	79.8	1,373,994
Hispanic	92,679	18.1	418,292	81.9	510,971
American Indian	40,621	28.5	101,872	71.5	142,493
Total[1]	985,902	15.1	5,551,731	84.9	6,537,633

[1]POC can be counted in more than one racial/ethnic category. The total population is equal to the number of non-Hispanic Whites plus the number of POC.

Table 3
Ratios of POC compared to non-Hispanic Whites living within 3 Miles of an IHO operating under the General Permit, 2014

Racial/ethnic Category	Population	≤3 miles from an IHO Number	Percent	Ratio[2]	p-value[3]
Non-Hispanic white	4,605,835	602,380	13.1	1.00	--
POC[1]	1,931,798	383,522	19.9	1.52	<0.0001
Black	1,373,994	277,199	20.2	1.54	<0.0001
Hispanic	510,971	92,679	18.1	1.38	<0.0001
American Indian	142,493	40,621	28.5	2.18	<0.0001
Total[1]	6,537,633	985,902	15.1		

[1]People of color can be counted in more than one racial/ethnic category. The total population is equal to the number of non-Hispanic Whites plus the number of POC.
[2]Ratio of the percent of people of other racial/ethnic groups to percent of non-Hispanic Whites living within 3 miles of an IHO
[3]A difference in proportions of this magnitude or greater would be expected to occur less than one time in ten thousand if people of different racial/ethnic groups had been randomized to live within 3 miles of an IHO.

Table 4
Ratios comparing the percent of people residing within 3 miles of an IHO in blocks with POC compared to blocks with no POC

Percent POC	Population	Unadjusted Prevalence Ratio	95% CI	Adjusted[1] Prevalence Ratio	95% CI
0	694,747	1.0	referent	1.00	referent
>0 to <20	2,577,015	0.83	0.82, 0.83	1.01	1.00,1.02
20 to <40	1,364,923	1.34	1.33, 1.45	1.95	1.93, 1.97
40 to <60	799,124	1.35	1.34, 1.36	2.15	2.13, 2.16
60 to <80	526,305	1.64	1.62, 1.65	2.53	2.50, 2.55
80 to 100	575,519	2.14	2.12, 2.16	3.30	3.27, 3.32

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density

Table 5
Ratios comparing the percent of people residing within 3 miles of an IHO in blocks with Black residents compared to blocks with no Black residents

Percent Black	Population	Unadjusted Prevalence Ratio	95% CI	Adjusted[1] Prevalence Ratio	95% CI
0	1,308,061	1.00	referent	1.00	referent
>0 to <20	2,941,746	0.93	0.92, 0.94	1.20	1.19,1.21
20 to <40	1,043,277	1.44	1.43, 1.45	2.07	2.05, 2.08
40 to <60	536,198	1.52	1.51, 1.53	2.18	2.17, 2.20
60 to <80	336,232	1.57	1.56, 1.59	2.19	2.17, 2.21
80 to 100	372,119	2.01	1.99, 2.02	3.06	3.04, 3.09

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density

Table 6
Percent difference in the percent of people residing within 3 miles of an IHO for a ten percent increase in the population of each racial/ethnic group

Racial/ethnic group	Unadjusted Percent	95% CI	Adjusted[1] Percent	95% CI
POC	10.7	10.6, 10.8	14.8	14.7, 14.9
Black	9.4	9.3, 9.4	13.0	12.9, 13.1
Hispanic	8.5	8.4, 8.6	16.3	16.1, 16.4
American Indian	16.2	16.0, 16.4	11.8	11.6, 12.0

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density

Table 7
Difference in SSLW of hogs within 3 miles of residents of blocks with POC compared to blocks with no POC

Percent POC	Unadjusted SSLW[2]	95% CI	Adjusted[1] SSLW	95% CI
0	Referent	-	Referent	-
>0 to <20	-35	-73, 3	190	154, 227
20 to <40	177	136, 219	535	495, 575
40 to <60	308	262, 353	717	672, 762
60 to <80	510	459, 561	896	846, 946
80 to 100	453	403, 503	837	788, 885

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density
[2]1,000s of pounds

Table 8
Difference in SSLW of hogs within 3 miles of residents of blocks with Black residents compared to blocks with no Black residents

Percent Black	Unadjusted SSLW[2]	95% CI	Adjusted[1] SSLW	95% CI
0	Referent	-	Referent	-
>0 to <20	-4	-33, 25	237	207, 265
20 to <40	190	153, 227	493	457, 530
40 to <60	327	281, 372	620	576, 665
60 to <80	275	221, 330	547	494, 599
80 to 100	165	113, 218	494	444, 545

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density
[2]1,000s of pounds

Table 9
Difference in SSLW of hogs within 3 miles of residents of blocks for a ten percent increase in population of each racial group

Racial/ethnic group	Unadjusted SSLW[2]	95% CI	Adjusted[1] SSLW	95% CI
POC	67	63, 71	100	96, 104
Black	38	34, 42	64	60, 68
Hispanic	183	174, 192	242	234, 251
American Indian	124	111, 137	92	80, 105

[1]Adjusted for rurality using a cubic polynomial of the natural log of population density
[2]1,000s of pound

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHT COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

January 12, 2017

Return Receipt Requested
Certified Mail# 7015 3010 0001 1267 5133

In Reply Refer to:
EPA File No. 11R-14-R4

William G. Ross, Jr.
Acting Secretary
North Carolina Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1611

Re: Letter of Concern

Dear Acting Secretary Ross:

We are writing to you to provide the North Carolina Department of Environmental Quality (NC DEQ) preliminary information related to the United States Environmental Protection Agency's (EPA) External Civil Rights Compliance Office's[1] (ECRCO) investigation into alleged discriminatory impacts from NC DEQ's operation of the Swine Waste Management System General Permit (Swine Waste General Permit). ECRCO has not concluded its investigation of EPA File No. 11R-14-R4 (Complaint) or reached final conclusions of fact or law. However, in light of the preliminary information gathered, ECRCO has deep concern about the possibility that African Americans, Latinos, and Native Americans have been subjected to discrimination as the result of NC DEQ's operation of the Swine Waste General Permit program, including the 2014 renewal of the Swine Waste General Permit.

EPA recognizes that there is new leadership at NC DEQ who were not involved in the events and correspondence described below relating to this Complaint and who will understandably need to come up to speed. ECRCO looks forward to sitting down with NC DEQ's new leadership in the next few weeks to provide any necessary background on NC DEQ's obligations under the federal nondiscrimination statutes and to discuss issues raised by ECRCO's investigation to date; any additional information NC DEQ may have relevant to the issues under investigation; the recommendations ECRCO has made below; and how to move forward on a constructive path to informally resolve the Complaint in the near future and ensure NC DEQ is in compliance with the applicable nondiscrimination statutes and regulations.

[1] Formerly the Office of Civil Rights. To eliminate confusion, except where quoting another document, this letter will use the Office's current name, rather than its name at the time of any particular action or correspondence.

Procedural Background of Complaint

On September 3, 2014, Earthjustice filed a complaint under Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d et seq., and the EPA's nondiscrimination regulations found at 40 C.F.R. Part 7, on behalf of the North Carolina Environmental Justice Network, Rural Empowerment Association for Community Help (REACH), and the Waterkeeper Alliance, Inc. alleging discrimination based on race and national origin by NC DEQ. The complaint alleged that NC DEQ's 2014 renewal of the Swine Waste General Permit without adequate measures to control, dispose of, and monitor animal waste from industrial swine feeding operations subjects African Americans, Latinos, and Native Americans to discriminatory impacts (*e.g.*, health issues, noxious odors, nuisances, increased expenses, social and psychological harms, declining property values).

On February 20, 2015, EPA opened an investigation into:

> Whether the North Carolina Department of Environmental Quality's (NC DEQ) regulation of swine feeding operations discriminates against African Americans, Latinos, and Native Americans on the basis of race and national origin in neighboring communities and violates Title VI of the Civil Rights Act of 1964 and the Environmental Protection Agency's implementing regulation.

On March 6, 2015, the Complainants and NC DEQ entered into an Alternative Dispute Resolution (ADR) process funded by EPA. ECRCO placed the investigation on hold pending the outcome of the ADR process. On March 7, 2016, the Complainants informed ECRCO that they were withdrawing from the ADR process.

On May 5, 2016, ECRCO informed NC DEQ that the ADR process between NC DEQ and the Complainants concluded without resolution; therefore, consistent with ECRCO procedures, ECRCO's investigation was reinitiated. On July 11, 2016, the Complainants filed an additional complaint alleging NC DEQ violated EPA's regulation prohibiting retaliation, intimidation, and harassment of Complainants (40 C.F.R. § 7.100). Among other events, Complainants point to events involving the Pork Councils' attempt to intervene at the January 2016 ADR session.

On August 1, 2016, NC DEQ submitted a response to the retaliation allegations. On August 2, 2016, ECRCO informed NC DEQ that it will also investigate:

> Whether NCDEQ's actions or inactions, including those associated with the presence and activities of the Pork Councils related to the January 2016 mediation session, violated 40 C.F.R § 7.100 which prohibits intimidating, threatening, coercing, or engaging in other discriminatory conduct against any individual or group because of actions taken and/or participation in an action to secure rights protected by the non-discrimination statutes OCR enforces.

On September 2, 2016, NC DEQ requested that ECRCO dismiss the original complaint. After reviewing the information provided by NC DEQ, ECRCO notified NC DEQ that the Complaint

would not be dismissed. On December 5, 2016, NC DEQ submitted a response to the Complaint.

ECRCO's investigation is being conducted under the authority of Title VI of the Civil Act of 1964, and EPA's nondiscrimination regulations (40 C.F.R. Part 7), and consistent with ECRCO's Interim Case Resolution Manual (https://www.epa.gov/ocr/case-resolution-manual) Title VI provides that "[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." 42 U.S.C. § 2000d. As implemented by EPA's regulation, these prohibitions include intentional discrimination as well as practices that have a discriminatory effect on the bases of race, color, or national origin. See 40 C.F.R. §§7.35(a), 7.35(b). The EPA regulation at §7.35 (b) prohibits a recipient from using criteria or methods of administering its program or activity which have the effect of subjecting individuals to discrimination. The EPA regulation also prohibits intimidation and retaliation against any individual or group for the purpose of interfering with a right protected by Title VI or because the individual has "filed a complaint, or has testified, assisted or participated in any way in an investigation, proceeding, or hearing" under EPA's regulation or has opposed any practice prohibited by the regulation. See 40 C.F.R. § 7.100.

ECRCO's investigation thus far has included an on-site visit to interview residents; reviewing information submitted by the Complainants including declarations prepared by residents and other witnesses; reviewing scientific and other literature and interviewing the authors when appropriate, and, a review of NC DEQ's responses to the Complaint dated August 1, 2016, September 2, 2016, and December 5, 2016. NC DEQ's December 5, 2016, letter requested that ECRCO "...provide any relevant information in its possession on the issue of discrimination by the State's regulation of Swine feeding operations." Below is a summary of information gathered thus far through ECRCO's investigation.

Adverse Impacts from Industrial Swine Operations on Communities of Color

On-Site Interviews and Declarations

ECRCO conducted an on-site visit to North Carolina (November 13-15, 2016) and interviewed over 60 residents living near industrial swine operations permitted under the Swine Waste General Permit. ECRCO's interviews were conducted mostly in Duplin and Sampson counties which have the highest concentration of industrial swine operations. To investigate the effects of the permitting program more broadly throughout the state, ECRCO also conducted interviews in other counties including Northampton County on the Virginia border and Pender County near the South Carolina border.

Some of the people interviewed had previously submitted declarations to ECRCO as exhibits to the Title VI complaint, some had not. The issues raised in the declarations and the impacts they discussed are similar or identical to those heard during the interviews. Many of those interviewed who had previously provided declarations provided updates to their declarations. ECRCO found credible all those interviewed thus far in the investigation. So far, ECRCO has heard in writing and/or orally from 85 witnesses in North Carolina who live near and described problems caused by their proximity to the industrial hog operations.

Residents, many of whom have lived in these communities for generations, described problems caused by their proximity to the industrial hog operations that have negatively changed their lives and communities, including those impacts described in studies referenced or discussed below. The residents described an overpowering stench, pests -- including a constant large number of flies, and the truck traffic all associated with the hog operations have forced residents to keep doors and windows closed and significantly limit any outdoor activity. Residents said the stench permeates homes, cars, and clothing. Some residents said the strength of the odor can be so strong it causes gagging, nausea and/or vomiting. For some residents who live near large numbers of industrial swine operations, they said stench is a weekly event lasting several days. They also stated they have no warning of when confinement house fans, spraying of the hog waste, or trucks transporting live or dead hogs will again bring the stench and actual waste onto their homes, property or themselves. Some described feeling as though they are prisoners in their own homes.

Residents described the loss of community that has occurred since the industrial hog farms began operating. They reported that young adults leave and do not return because of the odors, fear of health impacts from the air and drinking water, and other impacts. Prior to the arrival of the industrial hog operations, many of their family, community, and church gatherings had been held outdoors. Now they said those events are rarely held outdoors or if attempted outdoors, they are marred or forced to end early due to odors, flies, and other impacts.

Residents described increases in cases and severity of asthma and other respiratory illnesses, nausea, headaches and other health conditions. They stated these impacts have been compounded by the increase in industrial poultry operations, as well as the operation of landfills and waste disposal sites for hog sludge and carcasses. Those who had hunted and fished for both food and enjoyment, said they no longer do so because of the odors and fear of the contamination of wild sources of food such as fish. Residents stated they no longer keep gardens or grow their own vegetables for fear of contamination. Some residents are still on well water and are concerned about the safety of their drinking water. Some residents would prefer to use their private wells rather than public drinking water, but said they have either been told not to drink it or are afraid that it is contaminated. Residents also discussed increased expenses from buying and using public water, bottled water, clothes dryers, air fresheners, pesticides, air conditioning units, and food.

When asked whether they had filed complaints with NC DEQ or local governments about the odors, pests, and waste sprayed on them or their property, some residents said they did not know how or where to file complaints. ECRCO was told the filing of complaints with NC DEQ would be pointless and has resulted in retaliation, threats, intimidation, and harassment by swine facility operators and pork industry representatives. Several residents said that for more than 15 years, the government has been well aware of the conditions they have to live with, but has done nothing to help, so complaining to NC DEQ would be futile.

ECRCO also interviewed residents who live near an industrial swine operation that began operation using the lagoon and spray field method under a Certificate of Coverage under the Swine Waste General Permit. When discussing the impacts that occurred while the facility operated under the General Permit, the residents described the same impacts as those currently

living near facilities operating under the General Permit, including nausea; headaches; odors that permeated their homes and prevented them from enjoying their yards and the outdoors; concerns about impacts to groundwater and surface water; and increased numbers of flies and other pests.

After several years of operation, the operator installed innovative technologies and practices to reduce the odor and other impacts from his operation including covering the waste lagoons; not spraying in the evenings and on weekends; and not using dead boxes. When asked to describe the current impacts from that industrial swine operation, for the most part the residents who live nearby said they rarely notice intense odors and that the number of flies has been greatly reduced. The exception was that one bordering neighbor said that the smell was unbearable during spraying. Other neighbors pointed out that the smell could also be from other industrial swine operations near that resident's property that still employ open lagoons and spray fields. ECRCO and other EPA staff who toured the operation including the confinement houses and the edge of the lagoons were surprised at how little odor there was given the number of swine housed there at that time and the presence of more than one waste lagoon.

Other Information on Adverse Impacts of Industrial Swine Operations on Nearby Residents

EPA recognizes that industrial hog operations have a negative impact on nearby residents, particularly with respect to objectionable odors and other nuisance problems that can affect their quality of life. (EPA, *Animal Feeding Operations Consent Agreement and Final Order*, 70 FR 4957, 4959 (Jan. 31, 2005)). The adverse impacts of offensive odors from North Carolina's industrial hog operations have been a known issue for more than 20 years. In 1994, the North Carolina legislature established a Blue Ribbon Panel, the Swine Odors Task Force, to study "the problem of swine odors and how to reduce them."[2] The report of the Swine Odors Task Force stated protests had been "numerous and well publicized."[3]

In part to protect North Carolina's travel and tourism industry and allow time for the completion of the studies of odor and other problems associated with swine operations, the state legislature implemented a moratorium effective March 1, 1997, on the construction or expansion of swine operations[4] that use "an anaerobic lagoon as the primary method of treatment and land application of waste by means of a spray field as the primary method of waste disposal."[5] Any new or expanding swine operations were required to eliminate or reduce a number of impacts from the lagoon and spray field methods including substantially eliminating ammonia emissions and odors detectable beyond the boundaries of the swine operation.[6] The moratorium was made permanent in 2007. However, the industrial hog operations using the lagoon spray field configuration already operating at the time of the moratorium were allowed to continue to operate under the Swine Waste General Permit without the requirements to substantially eliminate ammonia emissions and odors. Today, in a handful of counties mostly in eastern North

[2] Dr. Johnny C. Wynne, et al., *Options for Managing Odor... a report from the Swine Odor Task Force (March 1, 1995)*, NORTH CAROLINA AGRICULTURAL RESEARCH SERVICE, N.C. STATE UNIV., *available at* http://www.mtcnet.net/~jdhogg/ozone/odor/swineodr.html#notsimple

[3] *Id.*

[4] S.L. 1997-458, H.B. 515, § 1.1(a).

[5] G.S. § 143-215.10I.

[6] G.S. § 143-215.10I (b)(2)-(3).

Carolina there is a total of more than 9 million hogs allowed in the more than 2000 industrial hog facilities operating under the Swine Waste General Permit.

North Carolina established a rule specifically to control objectionable odors from industrial swine operations.[7] "Objectionable odor" means any odor present in the ambient air that by itself, or in combination with other odors, is or may be harmful or injurious to human health or welfare, or may unreasonably interfere with the comfortable use and enjoyment of life or property. Odors are harmful or injurious to human health if they tend to lessen human food and water intake, interfere with sleep, upset appetite, produce irritation of the upper respiratory tract, or cause symptoms of nausea, or if their chemical or physical nature is, or may be, detrimental or dangerous to human health."[8] North Carolina's definition of "objectionable odor" encompasses the panoply of negative effects experienced by North Carolina residents, as told to ECRCO and discussed above.

Review of Reports and Studies

The adverse impacts on nearby residents from the lagoon spray field method of treatment and disposal of waste from industrial swine operations are documented in numerous peer reviewed scientific studies, including more than thirty conducted in North Carolina.[9] At ECRCO's request, EPA's Office of Research and Development (ORD) recently reviewed seven reports published by or with federal agencies.[10] ORD stated that the reports provide consistent support for the occurrence of potential health hazards (*e.g.*, eye, nose, and throat irritation; headaches; respiratory effects including asthma exacerbation; waterborne disease) at industrial swine operations and in their waste. Even while there is significant uncertainty regarding the levels of exposure in nearby communities to the identified contaminants and the risk of health effects attributable to those exposures, the risk for specific health effects in communities near industrial swine operations is a concern.

North Carolina's 1994 Swine Odors Task Force stated "it is not surprising to learn that living near a swine operation can affect mental health" when discussing a Duke University study of "the moods of people exposed to odors from commercial swine operations in North Carolina. Forty-four neighbors of hog operations . . . had less vigor and were significantly more tense, depressed, angry, fatigued, and confused."[11]

Additionally, ECRCO considered the findings of the analysis prepared by Drs. Steve Wing and Jill Johnston, *Industrial Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics and American Indians*, (revised October 19, 2015) (*Complainants' Disproportionate Impact Analysis*). While the *Complainants' Disproportionate Impact Analysis* has not undergone peer review, it uses a study protocol and methodology that are substantially similar to peer reviewed studies by Wing et al. and Johnston et al.[12] The

[7] 15A NCAC 02D.1802(a).
[8] 15A NCAC 02D.1801(9).
[9] *See* Attachment A. Additional studies can be made available.
[10] *See* Attachment B.
[11] *See* Wynne, et al., *supra* note 3.
[12] *See* Steve Wing, et al., *Environmental Injustice in North Carolina's Hog Industry* (Mar. 2000), ENVIRONMENTAL HEALTH PERSPECTIVES, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1637958/; Jill E. Johnston, et al.,

Complainants' Disproportionate Impact Analysis concludes that the impacts from the manner in which waste is disposed of, and other impacts tied to industrial swine facilities operating under the Swine Waste General Permit, detrimentally affect those who live in neighboring properties and communities.

The *Complainants' Disproportionate Impact Analysis* also concluded, when examining those neighboring properties that African-Americans, Hispanics, and Native Americans are more likely than Whites to live near industrial swine operations granted COCs. Specifically, the *Complainants' Disproportionate Impact Analysis* concluded that, both state-wide, and in only-rural areas, African-Americans, Hispanics, and Native Americans living in North Carolina are more likely than Whites to live within 3 miles of an industrial swine operations granted COCs, and therefore suffer those detrimental effects. The *Complainants' Disproportionate Impact Analysis* looked at the steady state live weight (SSLW) of hogs within 3 miles of the center of census blocks. The SSLW was used as an indicator of density of hogs/the amount of swine feces and urine produced by the hogs in that 3-mile area. The *Complainants' Disproportionate Impact Analysis* found that for each 10 percent increase in the combined African-American, Hispanic, and Native American population and for each 10 percent increase in population for each of those census categories individually, the SSLW of hogs within 3 miles increases by anywhere from 47,000 to 165,000 pounds. This analysis concludes that there is a linear relationship between race/ethnicity and the SSLW or density of hogs.

Intimidation/Retaliation

The Complainants raised allegations of intimidation and harassment in their written submissions to ECRCO and during interviews related to the appearance of and actions by national and local representatives of the pork industry at what was to be a confidential ECRCO-sponsored alternative dispute resolution mediation session between NC DEQ and the Complainants. Complainants claim that, although NC DEQ representatives knew that complainants did not want representatives from the National Pork Producers Council and North Carolina Pork Council (Pork Councils) at this confidential meeting, NC DEQ representatives appeared to encourage their attendance and participation.

NC DEQ's responses in its letters dated August 1, 2016, and December 5, 2016, in part question whether complainants felt intimated by the Pork Council representatives' presence at the January 2016 mediation session. NC DEQ stated in both letters that "it strains credulity that these individuals were intimidated by the fact that they would be identified by representatives of organizations whom these individuals routinely criticized at public forums."[13] The following information provided to ECRCO may assist NC DEQ to better understand in part the context within which the Complainants have raised concerns about harassment, retaliation, and intimidation.

Wastewater Disposal Wells, Fracking, and Environmental Injustice in Southern Texas (Mar. 2016), AMERICAN JOURNAL OF PUBLIC HEALTH (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4816143/.

[13] Letter to Lilian S. Dorka, Acting Director, EPA Office of Civil Rights from Sam M. Hayes, General Counsel, North Carolina Department of Environmental Quality (Dec. 5, 2016), at 8-9.

During interviews, residents including REACH members, and current and former Riverkeepers working in the eastern North Carolina rivers recounted first hand incidents of harassment, intimidation, and retaliatory behavior, including physical and verbal threats, by swine facility owners and/or operators and their employees. The accounts ranged from sustained tailgating; driving back and forth in front of the houses of residents who have complained; filming or photographing residents who are taking photos or videos of spraying; being yelled at; confronted in parking lots and at intersections; and threatened with guns and other physical violence.

Those interviewed stated that these are regular events, rather than an exception, creating a climate where residents believe that if they file an environmental complaint with NC DEQ, they will likely be retaliated against by neighboring swine facility operators or employees. The Riverkeepers stated that they are subjected to this type of harassment and intimidation two or three times every couple of weeks. Particularly egregious instances brought to ECRCO's attention include a local industrial swine facility operator entering the home of an elderly African American woman and shaking the chair she sat in while threatening her and her family with physical violence if they continued to complain about the odors and spray; the firing of a gun in the air when an African American REACH member tried to speak to a person sitting on their porch; and a truck that sped up and swerved toward a Riverkeeper who was standing on the side of a public road teaching a group of volunteers how to sample water from public ditches. Those interviewed believe that the NC DEQ's lack of response to their complaints lends to the hostile environment and emboldens local facility owners and operators to act in a threatening and intimidating manner.

ECRCO has grave concerns about these reports indicating a potential hostile and intimidating environment for anyone seeking to provide relevant information to NC DEQ or EPA. Also, ECRCO is concerned about the circumstances surrounding the attendance by pork industry representatives during the mediation session.

Under certain circumstances, Title VI's prohibition on retaliation extends to third parties, which may include lower-level recipient employees, program beneficiaries or participants, organizations with a relationship to the recipient such as contractors, and others. EPA Title VI regulations provide that "[n]o recipient or *other* person" may retaliate. 7 C.F.R. § 7.100. Recipients themselves have two key obligations related to third party retaliation: first, to protect individuals from potential retaliation, recipients are obligated to keep the identity of complainants confidential except to the extent necessary to carry out the purposes of the Title VI regulations, including conducting investigations, hearings, or judicial proceedings; and second, recipients must investigate and respond when a third party engages in retaliatory conduct that Title VI prohibits. As with other types of third party conduct, such as harassment, the extent of the recipient's obligation is tied to the level of control it has over the bad actor and the environment in which the bad acts occurred. *See Davis v. Monroe Cty. Bd. of Educ.*, 526 U.S. 629, 644 (1999). EPA makes these determinations on a case-by-case basis in light of the facts and totality of circumstances in a particular case.

NC DEQ's Response to the Complaint[14]

In part, NC DEQ's December 5, 2016 letter responding to the Complaint reiterated arguments in favor of dismissal previously submitted to ECRCO by letter dated September 2, 2016. ECRCO has considered the information in both letters concerning the alleged reduction of adverse impacts by the permit renewal. As ECRCO pointed out previously, NC DEQ itself explained that the majority of the changes from the 2009 permit to the "current permit are structural and grammatical in nature"[15] and "do not make the Permit more stringent, costly or burdensome."[16] NC DEQ's responses did not state or explain how the 2014 Permit will reduce adverse impact from the source, significantly or otherwise; therefore, as stated in ECRCO's letter dated October 5, 2016, ECRCO does not believe that the argument constitutes a proper basis for dismissal of the complaint.

Similarly, NC DEQ's December 5, 2016 letter raised again a concern that the Complainants did not pursue an administrative appeal of the Swine Waste General Permit. NC DEQ explained that the permit appeal process under state law is an appropriate forum for "those who believe that the terms of the General Permit failed to comply with state law, or if a more effective means of pollution control should have been incorporated into the General Permit."[17] The allegation raised to EPA by the Complainants is that the Swine Waste General Permit fails to comply with federal law, namely Title VI of the Civil Rights Act of 1964. For almost 30 years, recipients of EPA financial assistance have been required under EPA's Title VI implementing regulation to have in place a grievance process. 40 C.F. R. § 7.90. The NC DEQ administrative forum to investigate and resolve exactly the issues of discrimination alleged in the Complaint that should have been available to Complainants did not exist when they filed their Complaint with EPA. Regardless, as NC DEQ previously acknowledged in its October 5, 2016 letter, there is no requirement under Title VI that Complainants exhaust administrative remedies before filing a discrimination complaint with EPA.

NC DEQ's response did not deny or refute the allegation that the industrial hog facilities operating under the Swine Waste General Permit were creating discriminatory impacts, rather, NC DEQ points to siting decisions by operators and changing demographics as reasons why certain communities may be more impacted than others. The impacts of concern in this investigation flow from the operation of the facilities. While an industrial swine facility operator may apply for an individual permit or certificate of coverage to operate in a particular location, it is NC DEQ that determines whether that facility will be allowed to operate and under what type of permit and its conditions.

NC DEQ also pointed out that the population has grown and the demographics have changed in areas of high concentration of industrial swine facilities since the first Swine Waste General

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[14] ECRCO is not specifically addressing all of the points NC DEQ raised in its December 5, 2016 letter, but this should not be interpreted as ECRCO accepting those arguments.

[15] State of North Carolina, Department of Environmental and Natural Resources, *Report of the Proceedings on the Proposed Renewal of the State General Permits for Animal Feeding Operations, Public Meeting, November 12, 2013, Statesville, North Carolina, Public Meeting, November 14, 2013, Kenansville, North Carolina,*" p. 4.

[16] *Id.*, at pp. 5 and 8.

[17] Letter to Lilian S. Dorka, Acting Director, EPA Office of Civil Rights from Sam M. Hayes, General Counsel, North Carolina Department of Environmental Quality (Dec. 5, 2016), at 2.

Permit was issued. NC DEQ discussed the population growth in Duplin and Sampson Counties, highlighting in particular the rapid growth of the Latino population, and speculated that the population growth may have been due to jobs created by the industrial hog industry. The reasons for an increase in the minority population in the past 20 plus years in Duplin and Sampson Counties does not change NC DEQ's obligation to ensure that its current programs and activities do not have the effect of subjecting individuals to discrimination based on race, color or national origin.

NC DEQ requested information ECRCO has on anecdotal as well as systemic concerns relative to the Swine Waste General Permit Program. With regard to concerns about individual facilities, based on interviews of Riverkeepers working in eastern North Carolina, it is our understanding that for more than a decade they have provided NC DEQ documentation of hundreds of instances of waste spray or drift entering play areas; landing on people in their gardens, on their cars, and on their houses; runoff of hog waste entering streams and ditches; and improper spraying of waste after issuance of a National Weather Service Flood Watch. Riverkeepers stated they have provided NC DEQ the information through eyewitness accounts, photographs with time, date, and GPS coordinates embedded in the metadata, and/or video. Some of this information has been shared with ECRCO as well. Witnesses have stated that, to their knowledge, very few of these reports have received any mitigating action or resulted in enforcement action by NC DEQ. The temporal and geographic breadth of the anecdotal instances documented by Riverkeepers, points to systemic issues about which NC DEQ is aware.

Nondiscrimination Procedural Safeguards

At the time the Complaint was filed, NC DEQ was not in compliance with EPA's longstanding requirements under 40 C.F.R. Part 7, Subpart D which form the foundational elements of a recipient's program to implement the federal non-discrimination statutes.[18] These regulatory requirements include a continuing notice of non-discrimination under 40 C.F.R. § 7.95, grievance procedures available to the public, and the designation of at least one person to coordinate its efforts to comply with its non-discrimination obligations under 40 C.F.R. § 7.85(g).

At some point during the summer of 2016, NC DEQ appears to have begun the process of establishing its non-discrimination program. However, it is unclear whether NC DEQ has put in place the foundational elements of a properly functioning nondiscrimination program. ECRCO has attached a Procedural Safeguards Checklist (Attachment C) to assist NC DEQ in evaluating whether it has in place the appropriate foundational elements to ensure that it will meet its obligations under the federal nondiscrimination statutes.

Mitigation

As NC DEQ's December 5, 2016 letter noted, the study of the feasibility of environmentally superior swine waste technologies to the lagoon and spray field method began back in 2000.

[18] Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, Section 13 of Federal Water Pollution Control Act of 1972, and Title IX of the Education Amendments of 1972 (hereinafter referred to collectively as the federal non-discrimination statutes).

Some reviews of particular technologies were concluded more than a decade ago. According to the designee who made the decisions regarding the economic and environmental feasibility of the technologies, "[S]ubsequent research has focused on improving the economics of targeted technologies while maintaining the environmental performance."[19] EPA's ORD found in its review of reports discussed above that a number of risk management options are available to reduce potential health risks to nearby communities. EPA, USDA, and academia have continued to work on new processes, methods, and technologies to reduce impacts from industrial swine operations and waste since the review of available technology mentioned in NC DEQ's letter was completed.

Recommendations

ECRCO has not concluded its investigation and this letter does not contain ultimate findings of facts or law. Rather, ECRCO has summarized some of the information gathered to date to explain why ECRCO continues to be concerned about possible discriminatory impacts.

The totality of the information ECRCO has collected to date in its investigation, including NC DEQ's response to the complaint, indicates that the types of adverse impacts described above are being felt by large segments of the communities of color and are potential evidence of systemic concerns, not purely anecdotal claims. The information raises a concern that Swine Waste General Permit Program may run afoul of Title VI and EPA's Title VI regulations. NC DEQ's responses thus far have not provided a reason to dismiss the complaint or halt the investigation, nor has the information or arguments provided served to diminish ECRCO's level of concern.

On this basis, EPA makes a series of preliminary recommendations and requests a meeting to explore informal resolution. The recommendations are designed to focus an inquiry that will help them determine whether the problems are being caused by: (1) structural problems with the General Permit Program; (2) a lack of enforcement of the requirements of the permit (for example, no odors, no discharges, no spray beyond borders); or, (3) both.

ECRCO recommends that NC DEQ:

- Conduct an assessment of current Swine Waste General Permit to determine what changes to the Permit should be made in order to substantially mitigate adverse impacts to nearby residents. Determine which changes are currently within NC DEQ's authority to make and develop a timetable for adopting them. For Permit changes necessary to substantially mitigate the adverse impacts that NC DEQ cannot adopt, determine the source of the impediment to their adoption.
- Conduct an assessment of current regulations applicable to facilities operating under the Swine Waste General Permit to determine what if any changes to the regulations would be required to substantially mitigate adverse impacts to nearby residents. Determine which changes are currently within NC DEQ's authority to make and develop a timetable

[19] Williams, C.M. Williams, "*C.M. "Mike" Williams: Waste economics.*" The News & Observer, 8 June 2015. http://www.newsobserver.com/opinion/letters-to-the-editor/article23534074.html.

to adopt them. For regulatory changes necessary to substantially mitigate the adverse impacts that NC DEQ cannot adopt, determine the source of the impediment to their adoption.

- Evaluate the feasibility of risk management options available to reduce adverse impacts to nearby communities, including covering the waste lagoons; not spraying in the evenings and on weekends; not using dead boxes; and others described in this letter.
- Conduct an assessment of current mitigation technologies that would satisfy NC DEQ's performance criteria for new or expanding industrial swine operations and what if any impediments exist to adopting those technologies.
- Conduct a self-evaluation of the sufficiency of NC DEQ's enforcement and compliance efforts for existing rules governing the operation of its Swine Waste Management Program, including its response to odor and adverse health effects complaints, to determine whether implementation of any corrective measures are necessary including those to ensure a prompt and appropriate response to odor and other complaints. Determine which corrective measures are currently within NC DEQ's authority to make and develop a timetable for adopting them.
- Conduct an evaluation of NC DEQ's current policies and adjust them as appropriate to ensure the protection of confidentiality and identities of residents who provide information to NC DEQ about either environmental or civil rights complaints.
- Conduct a self-evaluation of its new non-discrimination program using the attached Procedural Safeguards Checklist to determine whether it has in place all the foundational elements listed to ensure that NC DEQ will meet its obligations under the federal nondiscrimination statutes. If any of the elements are not in place, NC DEQ should correct those deficiencies.

ECRCO looks forward to working with NC DEQ and would like to discuss with NC DEQ as soon as possible: the concerns previously outlined regarding the impacts on residents and communities; any additional information NC DEQ believes is relevant to the issue of whether Title VI has been violated; ECRCO's preliminary recommendations; NC DEQ's non-discrimination program; and the potential for informal resolution of this Complaint.

I will be contacting you in the next day or so to schedule a meeting to occur in the next two weeks. It is our goal to be able to reach informal resolution as soon as possible. We believe that through productive conversations over the next 60 days, we can negotiate an Informal Resolution Agreement that would address the concerns discussed in this letter and that would include a plan for moving forward on the above recommendations. If after discussion with NC DEQ, ECRCO does not believe informal resolution is possible, ECRCO will move forward to conclude its

investigation and issue formal findings. If you have any questions, please feel free to contact me at (202) 564-9649, by e-mail at dorka.lilian@epa.gov, or U.S. mail at U.S. EPA, Office of General Counsel, External Civil Rights Compliance Office (Mail Code 2310A), 1200 Pennsylvania Avenue, N.W., Washington, D.C., 20460.

Sincerely,

Lilian S. Dorka
Director
External Civil Rights Compliance Office
Office of General Counsel

Cc:

Elise B. Packard
Associate General Counsel for Civil Rights and Finance
U.S. EPA Office of General Counsel

Kenneth Lapierrre
Assistant Regional Administrator
U.S. EPA Region 4

Attachments

ATTACHMENT A

1. Wing, Steve, et al., *Environmental Injustice in North Carolina's Hog Industry*, 108 Envtl. Health Perspectives 225 (2000)
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ATTACHMENT B

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7. NRC, 2003. *Air Emissions from Animal Feeding Operations: Current Knowledge, Future Needs*. National Academies Press, Washington, D.C.

ATTACHMENT C

CHECK LIST FOR PROCEDURAL SAFEGUARDS FOR RECIPIENTS FEDERAL NON-DISCRIMINATION OBLIGATIONS

Federal Non-Discrimination Statutes: Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, Section 13 of Federal Water Pollution Control Act of 1972, and Title IX of the Education Amendments of 1972.[20]

Item	Yes & Supporting Documentation	Not Yet	Checking
Notice of Non-Discrimination under the Federal Non-Discrimination Statutes [21]			
See attachment for recommended text of notice			
The non-discrimination notice is posted:			
• in a prominent location in your offices and facilities			
• prominently on your website			
• in any publications			
Grievance Procedures for Complaints filed under the Federal Non-Discrimination Statutes[22]			
A grievance procedure that:			
• Clearly identifies the Non-Discrimination Coordinator, including contact information			
• Explains the role of the Non-Discrimination Coordinator relative to the coordination and oversight of the grievance procedures			
• States who may file a complaint under the procedures			
• Describes which formal and informal processes are available, and the options for complainants in pursuing either			

[20] 40 C.F.R. § 7.85(g)
[21] 40 C.F.R. § 7.95(a).
[22] 40 C.F.R. § 7.90.

Item	Yes & Supporting Documentation	Not Yet	Checking
• Explains that an appropriate, prompt and impartial investigation of any allegations filed under federal non-discrimination statutes will be conducted			
• States that the preponderance of the evidence standards will be applied during the analysis of the complaint			
• Contains assurances that retaliation is prohibited[23] and that claims of retaliation will be handled promptly if it occurs			
• States that written notice will be promptly provided about the outcome of the investigation, including whether discrimination is found and the description of the investigation process[24]			
• Is published in print in general publications distributed to the public			
Non-Discrimination Coordinator[25]			
At least one Non-Discrimination Coordinator to ensure compliance with the federal non-discrimination statutes			
Non-Discrimination Coordinator or other individual responsible for:			
• Providing information internally and externally regarding rights to services, aids, benefits, and participation without regard to race, national origin, color, sex, disability, age or prior opposition to discrimination			
• Providing notice of your Agency's formal and informal grievance processes and the ability to file a discrimination complaint			
• Establishing grievance policies and procedures or mechanisms (e.g., an investigation manual)			
• Tracking all complaints filed with your Agency under federal non-discrimination statutes including any patterns or systemic problems			

[23] 40 C.F.R. § 7.100.

[24] Whether OCR considers complaint investigations and resolutions to be "prompt" will vary depending on the complexity of the investigation and the severity and extent of the alleged discrimination. For example, the investigation and resolution of a complaint involving multiple allegations and multiple complainants likely would take longer than one involving a single allegation of discrimination and a single complainant.

[25] 40 C.F.R. § 7.85(g).

Item	Yes & Supporting Documentation	Not Yet	Checking
• Semiannual reviews of all complaints filed with your Agency under federal non-discrimination statutes in order to identify and address any patterns or systemic problems			
• Appropriate training for your Agency's employees on your Agency's non-discrimination policies and procedures and obligations to comply with federal non-discrimination statutes			
• Updating complainants on the progress of their complaints filed with your Agency under federal non-discrimination statutes and any determinations made			
• Periodic evaluations of the efficacy of your Agency's efforts to provide services, aids, benefits, and participation in any of your Agency's programs or activities without regard to race, national origin, color, sex, disability, age or prior opposition to discrimination			
Public Participation			
Written and published public participation process/procedures that provide that when your Agency prepares a public participation plan for a specific action, it will include:			
• A description of the community (including demographics, history, and background)			
• A contact list of Agency officials with phone numbers and email addresses to allow the public to communicate via phone or internet			
• A list of past and present community concerns (including any complaints filed under the federal non-discrimination statutes)			
• A detailed plan of action (outreach activities) your Agency will take to address concerns			
• A contingency plan for unexpected events			
• Location(s) where public meetings will be held (consider the availability and schedules of public transportation			

Item	Yes & Supporting Documentation	Not Yet	Checking
• Contact names for obtaining language assistance services for limited-English proficient persons, including, translation of documents and/or interpreters for meetings			
• Appropriate local media contacts (based on the culture and linguistic needs of the community			
• Location of the information repository			
Access To Programs And Activities by Persons with Limited English Proficiency			
Has your Agency conducted an appropriate analysis described in OCR's LEP Guidance found at 69 FR 35602 (June 25, 2004) and http://www.lep.gov to determine what language services it may need to provide to ensure that individuals with limited-English proficiency can meaningfully participate in the process?			
Has your Agency developed a language access plan consistent with the details found in OCR's training module for LEP. http://www.epa.gov/civilrights/lepaccess.htm?			
Does your Agency have written and published procedures that:			
• Ensure meaningful access to all of your Agency's programs and activities to persons with limited-English proficiency and individuals with disabilities			
• Make communities you serve aware that foreign language services are available			
• Translate standardized documents			
• Provide for simultaneous oral interpretation of live proceedings such as town hall meetings or public hearings			
Access To Programs And Activities by Persons with Disabilities			
Does your Agency have written and published procedures to ensure to provide access to your programs, services, and activities for individuals with disabilities that:			
• Provides at no cost appropriate auxiliary aids and services including, for example, qualified interpreters to individuals who are deaf or			

Item	Yes & Supporting Documentation	Not Yet	Checking
hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs and services provided by your Agency in a timely manner and in such a way as to protect the privacy and independence of the individual			
• Ensures that your Agency's facilities and non-Agency facilities utilized by your Agency (*e.g.,* if your Agency holds a public hearing at a school) are physically accessible for individuals with disabilities			
• Makes communities you serve aware that services for individuals with disabilities are available			

NOTICE OF NON-DISCRIMINATION RECOMMENDED TEXT

[Agency Name] does not discriminate on the basis of race, color, national origin, disability, age, or sex in the administration of its programs or activities, as required by applicable laws and regulations.

[Insert name and title of Non-Discrimination Coordinator] is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7 (Non-discrimination in Programs or Activities Receiving Federal Assistance from the Environmental Protection Agency), including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972.

If you have any questions about this notice or any of [Agency Name]'s non-discrimination programs, policies or procedures, you may contact:

[Insert name and title of Non-Discrimination Coordinator]
[Insert Agency Name and Address]
[Insert phone number of Non-Discrimination Coordinator]
[Insert email address of Non-Discrimination Coordinator]

If you believe that you have been discriminated against with respect to a [Agency Name] program or activity, you may contact the [insert title of Non-Discrimination Coordinator] identified above or visit our website at [insert] to learn how and where to file a complaint of discrimination.

November 19, 2019

The Honorable Frank Pallone
Chairman
The Honorable Greg Walden
Ranking Member
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Chairman Pallone and Ranking Member Walden,

We submit the attached Faith Principles for a Green New Deal for the November 20, 2019 hearing on "Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities." These principles were prepared by the Washington Interfaith Staff Community-Ecology and Environment Working Group.

Sincerely,

Jonathan Lacock-Nisly
Federal Policy Associate
Interfaith Power & Light

Faith Principles for a Green New Deal

Washington Interfaith Staff Community-Ecology and Environment Working Group, March 1, 2019 - List of organizations that have endorsed the principles are below

The introduction of the Green New Deal resolution in the 116th Congress presents a profound moral opportunity. Collectively, we have the chance to respond to the ecological and economic crises facing our shared home with bold and hopeful action. As people of faith and conscience, we are called to care for this world and its people. Climate change presents a grave danger to our neighbors at home and across the globe, to the ecosystems that sustain life, and to future generations. Hurricanes, droughts, wildfires, and floods are devastating the lives and livelihoods of millions, with the greatest impact felt by those who are least able to adapt. We know that inaction is harmful.

We believe the principles outlined below are central to responding faithfully to the opportunity to achieve the goals of the Green New Deal.

Truth and science: Solutions that are in line with scientific consensus on global warming and that respond with the needed urgency and thoroughness, including:

- Emissions reductions targets consistent with the goal of limiting global warming to 1.5°C, achieving significant progress by 2030.
- A comprehensive response that moves all sectors of our economy toward net-zero emissions by 2050.

Restoration and renewal: Economic and environmental revitalization that includes job programs, skills training, education, investment in a clean energy economy and just transition for both urban and rural areas, with a focus on:

- The economically disenfranchised, people of color, indigenous communities, and women, who are disproportionately facing environmental degradation.
- Reclamation and restoration of land and water adversely affected by fossil fuel production and processing.
- The steadily-rising economic inequality and the opportunity for a clean energy economy to help counter these trends.

Compassion and fairness: Just treatment for all including workers and communities most dependent on fossil fuel energy, incorporating:

- A posture of listening and learning from those who have been reliant on fossil fuels, and a recognition for their contributions to society.
- Opportunities for clean, healthy, family-supporting jobs that heal our planet.
- Transformation for our communities to be more prepared for extreme weather events, and more resilient to a changing climate in the long term.

Interdependence across boundaries: Sacred dialogue across political, geographic, racial and cultural boundaries, including:

- Support for vulnerable communities around the world that are on the front lines of climate impacts.
- Learning from clean energy successes around the world and sharing our country's technology to help other countries adopt appropriate clean energy solutions.

As the warming in our world continues unabated, our local and global neighbors are suffering and dying from the effects of global warming. Urgent action is needed.

Many of our traditions call us to be prophetic voices, responding to injustice with a vision of how our world can be more loving, healthy, and equitable. We hope, pray, and advocate that any legislation written to achieve the goals of the Green New Deal will address the urgency of the climate crisis and seize the opportunity to create a new, more just and livable world for communities and our sacred Creation.

As of closing date March 1, endorsed by:

National Organizations:

Africa Faith & Justice Network

American Friends Service Committee

Center on Conscience & War

Church World Service

Coalition on the Environment and Jewish Life

Columban Center for Advocacy and Outreach

Conference of Major Superiors of Men

Congregation of Our Lady of the Good Shepherd, US Provinces

Congregation of Sisters of St. Agnes

Creation Justice Ministries

Daughters of Charity, Province of St. Louise

Dominican Sisters of Peace

Dominican Sisters of Sparkill

Faith in Public Life

Franciscan Action Network

Friends Committee on National Legislation

GreenFaith

Green The Church

Grey Nuns of the Sacred Heart

Higher Ground Initiative

Hospital Sisters of St. Francis

ICCR (Interfaith Center on Corporate Responsibility)

Interfaith Power & Light

Leadership Conference of Women Religious

Maryknoll Office for Global Concerns

Mennonite Central Committee U.S. Washington Office

National Advocacy Center of the Sisters of the Good Shepherd

Northwest Coalition for Responsible Investment

Office of Social Justice, Christian Reformed Church in North America

Plainsong Farm & Ministry

Rabbinical Assembly

School Sisters of Notre Dame - Central Pacific Province JPIC Office

Sisters of Bon Secours, USA

Sisters of Charity of Cincinnati

Sisters of Mercy of the Americas' Institute Justice Team

Sisters of Mercy South Central Community

Sisters of St. Joseph

Sisters of St. Mary of Namur

Sisters of the Holy Cross

Sojourners

Tri-State Coalition for Responsible Investment

Union for Reform Judaism

Unitarian Universalist Association

Unitarian Universalist Service Committee

Unitarian Universalists for a Just Economic Community

Unitarian Universalists for Social Justice (UUSJ)

United Church of Christ, Justice and Witness Ministries

United Methodist Women

Xaverian Brothers

State/Local Organizations:

Alabama Interfaith Power and Light

Alameda Interfaith Climate Action Network

Arkansas Interfaith Power & Light

Arizona Interfaith Power & Light

ARTivism Virginia

Benedictine Sisters of Erie

Buffalo Diocese Care for Creation Committee

California Interfaith Power & Light

Center for Spirituality, Action, and Transformation

Church Women United in New York State

Dominican Sisters - Grand Rapids

Earth Ministry/Washington Interfaith Power & Light

Ecological Integrity Committee of the Sisters of St. Joseph

Faith in Place Action Fund/IL Interfaith Power & Light

Interfaith Climate Action Network of Contra Costa County

The Hellenion Proto-demos tes Hagnes Persephones

Holy Cross Retreat Center

Interfaith Power & Light (DC.MD.NoVA)

JPIC Department Atlantic Midwest Province School Sisters of Notre Dame

Jewish Climate Action Network - MA

Jewish Climate Action Network - NYC

Kentucky Interfaith Power & Light

Leadership Team of the Sisters of Providence of Saint Mary-of-the-Woods Indiana

Lewinsville Faith in Action

Massachusetts Interfaith Power & Light

Metro New York Catholic Climate Movement

Michigan Interfaith Power & Light

Missouri Interfaith Power and Light

Minnesota Interfaith Power & Light

Moral Mondays on D.O.G. Street

North Carolina Council of Churches

North Carolina Interfaith Power & Light

New Mexico Interfaith Power & Light

New York Interfaith Power & Light

Ohio Interfaith Power & Light

Pennsylvania Interfaith Power & Light

Sisters of Mercy West Midwest Justice Team

Sisters of St. Francis Charitable Trust, Dubuque

Sisters of St. Joseph of Boston

Sisters of St. Joseph of Rochester Justice Office

Sisters of the Presentations

Texas Interfaith Center for Public Policy/Texas Impact

Unitarian Universalist Mass Action Network

Virginia Interfaith Power & Light

Vermont Interfaith Power & Light

Water is life. Protect it.

West Virginia Interfaith Power & Light

Wisconsin Interfaith Power & Light

FDA STATEMENT

Statement on concerns with medical device availability due to certain sterilization facility closures

For Immediate Release:

October 25, 2019

Statement From:

Norman E. "Ned" Sharpless MD

As the agency responsible for ensuring the safety and effectiveness of all medical devices, the U.S. Food and Drug Administration has been closely monitoring the supply chain effects of closures and potential closures of certain large-scale sterilization facilities that use a gas called ethylene oxide (/medical-devices/general-hospital-devices-and-supplies/ethylene-oxide-sterilization-medical-devices) to sterilize medical devices prior to their use. The recent closure of a Sterigenics ethylene oxide sterilization facility in Illinois, the temporary closure of another Sterigenics facility in Georgia, and the potential closure of a large Becton Dickinson sterilization facility in Georgia could affect the availability of some sterile medical devices used by health care delivery organizations and patients. We have been working diligently with impacted device manufacturers and health care delivery organizations to ensure that they are aware of these developments and preparing to minimize adverse effects on patients whose care could be negatively affected if medical devices sterilized at these large facilities were not accessible. Medical devices that are sterilized to remove potentially harmful germs and other microorganisms prior to use are critical to our health care system and a shortage—especially of life-saving, life-sustaining, or other critical devices—can be a detriment to public health. In light of the possibility of continued ethylene oxide sterilization facility closures, we are again alerting the public to growing concerns about the future availability of sterile medical devices and impending medical device shortages.

Although medical devices can be sterilized by several methods, ethylene oxide is the most common method of sterilization of medical devices in the U.S. and is a well-established and scientifically-proven method of preventing harmful microorganisms from reproducing and causing infections. More than 20 billion devices sold in the U.S. every year are sterilized with ethylene oxide, accounting for approximately 50 percent of devices that require sterilization.

Medical devices made from certain polymers (such as plastic or resin), metals, or glass—or devices that have multiple layers of packaging or hard-to-reach crevices—are likely to be sterilized with ethylene oxide to avoid product damage during the process. These include surgical kits used in emergency procedures such as emergency Caesarean sections ("C-sections")

and in routine procedures such as cardiac surgery and hip or knee replacement surgeries. Without adequate availability of ethylene oxide sterilization, we anticipate a national shortage of these devices and other critical devices including feeding tube devices used in neonatal intensive care units, drug-eluting cardiac stents, catheters, shunts and other implantable devices. It's important to note at this time there are no readily available processes or facilities that can serve as viable alternatives to those that use ethylene oxide to sterilize these devices. In short: this method is critical to our health care system and to the continued availability of safe, effective and high-quality medical devices.

The FDA recognizes that there are concerns associated with release of ethylene oxide into the environment if emissions were to occur at unsafe levels. Concerns about ethylene oxide emissions have resulted in certain state actions against sterilization facilities that are currently impacting manufacturers' ability to use the ethylene oxide process to sterilize their medical devices. In February, the FDA became aware that the Illinois Environmental Protection Agency (EPA) issued a state EPA Order (https://www2.illinois.gov/Pages/news-item.aspx?ReleaseID=19717) to stop Sterigenics from sterilizing medical products and other products with ethylene oxide at their Willowbrook, Illinois, facility. The state EPA order was due to the presence of levels of ethylene oxide higher than the EPA found to be acceptable in the air around the facility. This closure caused a temporary shortage (/news-events/press-announcements/statement-jeff-shuren-md-director-center-devices-and-radiological-health-agency-efforts-mitigate) of pediatric breathing tubes.

Another Sterigenics contract sterilization facility, in Atlanta, Georgia, has been closed since August while it undergoes construction to reduce ethylene oxide emissions. In October, the Sterigenics Willowbrook, Illinois, facility announced they would not reopen. As a consequence of these two large sterilization facilities being unavailable, the FDA continues to coordinate with multiple stakeholders on any impacts to medical device availability and to communicate with Sterigenics and medical device companies that may be affected. Because the number of ethylene oxide contract sterilization facilities in the U.S. is limited, we are very concerned that additional facility closures could severely impact the supply of sterile medical devices to health care delivery organizations that depend on those devices to take care of patients. The impact resulting from closure of these and perhaps more facilities will be difficult to reverse, and ultimately could result in years of spot or nationwide shortages of critical medical devices, which could compromise patient care.

This is why today we are urging medical device manufacturers that use ethylene oxide facilities to assess their inventory for any potential downstream impacts of sterilization facility closures on their product distribution. We are committed to working with manufacturers to look for alternative sterilization options. When manufacturers keep the FDA apprised of progress and obstacles encountered, it helps ensure that everyone's best efforts are being made to mitigate any shortages and prevent potential shortages. When U.S. manufacturers are not able to resolve

a shortage and it involves a critical device needed for U.S. patients, the FDA may look for a firm that is willing and able to redirect safe and effective product into the U.S. market to address a shortage.

We also encourage health care facilities to perform similar inventory assessments of critical medical supplies that undergo contract terminal sterilization via ethylene oxide prior to shipping and reach out to the FDA so we can assist in any way we can to help identify sources of potential substitute devices. Hospitals and other health care delivery organizations should also work with their purchasing departments, group purchasing organizations and distributors, as appropriate, to help obtain product needed for patient care. So as to not exacerbate anticipated product availability concerns, we urge facilities to work together and not hoard product or attempt to purchase larger quantities of devices beyond their normal purchase volume.

We also encourage device manufacturers and health care providers to provide (/vaccines-blood-biologics/safety-availability-biologics/how-report-product-shortage-or-supply-issue-fda) us with information on potential supply issues. We have a device shortages mailbox (mailto:deviceshortages@fda.hhs.gov) so that any user, patient, manufacturer, or organization within the supply chain that is aware of a delay in distribution of new product, and/or anticipates a shortage, can notify us. It's never too early to contact us – the sooner we are aware of a potential shortage, the better we can assist in proactively developing a plan to mitigate its effects on patient care.

Since we first became aware of this issue earlier this year, we have continued to focus intently on addressing the immediate impacts of these closures and potential closures to help ensure patients can have access to the safe, effective, and high-quality medical devices they need today. We continue to communicate directly with manufacturers and monitor the supply of devices sterilized in facilities that have closed or that may close, paying special attention to life-saving, life-sustaining, and other critical devices. For instance, in the case of Smiths Medical's Bivona tracheostomy breathing tubes that were processed at the now-closed Sterigenics facility in Illinois, we helped mitigate that shortage by helping the manufacturer get a timely site change that kept supply interruptions to a minimum.

We share the public's objective to reduce over-reliance on ethylene oxide for medical device sterilization. And therefore, in addition to our shortage mitigation efforts, we have also been addressing the broader need for innovation and improvements to medical device sterilization techniques in general. For example, earlier this year we announced two new innovation challenges (/news-events/fda-voices-perspectives-fda-leadership-and-experts/preventing-medical-device-shortages-ensuring-safe-and-effective-sterilization-manufacturing) to encourage ideas from stakeholders, academics, industry and others about novel solutions for improving sterilization processes. This includes a call to identify new or alternative sterilization methods and technologies that are alternatives to those that use ethylene oxide, and another to develop new strategies to reduce ethylene oxide emissions.

In addition, we've previously announced we're holding a public advisory committee meeting (/advisory-committees/advisory-committee-calendar/november-6-7-2019-general-hospital-and-personal-use-devices-panel-medical-devices-advisory-committee) on November 6 and 7, 2019, dedicated to discussing how best to encourage innovation in medical device sterilization. We also continue to collaborate with the U.S. EPA, the entity responsible for reviewing and enforcing Clean Air Act regulations for sterilization facilities that emit ethylene oxide to ensure that facilities protect the public from significant risks, providing the U.S. EPA with updates on FDA activities in this area. And we'll continue to update stakeholders and the public as new information becomes available.

We want to be clear that we understand that there are very real consequences that medical device shortages have on patients, and we're committed to doing everything in our authority to help mitigate the adverse patient impact these sterilization facility closures are expected to have. We're also calling on all stakeholders—manufacturers, contract sterilizers, government agencies and other public health advocates—to join us and do your part to avert new device shortages and ensure patients have access to important and life-saving medical devices.

The FDA, an agency within the U.S. Department of Health and Human Services, protects the public health by assuring the safety, effectiveness, and security of human and veterinary drugs, vaccines and other biological products for human use, and medical devices. The agency also is responsible for the safety and security of our nation's food supply, cosmetics, dietary supplements, products that give off electronic radiation, and for regulating tobacco products.

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Related Information

- FDA: Ethylene Oxide Sterilization for Medical Devices (/medical-devices/general-hospital-devices-and-supplies/ethylene-oxide-sterilization-medical-devices)

- FDA: Ethylene Oxide Sterilization Facility Updates (/medical-devices/general-hospital-devices-and-supplies/ethylene-oxide-sterilization-facility-updates)

More Press Announcements (/news-events/newsroom/press-announcements)

An official website of the United States government.

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We've made some changes to EPA.gov. If the information you are looking for is not here, you may be able to find it on the EPA Web Archive or the January 19, 2017 Web Snapshot.

EPA United States Environmental Protection Agency

News Releases from Headquarters › Air and Radiation (OAR)

EPA Moves Forward on Suite of Actions to Address Ethylene Oxide

11/06/2019

Contact Information:
EPA Press Office (press@epa.gov)

WASHINGTON (Nov. 6, 2019) — Today, the U.S. Environmental Protection Agency (EPA) continued its progress on a suite of actions to address ethylene oxide by announcing proposed amendments to the Miscellaneous Organic Chemical Manufacturing National Emission Standards for Hazardous Air Pollutants (NESHAP), known as MON, to reduce hazardous air pollutants, including ethylene oxide. EPA is also continuing work to address ethylene oxide from commercial sterilizers; working closely with other federal partners such as the Food and Drug Administration (FDA) to address medical device supplies; and providing an update on its work to better understand ethylene oxide – in particular, work to characterize air concentrations of this chemical.

"EPA's actions underscore the Trump Administration's commitment to addressing and reducing hazardous air pollutants, including ethylene oxide emissions, across the country," **said EPA Administrator Andrew Wheeler.** "The proposed MON amendments represent the first regulatory action that EPA is taking to address ethylene oxide under our two-pronged approach to reduce emissions. This proposal would reduce other hazardous air pollutants from our nation's air, while providing improved compliance measures for industry."

Proposed MON Amendments

The proposed MON amendments are expected to reduce emissions of hazardous air pollutants from the source category by 116 tons per year, which includes a 93 percent reduction in ethylene oxide emissions from covered facilities. The

proposal addresses EPA's obligation under the Clean Air Act to conduct the residual risk and technology (RTR) review for the miscellaneous organic chemical manufacturing source category. EPA has evaluated the risks posed by air toxics from this source category and has determined cancer risks for this source category to be unacceptable. To reduce risks to an acceptable level, EPA is proposing additional requirements for process vents, storage tanks, and equipment in ethylene oxide service. In addition to reducing ethylene oxide emissions, the MON amendments would include updates to requirements for flares, heat exchange systems, and equipment leaks. These proposed requirements would further reduce emission of air toxics for these covered facilities. EPA is taking comment on all aspects of this proposal and will hold public hearings in early December in Washington, DC and Houston, TX. A separate notice will provide details on the hearings shortly.

To further explain the uncertainties in the estimated cancer risks from ethylene oxide, EPA is also posting the *Memorandum: Sensitivity of ethylene oxide risk estimates to dose-response model selection*, which explores the various dose-response models evaluated in the ethylene oxide carcinogenicity assessment. This information provides important context for interpreting the risk results from the Residual Risk Assessment developed in support of this proposal.

EPA's Two-Pronged Approach to Ethylene Oxide

EPA has been taking steps to address ethylene oxide emissions after EPA's National Air Toxics Assessment, issued in 2018, found that ethylene oxide emissions may be contributing to potentially elevated cancer risk in some areas around the country. Since then, EPA has been taking a two-pronged approach to evaluate these emissions. First, the agency is reviewing existing Clean Air Act regulations for industrial facilities that emit ethylene oxide. Second, because the process for revising our regulations takes time, EPA is gathering additional information on ethylene oxide emissions and is working with state and local air agencies to determine whether more immediate emission reduction steps may be warranted. By working with our state and local partners, we seek to identify opportunities to achieve early emission reductions.

Upcoming review of standards for commercial ethylene oxide sterilization facilities

In addition to the proposed RTR for the MON, EPA is also reviewing the NESHAP for Ethylene Oxide Commercial Sterilization and Fumigation Operations. EPA intends to issue an Advance Notice of Proposed Rulemaking (ANPRM) to outline potential approaches and gather comments and data. The ANPRM will seek information on several key topics, including possible approaches to calculate and control fugitive emissions; potential improvements to EtO monitoring technologies; and process differences between types of sterilization facilities. EPA also will issue a survey under Clean Air Act section 114 to gather information from several commercial sterilization companies on facility characteristics, control devices, work practices and costs for emission reductions. Our efforts are intended to inform a potential future proposed rule for ethylene oxide commercial sterilizers in the coming months.

Federal Partnerships

EPA is also working with our federal partners to better understand ethylene oxide, including participating in an FDA advisory committee meeting November 6-7, 2019, to discuss how best to advance innovations in medical device sterilization. FDA is actively working with sterilization experts, medical device manufacturers, and other government agencies to advance innovative ways to sterilize medical devices with lower levels of currently used agents, and employ new agents or alternatives, while maintaining device safety and effectiveness. In addition, FDA released a statement regarding "concerns with medical device availability due to certain sterilization facility closures" on October 25, 2019.

Work to Characterize Air Concentrations of Ethylene Oxide

EPA is also beginning to examine the question of whether ethylene oxide is present more broadly in the air in the U.S., and if so, at what levels. As part of this work, the agency has begun to analyze available air quality samples from a subset of existing, longstanding monitors in the National Air Toxics Trends Stations (NATTS) network and the Urban Air Toxics Monitoring Program (UATMP) network to determine whether ethylene oxide was present in the air at those locations. These networks, which are not focused on specific industrial sources, are designed to help track progress in reducing air toxics across the country. They include monitoring locations in both urban and rural areas. EPA analyzed samples from the subset of these monitors that send samples to EPA's national contract laboratory for analysis. The results confirmed the presence of ethylene oxide, with six-month averages ranging from about 0.2 to about 0.4 micrograms per cubic meter. We believe that there is no immediate, short-term risk from the levels of ethylene oxide found in these limited air monitoring data. There is a need to better understand low levels of ethylene oxide over a longer-term period. EPA will continue to collect information from its existing air monitoring networks and share data as it becomes available. To this end, EPA has added ethylene oxide to the list of air toxics that will be routinely monitored at all 34 sites in the NATTS and UATMP networks.

Background on Ethylene Oxide

Ethylene oxide is one of 187 hazardous air pollutants regulated by the EPA. Ethylene oxide is a flammable, colorless gas used to make other chemicals that are used in making a range of products, including antifreeze, textiles, plastics, detergents, and adhesives. Ethylene oxide also is used to sterilize equipment and plastic devices that cannot be sterilized by steam, such as medical equipment. In 2016, EPA updated its risk value for ethylene oxide. The agency is working with state, local and tribal air agencies to address this chemical.

More information on the MON can be found at: https://www.epa.gov/stationary-sources-air-pollution/miscellaneous-organic-chemical-manufacturing-national-emission

More information about the NATTS and UATMP data posting, can be found at: https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/ethylene-oxide-updates

General information about the air toxic ethylene oxide, can be found at: https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide

LAST UPDATED ON NOVEMBER 6, 2019

Subcommittee on Environment and Climate Change
Hearing on
"Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities"
November 20, 2019

Ms. Lilian Sotolongo Dorka, Esq.
Director, External Civil Rights Compliance Office
U.S. Environmental Protection Agency

The Honorable John Shimkus (R-IL)

1. This Administration has elevated the Office of Environmental Justice within the Office of Policy to ensure that environmental justice considerations are no longer siloed, and more integrated across EPA's broad policy-making responsibilities.

    a. Can you describe how this reorganization is benefitting the work you do to promote environmental justice?

    RESPONSE: EPA remains committed to advancing environmental justice for communities across the United States. This Administration elevated the Office of Environmental Justice (OEJ) within EPA's Office of Policy to ensure that environmental justice considerations are integrated into EPA's decision-making process. EPA elevated OEJ, along with the National Environmental Policy Act Division and Permitting Policy Division, to the Office of Policy within the Office of the Administrator to enhance collaboration within the Agency, including with EPA's External Civil Rights Compliance Office (ECRCO).

    b. How does elevation of the office into EPA's office of policy affect consideration of environmental justice by other program offices?

    RESPONSE: ECRCO is responsible for enforcing several federal civil rights laws that together prohibit discrimination on the bases of race, color, national origin (including limited English proficiency), disability, sex, and age, in programs or activities that apply for or receive financial assistance from EPA.

    The Office of Policy works with all offices, including ECRCO, and is engaged in all aspects of EPA planning. By elevating OEJ into the Office of Policy, the office is more closely aligned with several other offices which cut across all of the Agency's programs. For example, location with the Office of Policy has increased OEJ's ability to work more closely and collaborate with the Office of Community Revitalization on EPA's community-driven work and amplify the resources available for both offices.

2. Critics of the EPA have suggested that EPA's Environmental Justice Program and the External Civil Rights Program have not coordinated well in the past.

a. What has this Administration done to improve upon the prior Administration's handling of issues that require coordination among the two programs?

RESPONSE: OEJ and ECRCO have built a solid foundation of cooperation and collaboration over the past several years, including regular updates and information sharing between two programs. In addition, OEJ and ECRCO partner and coordinate with respect to the investigation of complaints filed with EPA pursuant to Title VI of the Civil Rights Act of 1964 and other federal nondiscrimination laws enforced by EPA, when complaints have the potential to include both environmental justice and civil rights issues. OEJ and ECRCO have also partnered and coordinated on training and technical assistance to approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA regions. This training and technical assistance consists of a variety of proactive measures, including how to address their civil rights obligations and environmental justice issues.

For example, in FY 2019, ECRCO partnered with EPA's Region 1 (New England) Office, bringing together ECRCO, Regional Counsel and environmental justice staff, along with state civil rights and environmental justice representatives from the six New England states, for training and discussions. From this partnership, EPA has identified replicable promising practices for building strong and effective nondiscrimination programs that it can share with states and local agencies in other EPA regions across the nation.

b. What progress has been made to reduce the case backlog?

RESPONSE: For years, ECRCO had a significant number of overaged cases filed pursuant to Title VI of the Civil Rights Act of 1964 and other federal nondiscrimination laws enforced by the Agency. By the end of 2016, there were 61 cases pending in various stages—most of which had missed all of the regulatory deadlines. In 2017, the Agency received 24 additional complaints, further increasing the significant number of unresolved cases. To effectively meet EPA's civil rights mission and regulatory obligations (see 40 C.F.R. Parts 5 and 7), the Agency initiated a process to address overaged cases in a prompt and effective manner. Accordingly, ECRCO has developed foundational accountability tools, critical for any federal civil rights office, and a first for the office. In FY 2017, the Agency finalized three critical documents: (1) a strategic plan for ECRCO that includes measurable goals, including strategic docket management; (2) a case resolution manual that provides clear guidance to staff about how to process a complaint from start to finish; and (3) a compliance toolkit which explains the application of the federal civil rights laws and the civil rights legal standards used in investigating and resolving civil rights complaints.

In addition, ECRCO has made full use of the resolution tools available to us, such as the informal resolution of complaints specifically authorized in our regulation.

EPA's regulation requires that the Agency seek the cooperation of EPA recipients in securing compliance with the federal civil rights laws and that the Agency attempt to resolve complaints informally whenever possible. To that end, EPA has vigorously pursued voluntary informal resolution agreements with recipient agencies as quickly and effectively as possible. The Agency has been able to resolve many of the overage cases through informal resolution. Additionally, the Agency has invested considerable resources in resolving cases through Alternative Dispute Resolution (ADR), which yielded comprehensive ADR Settlement Agreements between complainants and recipients and has helped to bring communities together.

As a result, EPA has seen these transformational efforts yield real and impactful outcomes. By December 2018, EPA had completely cleared its docket of all overdue jurisdictional determinations, and as of November 2019, the Agency resolved all overaged complaints that required preliminary findings.

3. Has your office has improved its response rate under this Administration?

    a. If so, to what do you ascribe the improvement?

    RESPONSE: Yes. ECRCO has implemented stringent accountability measures for all of the Agency's processes, including tracking critical process points that provide guidelines for achieving timely and effective processing of complaints within regulatory timeframes and ensure that informal resolution occurs promptly and without undue delay. EPA's progress in meeting its stated goal of becoming a model civil rights agency is noteworthy. For example, in FY 2017, EPA issued jurisdictional review decisions within the 20 days required by the regulation in only 12 percent of our complaints; however, now the Agency is meeting this requirement in 100 percent of complaints. Since clearing the overaged cases, all of EPA's new cases are meeting or exceeding our internal performance measures on timeliness.

4. How does your office coordinate environmental justice practices across the federal agencies?

    RESPONSE: As mentioned above, ECRCO coordinates with OEJ and has built a solid foundation of cooperation and collaboration on environmental justice practices. OEJ and ECRCO partner and coordinate with respect to the investigation of complaints filed with EPA pursuant to Title VI of the Civil Rights Act of 1964 and other federal nondiscrimination laws enforced by EPA, when complaints have the potential to include both environmental justice and civil rights issues. OEJ and ECRCO have also partnered and coordinated on training and technical assistance to approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA regions. This training and technical assistance consists of a variety of proactive measures, including on how to address their civil rights obligations and environmental justice issues.

a. What are your plans for strengthening this work?

RESPONSE: EPA coordinates environmental justice practices across the federal government through the Federal Interagency Working Group on Environmental Justice (EJ IWG). The EJ IWG is chaired by the EPA Administrator and comprised of 17 federal agencies and White House offices to carry out responsibilities outlined by Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO). The EJ IWG convenes monthly to facilitate the active involvement of federal agencies to implement the EO, which directs that federal agencies covered by the EO must identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

Established through the EO, the EJ IWG provides a forum for federal agencies to collectively advance EJ principles and increase local community capacity to promote and implement innovative and comprehensive solutions to EJ issues. In early 2020, the EJ IWG began work on the development of a strategic framework. The framework will establish clear strategic goals, activities, and milestones to ensure full implementation of the responsibilities outlined in the EO. EPA expects to complete this work by the end of the calendar year.

5. What is the Environmental Justice and Community Revitalization Council?

RESPONSE: ECRCO is responsible for enforcing several federal civil rights laws that together prohibit discrimination on the bases of race, color, national origin (including limited English proficiency), disability, sex, and age, in programs or activities that apply for or receive financial assistance from EPA. ECRCO defers to the Office of Policy, Office of Environmental Justice, which has provided the information below to respond to this question.

a. How does this council harness resources that may be applied to address environmental justice issues?

RESPONSE: EPA created the Environmental Justice Community Revitalization Council (EJCRC) in 2018 as a senior leadership decision-making body on environmental justice and community revitalization programs' strategic priorities and guiding implementation. The EJCRC provides a forum for EPA senior leadership to raise issues regarding environmental justice and community revitalization programs, to share best practices across the agency, and to receive updates on ongoing work. EJCRC focuses on its resources on efforts that directly impact communities, including those located within Opportunity Zones, such as the ongoing work on the Community-Driven Solutions (CDS) initiative, coordinating locally led technical assistance to communities, and the Environmental Justice and States initiative.

b. And would advancement of these environmental justice issues also help advance economic growth in these communities?

RESPONSE: Yes. EPA's work to implement Executive Order 13853 related to Opportunity Zones has helped leverage private investment in economically distressed communities, bringing both economic revitalization and environmental improvement. EPA's Office of Community Revitalization (OCR), which works with the Office of Environmental Justice to co-lead the EJCRC, works with other federal agencies as well as state and local officials, community-based organizations and private sector partners to deliver technical assistance to communities across the nation. OCR's work includes developing action plans and identifying strategies to support reinvestment and reuse of existing community assets (brownfields, open space, main streets, *etc.*) and infrastructure (water, sewer, road). These efforts support inclusive economic growth along with environmental and public health protection.

6. Please briefly describe a few examples, where EPA has made improvements to the way it targets enforcement based on environmental problems and public health risks?

RESPONSE: ECRCO is responsible for enforcing several federal civil rights laws that together prohibit discrimination on the bases of race, color, national origin (including limited English proficiency), disability, sex, and age, in programs or activities that apply for or receive financial assistance from EPA. For further information about environmental enforcement at EPA, ECRCO defers to EPA's Office of Enforcement and Compliance Assurance program, which has provided the information below to assist ECRCO in responding to this question.

When establishing its 2020-2023 National Compliance Initiatives (NCIs), addressing environmental problems and reducing public health risks in communities were key factors that the Agency considered. Those NCIs, listed below, focus enforcement and compliance resources on protecting public health, protecting our air and water, and protecting communities from chemical and pollutant risks.

- The *Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants from Stationary Sources (CCAC)* NCI focuses on reducing emissions of both volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). For VOC emissions, the NCI will focus on significant sources of VOCs that have a substantial impact on air quality and: (1) may adversely affect an area's attainment of National Ambient Air Quality Standards (NAAQS); or (2) may adversely affect vulnerable populations. For HAPs, this NCI will focus on sources that have a significant impact on air quality and health in communities. By focusing on VOCs and HAPs, this NCI will address the adverse health and environmental effects from exceedances of the NAAQS to which sources of VOCs contribute, as well as VOC- and HAP-related health impacts on communities.

- The *Reducing Hazardous Air Emissions from Hazardous Waste Facilities* NCI focuses on releases from hazardous waste facilities, which can include releases of constituents known or suspected to cause cancer or birth defects. In addition, leaks from these facilities can contribute to non-attainment with the NAAQS. Many of these facilities are located close to residential neighborhoods.

- The *Stopping Aftermarket Defeat Devices for Vehicles and Engines NCI* addresses illegally modified vehicles and engines. These modifications can contribute substantial excess pollution that harms public health and impedes efforts by EPA, tribes, states, and local agencies to plan for and attain air quality standards.

- The *Reducing Significant Noncompliance with National Pollutant Discharge Elimination System (NPDES) Permits* NCI addresses compliance with NPDES permits, which is critical to protecting our nation's waters.

- The *Reducing Noncompliance with Drinking Water Standards at Community Water Systems* NCI is focused on protecting public health by increasing compliance with drinking water standards.

- The *Reducing Risks of Accidental Releases at Industrial and Chemical Facilities* NCI focuses on reducing risk to human health and the environment by decreasing the likelihood of chemical accidents.

Finally, EPA's enforcement and compliance assurance program places a priority on reducing children's exposure to lead. In implementing the Agency's *Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts*, multiple regions have adopted a community-based approach to addressing high blood lead levels, which includes enforcement. For example, in FY 2019, EPA Region 8 conducted 61 lead inspections in the Denver Place-Based Initiative area that resulted in 32 enforcement actions. These priorities resulted in 619 enforcement actions in FY 2019 in communities with potential environmental justice concerns.

7. Please explain what environmental justice screenings are, how they work, and how many are performed annually?

RESPONSE: EPA has used a variety of information resources to help the Agency address civil rights and environmental justice concerns for populations across the United States. Several mapping tools have been developed and used by EPA, and the Agency has made several of these available for public use.

EJSCREEN, released to the public in 2015, is a mapping and screening tool that provides the Agency with a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN users choose a geographic area; the tool then provides demographic and environmental information for that area. All of the EJSCREEN indicators are based on publicly available data. EJSCREEN simply

provides a way to display this information and includes a method for combining environmental and demographic indicators into environmental justice-related indexes. EJSCREEN includes 11 environmental indicators, six demographic indicators, one demographic index, and 11 environmental justice-related indexes. Additional information is available on the Agency's EJSCREEN website: https://www.epa.gov/ejscreen/what-ejscreen.

EPA's enforcement program uses EJSCREEN to review new cases to determine whether they may affect overburdened communities. In FY 2019, EPA performed 868 environmental justice reviews using EJSCREEN. These reviews serve two purposes—ensuring that EPA enforcement personnel working on a case are aware of the potential environmental justice concerns in a community, and then allowing for opportunities to address those concerns, as appropriate. This also allows the Agency to gauge how much of its enforcement work is being done in areas with potential environmental justice concerns.

8. Congress established Opportunity Zone incentives under the Tax Cuts and Jobs Act of 2017. Many of the areas designated are plagued by high poverty, failing schools, and a scarcity of jobs.

    a. How has EPA helped leverage private investment in these Opportunity Zones to bring economic revitalization and environmental cleanup?

    RESPONSE: Opportunity Zone redevelopment can spur capital investment in economically distressed areas, leading to diversified economies, improved job opportunities, and restored fiscal health in communities allowing for a greater capacity to solve environmental problems. EPA provides technical assistance and meaningful engagement to economically distressed communities, including those within Opportunity Zones, thereby fostering economic growth and environmental protection. Opportunity Zones are an important tool that environmental justice communities could use to leverage private investment in economically distressed communities, bringing both economic revitalization and environmental improvement.

    In 2019, EPA's Office of Community Revitalization conducted technical workshops in thirteen communities with Opportunity Zones to help communities identify policy options and actions that advance local economic, community, and environmental goals and that potentially could be funded via the Opportunity Zone Tax Incentive and/or other private and public sector sources of funding.

    EPA's Brownfields Assessment, Revolving Loan Fund, and Cleanup Grant Programs support community revitalization in under-served and economically disadvantaged communities. Leveraging brownfields work in Opportunity Zones can help attract public and private capital to further advance economic, environmental, and public health gains. Of the more than $65 million in Brownfields grants awarded on May 6, 2020 to communities and tribes, 118 (78

percent) of selected communities were within Opportunity Zones, supporting environmental justice for all Americans.

Additionally, in October 2019, EPA announced the selection of 26 organizations to receive a total of $5.1 million in Brownfields grants for environmental job training programs across the country. All 26 organizations will serve communities located in Opportunity Zones. In November 2019, EPA awarded $1.5 million in grants to 50 organizations across the country working to address environmental justice challenges in their communities, with 50 percent of those grants supporting communities located in Opportunity Zones.

9. What is EPA doing to help build the capacity of local communities to deal with the complex scientific and regulatory issues involved with environmental justice?

    a. Can you talk more about the technical assistance, training, and environmental education that EPA offers?

    RESPONSE: EPA provides technical assistance, training, and environmental education to help build the capacity of communities to better understand the science, regulations, and policies of environmental issues and EPA actions. For instance, the Technical Assistance Services for Communities (TASC) program within OEJ provides this independent assistance to communities through scientists, engineers, and other professionals who explain technical findings to the community and answers their questions. TASC-supported efforts assist communities in working with government agencies and other stakeholders and in participating meaningfully in environmental decision-making processes. These services are provided in response to a community's request—at no cost to the community—and are determined on a project-specific basis. More information about Environmental Justice grant programs is available on EPA's website: https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance.

Subcommittee on Environment and Climate Change
Hearing on
"Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities"
November 20, 2019

Ms. Helena Wooden-Aguilar
Deputy Associate Administrator, Office of Policy
U.S. Environmental Protection Agency

The Honorable John Shimkus (R-IL)

1. This Administration has elevated the Office of Environmental Justice within the Office of Policy.

   a. Please describe how this reorganization is benefitting the work you do to promote environmental justice?

      RESPONSE: EPA remains committed to advancing environmental justice for communities across the United States. This Administration elevated the Office of Environmental Justice (OEJ) within EPA's Office of Policy to ensure that environmental justice considerations are integrated into EPA's decision-making process. EPA elevated OEJ, along with the National Environmental Policy Act Division and Permitting Policy Division, to the Office of Policy within the Office of the Administrator to enhance collaboration within the Agency.

   b. How does elevation of the office into EPA's Office of Policy affect consideration of environmental justice by other program offices?

      RESPONSE: The Office of Policy works with all offices and is engaged in all aspects of EPA planning. By elevating OEJ into the Office of Policy, the office is more closely aligned with several other offices which cut across all of the Agency's programs. For example, location with the Office of Policy has increased OEJ's ability to work more closely and collaborate with the Office of Community Revitalization on EPA's community-driven work and amplify the resources available for both offices.

2. Critics of the EPA have suggested that EPA's Environmental Justice Program and the External Civil Rights Program have not coordinated well in the past.

   a. What has this Administration done to improve upon the prior Administration's handling of issues that require coordination among the two programs?

      RESPONSE: OEJ and the External Civil Rights Compliance Office (ECRCO) have built a solid foundation of cooperation and collaboration over the past several years, including regular updates and information sharing between the two programs. In addition, OEJ and ECRCO partner and coordinate with respect to the investigation of

complaints filed with EPA pursuant to Title VI of the Civil Rights Act of 1964 and other federal nondiscrimination laws enforced by EPA, when complaints have the potential to include both environmental justice and civil rights issues. OEJ and ECRCO have also partnered and coordinated on training and technical assistance to approximately 40 state agencies and organizations, as well as local agencies and tribes, across all ten EPA regions. This training and technical assistance consists of a variety of proactive measures, including how to address their civil rights obligations and environmental justice issues.

For example, in FY 2019, ECRCO partnered with EPA's Region 1 (New England) Office, bringing together ECRCO, Regional Counsel and environmental justice staff, along with state civil rights and environmental justice representatives from the six New England states, for training and discussions. From this partnership, EPA has identified replicable promising practices for building strong and effective nondiscrimination programs that it can share with states and local agencies in other EPA regions across the nation.

b. What progress has been made to reduce the case backlog?

RESPONSE: For years, EPA had a significant number of overaged cases filed pursuant to Title VI of the Civil Rights Act of 1964 and other federal nondiscrimination laws enforced by the Agency. By the end of 2016, there were 61 cases pending in various stages—most of which had missed all of the regulatory deadlines. In 2017, the Agency received 24 additional complaints, further increasing the significant number of unresolved cases. To effectively meet EPA's civil rights mission and regulatory obligations (see 40 C.F.R. Parts 5 & 7), the Agency initiated a process to address overaged cases in a prompt and effective manner. Accordingly, ECRCO has developed foundational accountability tools, critical for any federal civil rights office, and a first for the office. In FY 2017, the Agency finalized three critical documents: (1) a strategic plan for ECRCO that includes measurable goals, including strategic docket management; (2) a case resolution manual that provides clear guidance to staff about how to process a complaint from start to finish; and (3) a compliance toolkit which explains the application of the federal civil rights laws and the civil rights legal standards used in investigating and resolving civil rights complaints.

In addition, EPA has made full use of the resolution tools available to us, such as the informal resolution of complaints specifically authorized in our regulation. EPA's regulation requires that the Agency seek the cooperation of EPA recipients in securing compliance with the federal civil rights laws and that the Agency attempt to resolve complaints informally whenever possible. To that end, EPA has vigorously pursued voluntary informal resolution agreements with recipient agencies as quickly and effectively as possible. The Agency has also been able to resolve many of the overage cases through informal resolution. Additionally, the Agency has invested considerable resources in resolving cases through Alternative Dispute Resolution (ADR), which yielded comprehensive ADR Settlement Agreements between complainants and recipients and has helped to bring communities together.

As a result, EPA has seen these transformational efforts yield real and impactful outcomes. By December 2018, EPA had completely cleared its docket of all overdue jurisdictional determinations, and as of November 2019, the Agency resolved all overaged complaints that required preliminary findings.

Moving forward, EPA has implemented stringent accountability measures for all of its processes, including tracking critical process points that provide guidelines for achieving timely and effective processing of complaints within regulatory timeframes and ensure that informal resolution occurs promptly and without undue delay. EPA's progress in meeting its stated goal of becoming a model civil rights agency is noteworthy. For example, in FY 2017, EPA issued jurisdictional review decisions within the 20 days required by the regulation in only 12 percent of our complaints; however, now the Agency is meeting this requirement in 100 percent of complaints. Since clearing the overaged cases, all of EPA's new cases are meeting or exceeding our internal performance measures on timeliness.

3. Please briefly describe a few examples where EPA has made improvements to the way it targets enforcement based on environmental problems and public health risks?

RESPONSE: The EPA made addressing environmental problems and reducing public health risk in communities a key factor when establishing its 2020-2023 National Compliance Initiatives (NCIs). Those initiatives, listed below, focus enforcement and compliance resources on protecting public health, protecting our air and water, and protecting communities from chemical and pollutant risks.

- The *Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants from Stationary Sources (CCAC)* NCI focuses on reducing emissions of both volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). For VOC emissions, the NCI will focus on significant sources of VOCs that have a substantial impact on air quality and: (1) may adversely affect an area's attainment of National Ambient Air Quality Standards (NAAQS); or (2) may adversely affect vulnerable populations. For HAPs, this NCI will focus on sources that have a significant impact on air quality and health in communities. By focusing on VOCs and HAPs, this NCI will address the adverse health and environmental effects from exceedances of the NAAQS to which sources of VOCs contribute, as well as VOC- and HAP-related health impacts on communities.

- The *Reducing Hazardous Air Emissions from Hazardous Waste Facilities* NCI focuses on releases from hazardous waste facilities, which can include releases of constituents known or suspected to cause cancer or birth defects. In addition, leaks from these facilities can contribute to non-attainment with the NAAQS. Many of these facilities are located close to residential neighborhoods.

- The *Stopping Aftermarket Defeat Devices for Vehicles and Engines* NCI addresses illegally modified vehicles and engines. These modifications can contribute substantial excess pollution that harms public health and impedes efforts by EPA, tribes, states, and local agencies to plan for and attain air quality standards.

- The *Reducing Significant Noncompliance with National Pollutant Discharge Elimination System (NPDES) Permits* NCI addresses compliance with NPDES permits, which is critical to protecting our nation' s waters.

- The *Reducing Noncompliance with Drinking Water Standards at Community Water Systems* NCI is focused on protecting public health by increasing compliance with drinking water standards.

- The *Reducing Risks of Accidental Releases at Industrial and Chemical Facilities* NCI focuses on reducing risk to human health and the environment by decreasing the likelihood of chemical accidents.

Finally, EPA's enforcement and compliance assurance program places a priority on reducing children's exposure to lead. In implementing the Agency's *Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts*, multiple regions have adopted a community-based approach to addressing high blood lead levels, which includes enforcement. For example, in FY 2019, EPA Region 8 conducted 61 lead inspections in the Denver Place-Based Initiative area that resulted in 32 enforcement actions. These priorities resulted in 619 enforcement actions in FY 2019 in communities with potential environmental justice concerns.

4. Please explain what environmental justice screenings are, how they work, and how many are annually performed?

RESPONSE: EPA has used a variety of information resources to help the Agency address civil rights and environmental justice concerns for populations across the United States. Several mapping tools have been developed and used by EPA, and the Agency has made several of these available for public use.

EJSCREEN, released to the public in 2015, is a mapping and screening tool that provides the Agency with a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN users choose a geographic area; the tool then provides demographic and environmental information for that area. All of the EJSCREEN indicators are based on publicly available data. EJSCREEN simply provides a way to display this information and includes a method for combining environmental and demographic indicators into environmental justice-related indexes. EJSCREEN includes 11 environmental indicators, six demographic indicators, one demographic index, and 11 environmental justice-related indexes. Additional information is available on the Agency's EJSCREEN website: https://www.epa.gov/ejscreen/what-ejscreen.

EPA's enforcement program uses EJSCREEN to review new cases to determine whether

they may affect overburdened communities. In FY 2019, EPA's enforcement program performed 868 environmental justice reviews using EJSCREEN. These reviews serve two purposes—ensuring that EPA enforcement personnel working on a case are aware of the potential environmental justice concerns in a community, and then allowing for opportunities to address those concerns, as appropriate. This also allows the Agency to gauge how much of its enforcement work is being done in areas with potential environmental justice concerns.

5. Congress established Opportunity Zone incentives under the Tax Cuts and Jobs Act of 2017. Many of the areas designated are plagued by high poverty, failing schools, and a scarcity of jobs.

   a. How has EPA helped leverage private investment in these Opportunity Zones to bring economic revitalization and environmental cleanup?

      RESPONSE: Opportunity Zone redevelopment can spur capital investment in economically distressed areas, leading to diversified economies, improved job opportunities, and restored fiscal health in communities allowing for a greater capacity to solve environmental problems. EPA provides technical assistance and meaningful engagement to economically distressed communities, including those within Opportunity Zones, thereby fostering economic growth and environmental protection. Opportunity Zones are an important tool that environmental justice communities could use to leverage private investment in economically distressed communities, bringing both economic revitalization and environmental improvement.

      In 2019, EPA's Office of Community Revitalization conducted technical workshops in thirteen communities with Opportunity Zones to help communities identify policy options and actions that advance local economic, community, and environmental goals and that potentially could be funded via the Opportunity Zone Tax Incentive and/or other private and public sector sources of funding.

      EPA's Brownfields Assessment, Revolving Loan Fund, and Cleanup Grant Programs support community revitalization in under-served and economically disadvantaged communities. Leveraging Brownfields work in Opportunity Zones can help attract public and private capital to further advance economic, environmental, and public health gains. Of the more than $65 million in Brownfields grants awarded on May 6, 2020 to communities and tribes, 118 (78 percent) of selected communities were within Opportunity Zones, supporting environmental justice for all Americans.

      Additionally, in October 2019, EPA announced the selection of 26 organizations to receive a total of $5.1 million in Brownfields grants for environmental job training programs across the country. All 26 organizations will serve communities located in Opportunity Zones. In November 2019, EPA awarded $1.5 million in grants to 50 organizations across the country working to address environmental justice challenges in their communities, with 50 percent of those grants supporting communities located in Opportunity Zones.

6. What is EPA doing to help build the capacity of local communities to deal with the complex scientific and regulatory issues involved with environmental justice?

    a. Can you talk more about the technical assistance, training, and environmental education that EPA offers?

RESPONSE: EPA provides technical assistance, training, and environmental education to help build the capacity of communities to better understand the science, regulations, and policies of environmental issues and EPA actions. For instance, the Technical Assistance Services for Communities (TASC) program within OEJ provides this independent assistance to communities through scientists, engineers, and other professionals who explain technical findings to the community and answers their questions. TASC-supported efforts assist communities in working with government agencies and other stakeholders and in participating meaningfully in environmental decision-making processes. These services are provided in response to a community's request—at no cost to the community—and are determined on a project-specific basis. More information about Environmental Justice grant programs is available on EPA's website: https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance.

Enclosure

Subcommittee on Environment and Climate Change
Hearing on
"Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities"
November 20, 2019

Mr. J. Alfredo Gómez
Director, Natural Resources and Environment
U.S. Government Accountability Office

The Honorable John Shimkus (R-IL)

1. **Your report discusses the importance of updated strategic plans, annual progress reports, and performance measures. What has EPA done in these areas?**

   RESPONSE: EPA developed an environmental justice strategic plan after signing the 2011 Memorandum of Understanding, released an updated plan in 2016, and issued seven out of eight annual environmental justice progress reports 2012 through 2019. EPA's updated environmental justice strategic plan included strategic goals and an assessment of how its environmental justice efforts aligned with its overall mission.

   EPA was one of four agencies (out of 16 agencies that GAO reviewed) that established performance measures or milestones for their environmental justice efforts, and one of two that reported on progress toward achieving these measures or milestones. For example, in its environmental justice strategic plan for 2016 through 2020, EPA established four goals for reducing environmental and health hazards: reducing children's exposure to lead, reducing contamination of small and tribal drinking water systems, reducing fine particle air pollution, and reducing contamination at hazardous waste sites. EPA established performance measures for tracking progress toward each of these goals at the national level.

2. **How has EPA's grant program supported environmental justice communities?**

   RESPONSE: For fiscal years 2015 through 2018, EPA awarded an average of about $1.2 million annually in environmental justice grants to communities through the Environmental Justice Small Grants Program and Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program. These two grant programs provide communities with funding to research and understand potential environmental and health issues in their communities. Specifically, EPA provides Environmental Justice Small Grants for up to $30,000 to support projects that help communities build understanding of local environmental and public health issues, develop strategies for addressing these issues, and facilitate discussions about community priorities. For example, in 2017, the Trumbull Neighborhood Partnership in Warren, Ohio, received an EPA Environmental Justice Small Grant for an educational initiative to reduce residents' exposure to soil contamination from former industrial activities, such as steel production.

3. **Economic development is important for rural and disadvantaged communities. Did GAO find examples of federal environmental justice efforts that provided economic benefits as well as environmental benefits?**

   RESPONSE: GAO found some examples of federal environmental justice efforts that provided economic benefits for rural and disadvantaged communities. For example, in

2017, DOI and EPA entered into an MOU to collaborate on environmental justice and economic development issues by assisting underserved communities through academic partnerships, technical assistance, and training, in collaboration with the communities. EPA has also reported that an initial $20,000 grant to a community organization in Spartanburg, South Carolina in 2000 paid for research to help confirm health issues related to nearby hazardous waste sites, and that this initial investment helped Spartanburg secure investments in the community including a community health center, affordable housing, and a recreation center.

Another example of federal environmental justice efforts is that in 2017, a largely rural and minority population in Lowndes County, Alabama faced problems with its wastewater treatment, increasing its risk of parasites, such as hookworm, through untreated wastewater. The General Services Administration collaborated with the Rural Communities Committee of the Interagency Working Group on Environmental Justice to help apply for U.S. Department of Agriculture (USDA) rural development grant funding for decentralized sewer systems in Lowndes by using federal surplus personal property as matching funds.

4. **You mentioned in your report that the Intergovernmental Working Group has developed environmental justice guidance for environmental reviews and EPA has developed a mapping tool called EJSCREEN. With these, do federal agencies have enough to carry out environmental justice efforts?**

   RESPONSE: The environmental review guidance and EJSCREEN tool provide tools for agencies to incorporate environmental justice decisions into their work. Stakeholders we interviewed said that EJSCREEN is a useful tool for agencies and the public to screen for communities with potential environmental justice issues. Stakeholders also said agencies could use EJSCREEN in additional ways (e.g., in rulemaking and permitting) and discussed some limitations for its use (e.g., data limitations and the need to directly engage communities).

   As our report stated, agencies need to have strategic plans in place to help them determine what goals, and how they will pursue them, in the area of environmental justice. For example, EPA's strategic plan EJ 2020 has a goal of incorporating environmental justice into permit and rulemaking processes; it is still in the process of implementing this goal. In addition, our report described other aspects of agencies' environmental justice efforts, including enforcing the Civil Rights Act, seeking public participation, providing guidance for incorporating environmental justice under the National Environmental Policy Act, and building communities' capacity. And as our report stated, most of the agencies rely on staffing resources that are not specifically dedicated to environmental justice. For example, officials from seven agencies we reviewed did not quantify estimates of resources but told us that staff conduct these activities as collateral duties.

5. **Your report mentions that many Federal agencies have not done annual progress reports and have said that they are burdensome. What do strategic planning practices say about how often these should be done?**

   RESPONSE: Strategic performance practices that GAO has reviewed over the years highlight the benefit of issuing progress reports annually because they provide feedback to managers, policymakers, and the public as to what was accomplished and how goals

were met. One of the practices is to communicate performance information frequently and effectively. We previously reported that frequent, regular communication is key for managers to inform staff and other stakeholders of their commitment to achieve the agency's goals and to keep these goals in mind as they pursue their day-to-day activities. At a minimum, there should be an annual compilation and reporting of results, particularly to show what was achieved with the funds provided.

6. **In your testimony you mentioned the Rural Communities Committee of the Interagency Working Group. How does that group help rural communities?**

RESPONSE: The Rural Communities Committee has helped the USDA compile and launch a web page with links to tools, funding opportunities, educational or training assistance, and case studies to support rural communities. For example, as discussed earlier, one of the cases that the Rural Communities Committee assisted with was helping Lowndes County, Alabama, apply for USDA grant funding for decentralized sewer systems. The group collaborated with General Services Administration and USDA officials to help the county identify needs and funding for the sewers.

Subcommittee on Environment and Climate Change
Hearing on
"Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities"
November 20, 2019

Hon. Melissa Cribbins
Commissioner
Coos County Board of Commissioners
On behalf of the National Association of Counties (NACo)

The Honorable John Shimkus (R-IL)

1. As chair of the National Association of Counties' Environment, Energy, and Land Use Steering Committee, you have the opportunity to work with county officials from across the country to address issues facing county governments.

a. Obviously, there is no one-size-fits-all approach to dealing with environmental justice concerns given such rich diversity across the country. What can you tell us about the challenges and opportunities facing rural Americans, in particular?

RESPONSE: Counties are highly diverse across the nation, and vary immensely in natural resources, social and political systems, cultural, economic and structural circumstances, and public health and environmental responsibilities. Counties range in area from 26 square miles (Arlington County, Virginia) to 87,860 square miles (North Slope Borough, Alaska). The population of counties varies from Loving County, Texas, with just under 100 residents, to Los Angeles County, California, which is home to nearly ten million people. Of the nation's 3,069 counties, approximately 70 percent are considered "rural," with populations less than 50,000, and 50 percent of these have populations below 25,000. At the same time, there are more than 120 major urban counties, which collectively provide essential services to more than 130 million people each day. Despite our diversities, counties work to ensure that our constituent's feedback is heard at the state and federal level.

County governments exist to deliver public services at the local level, and we are accountable to our constituents and communities as well as to state and federal authorities. At the leadership level, county elected officials are tasked with shaping county and community policies and investments that drive economic and community development, safeguard our citizens and community investments, and promote public health and wellbeing. In fulfilling this mission, counties are not only subject to state and federal regulations, but also help to implement these regulations at the local level.

Rural counties are particularly constrained due to limited resources to raise revenues to support essential county services. Rural economies are often limited to few industries, such as agriculture, manufacturing and natural resources. This has caused an imbalance at the local level, particularly in rural America, to make the substantial investments necessary to have a 100 percent clean economy.

2. Based on your experience as a county commissioner in Coos County, Oregon, what can you tell us about the issues that local governments deal with to balance environmental protection and economic growth?

RESPONSE: Many of counties' responsibilities are mandated by both the state and federal government. While county responsibilities differ widely, most counties have significant authority. These authorities include construction and maintenance of roads, bridges and critical infrastructure, assessment of property taxes, record keeping of property deeds, marriages and other critical public data, running elections, community corrections, and overseeing jails, court systems and public hospitals. Counties are also responsible for child welfare, consumer protection, economic development, employment and workforce training, emergency management, land use planning and zoning.

Among our numerous responsibilities, environmental stewardship is a primary function of county governments to create healthy, safe and vibrant communities for our residents. In fact, counties play a key role as both co-regulators and regulated entities in protecting the environment and providing public services for our residents and businesses.

For example, as regulators, counties are often responsible for controlling water pollution at the local level. We may enact floodplain and discharge rules, set building code requirements, adopt setbacks for land use plans, and may be responsible for environmental restoration, water recharge areas, green infrastructure, water conservation programs and other programs. Additionally, as owners of public safety infrastructure, we are often required to comply with federal and state requirements.

Concurrently, counties must balance other essential responsibilities, such as promoting community and economic development opportunities without causing adverse environmental impacts.

Counties are often met with regulatory hurdles in our attempts to encourage economic development. Development projects are often stalled in the bureaucratic, lengthy, complex and duplicative federal regulatory process. Counties support streamlining the regulatory process to have pragmatic regulations that can be easily administered at the local level.

Due to limited local resources and mounting federal and state mandates, often combined with fragile local economies, county governments are challenged to make both long-term strategic budget investments while working towards environmental sustainability.

3. Given the limited local resources and mounting federal and state mandates, how are county governments challenged to make long-term strategic budget investments and work toward environmental sustainability?

RESPONSE: With the rapid increase in state and federal unfunded mandates, it adds a layer of fiscal strain. In many instances, counties are mandated to provide a growing number of services while operating under more state and federal restrictions on how we generate revenue.

a. Can you provide specific examples of public health or safety trade-offs your community had to make to comply with federal or state mandates?

RESPONSE: In order to comply with unfunded state and federal mandates, counties often have to crowd out other areas in our budget to provide for environmental protection, energy sustainability, fire suppression and prevention, law enforcement, emergency response, education and infrastructure, or increase our local taxes and fees on constituents to make up the difference. Ultimately, our shared constituents suffer from reduced public services or increased taxes at the local level.

Local governments like mine are not able to fully tax the property values or products derived from federal lands, yet we are often responsible for supporting and providing essential government services (mandated by law), such as first responders and emergency services, transportation infrastructure, law enforcement, education and health care.

Specifically, in Coos County, the increase in state and federal unfunded mandates, along with decreasing federal timber revenues, has forced us to drastically reduce the number of Sheriff's patrols and jail beds. During the late hours of the night and early hours of the morning, only one Sheriff's deputy patrols our county, which is an area of 1,806 square miles.

4. How has the devastation of the timber industry affected the quality of educational resources or other social services that you can provide to your community?

RESPONSE: Coos County faces challenges in our ability to raise revenue from a large amount of federal public land in our jurisdiction. Coos County encompasses 1,806 square miles and nearly a quarter of our county is considered federal public lands. With many of these lands protected by the federal government, there is plenty of regulatory red tape that prevents counties from collecting revenues from these lands to provide essential services to our community.

Additionally, Coos County previously received nearly twelve million dollars per year in timber revenue from the O&C timberlands, not adjusted for inflation, before the closure of the federal forests from the listing of the spotted owl, which has decimated our timber industry. We now receive about $1.5 million each year in Secure Rural Schools funding to make up for this loss, and that amount decreases every year. This is a ninety percent reduction in funding, but costs have continued to rise. We are expected to provide the same level of services on ten percent of the funding.

It used to be possible for one person to work in the timber or fishing industry and provide for a family. Now, we find that, even with both spouses working regular jobs, we frequently have families that continue to slip below the poverty line. As a result, the county must step in to provide additional services to those families under the poverty line.

5. Where can the Federal government improve, when it comes to engagement with local governments?

RESPONSE: Counties are an important part of the federal, state, and local partnership. As co-regulators, we often have to work together to advance the cause at hand. In order to have the Federal government improve its engagement with local governments, we want to be engaged early in the process so we can learn about what options we should be exploring. Additionally, for intergovernmental consultation to be a success, Congress and federal agencies should communicate with local governments early and often throughout the legislative and rulemaking process. Counties need a strong federal partner to ensure costs are shared equitably and services are delivered expeditiously.

Lastly, counties are responsible for providing critical services to renewable energy sites, including those on public lands. Many of my colleagues across the country are partnering with federal agencies to develop energy conservation plans to streamline the development of renewable energy and federal lands. We hope to see Congress pass renewable energy revenue-sharing legislation, known as the Public Land Renewable Energy Development Act, introduced by Representative Paul Gosar, to help ease the cost burdens that public lands counties face in providing necessary services.

Patrick B. Ford, Executive Director
Lebanon/Marion County Industrial Foundation

Subcommittee on Environment and Climate Change
Hearing on
"Building a 100 Percent Clean Economy: The Challenges Facing Frontline Communities"
November 20, 2019

Mr. Patrick B. Ford
Executive Director
Lebanon/Marion County Industrial Foundation

The Honorable John Shimkus (R-IL)

1. What can the Federal government do to improve the quality of technical assistance and financial support for communities that are suffering from a lack of outside investment?

   RESPONSE: ***I will begin with technical assistance***. The hierarchy in the USEPA, for which I have benefited and capitalized on, begins with a highly functioning, multi-tasking, knowledgeable, and responsive project manager (USEPA contact and, in our case, Joseph Nowak). It also included a supporting cast (within the USEPA organization), best characterized as the technical assistance team. In our case it was the Land Revitalization Team and headed by Christopher P. Thomas, Environmental Engineer, U.S. Environmental Protection Agency, Region 3,
   Team Leader, Land Revitalization Team, Hazardous Site Cleanup Division (3HS51), (215) 814-5555, thomas.christopher@epa.gov. What makes this combination of EPA Project Manager and EPA Land Revitalization Team so unique is the non-judgmental, non-accusatory, accessible, resourceful, knowledgeable way in which they managed our inquiries, projects, and ideas. We could bring projects, ideas, problems, obstacles, and needs to them without any fear of retribution.

   The project manager, and our team, would include our state department of environmental protection and state brownfield assistance center in the problem solving, again, without any party having an interest in retribution or regulatory muscling. In fact, the EPA Land Revitalization Team would go through the effort of pulling all subject matter experts (brownfield, corrective action, legal, financial recovery, development, and funding) into one place at the regional headquarters (in our case Philadelphia). Our nonprofit agency would lay out our problem or opportunity and the EPA team would lay out a road map for voluntarily repurposing the property and a financial assistance road map to assist with the cost of cleanup and repurposing. Most importantly, this service is provided at NO CHARGE! To make it even sweeter, there are grants in the USEPA to PAY FOR 100% OF THE COST OF OUR TRAVEL AND EXPENSES TO MAKE THE TRIP!!!

   What can the federal government do? REPLICATE what they are doing in Region 3 in all regions of the EPA. Additionally, broaden the use of the Targeted Brownfield Assistance (TBA) Program. This program is available all year and not just during an annual funding cycle like other funding programs at the EPA. Furthermore, maybe consider appropriating money for this program. TBAs are simply technical assistance and

Patrick B. Ford, Executive Director
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are available throughout the year for eligible projects. The application process is streamlined, organic, brief, and highly successful! Technical assistance is like oxygen. When you need it, you really need. You can't wait for a year to get it. The project generally dies if you have to wait a year.

The ***funding assistance programs in the EPA*** are robust and come with technical assistance. In fact, congress already amended the laws to allow non-profits, like the one I manage, to apply for EPA funding. THANK YOU! Also, congress amended the laws, at another request of ours, to expand the amount of dollars we can apply because of the real world experience we have in cleaning up our environment to create opportunities for economic development. THANK YOU! Any additional request would be selfish to request.

However, since you are a US Congressman, and are in a position to help, I will ask selfishly! Could you expand the eligible projects, for EPA funding, to demolition, debris removal, and construction for brownfield and RCRA sites? The reason is that it is still difficult, sometimes impossible and time consuming, to get other federal funding, from other federal agencies, when you do not have a Certificate of Completion (COC) from the state department of environmental protection. So, how can you get a certification of completion if you cannot remove the debris, with EPA money, and you don't have any other resources because they are prohibited to be used if you don't have a certificate of completion? Understand the dilemma? The other solution is to allow other federal agencies (EDA, DOT, HUD, SBA) to fund brownfields projects, without COCs or NFAs (No Further Actions), as long as they are in a state administrated VRP (Voluntary Remediation Program). Most states have VRP programs under different names.

2. Can you talk more about what you mean when you say "meaningful employment" as opposed to other forms of employment that don't offer the same opportunities?

RESPONSE: In my context, and my intent when using the terminology, I mean a family-sustaining wage for an employee. Obviously, this wage will vary for different locations around the country, based on the cost of living.

   a. How would you respond to environmental activists that talk about the need for your community members to "transition" away from jobs in energy, mining, agriculture, and the like?

RESPONSE: If anyone says we should transition away from agriculture, I would tell them to ***stop eating the following items***: grains (and any other organic foods), pork (you might have to tell them that includes bacon), poultry (remind them that this includes eggs), dairy (remind them this includes milk and cheese), and beef (or anything else that has a pulse). Remind them that **Agriculture**, food, and related industries contributed $1.053 trillion to U.S. gross domestic product (GDP) and US farms are $133 billion of this amount. Your data folks may have to update this number (I believe my figures are from 2017). Also, tell them to stop wearing wool. Remind them that wool comes from animals on a farm, which is

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included in agriculture. Forgive the hint of anger in my answer, and my lack of patience for people who want us to "transition away from agriculture," my coffee is cold and I don't want anyone taking away my weekly intake of biscuits, sausage gravy, scrambled cheese eggs, and sausage patties! Also, what would these people have us wear in the damp cold? Also, remind them to stop using carpeting, insulation and upholstery. Tell them to stop listening to pianos, or playing the piano, because wool felt covers piano hammers, and it is used to absorb odors and noise in heavy machinery and stereo speakers (which are in every home in the country).

Transition from energy? I will continue answering before I warm up my coffee, WITH ELECTRICITY!!! I believe my answer will be delivered with the honesty that it needs to be delivered. Where does electricity come from? Oh, ENERGY!!! When I hear people lobbying to get away from mining and petrochemical companies I lose my patience! Sorry, I will warm up my coffee shortly. I will keep my discussion of energy to petroleum and petrochemical.

Petroleum products include gasoline, distillates such as diesel fuel and heating oil, jet fuel, petrochemical feedstocks, waxes, lubricating oils, and asphalt. Tell them to stop using any mode of transportation that is powered by energy (including solar and battery powered transportation; because, guess what, the parts for these vehicles are made from, YES,…chemicals that have derivatives in, …here it comes again…NATURAL GAS).

I will be as brief as possible on natural gas (another resource lumped into energy). Guess what "energy" is used to make? If someone wants to transition away from energy, or natural gas, then I would advise the civilized society to walk away from a doctor's vitamin capsule and pharmaceuticals, cellphones, military parachutes, the military technology that is steering us away from parachuting on a large scale (I still want Navy Seals, Green Berets, and Marines to have parachutes to drop in on the bad people to continue kicking wholesale butt!), safety glasses for assembly line workers (because we STILL NEED TO MANUFACTURE SOMETHING TO SURVIVE), tires (I don't see anyone going back to wood or stone wheels), toothpaste and toothbrushes, fishing rods (sorry, forgot we are supposed to transition away from this), refrigerators, artificial limbs for amputees (I am assuming there is a little compassion left in some people), paint brushes (Lord knows there will be a lot of painting going on, since all of our agriculture, energy, and mining jobs will be transitioned to other countries), paints, plastics (I ask you to look around you…how much stuff is made of plastic?), dentures (again, compassion please!), baby camera monitors, bandages (by the way, if you eliminate bandages, don't use cloth, remember, that comes from wool or cotton--agriculture), insect repellants, crayons, golf balls (this doesn't matter, since we won't have any jobs, we won't be able to afford to play golf), perfumes and lipsticks, cortisone, varnishes on my desk, and everything you see and touch in your vehicle and house.

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IN ONE SERIOUS SENTENCE (however, I encourage anyone to refute what I just wrote): As long as the transition from these industry clusters that produce both quality goods and well-paying jobs remains an unfunded mandate (the transition, from repurposing buildings to retraining employees, from product creation to product delivery, will be costly), with no private backers or government incentives to make dollars available, how can this request be completed?? **In addition, I would recommend that environmentalists talk to the individuals whose livelihoods depend on these jobs. For better or worse, right now they are proud of their labor, proud of putting food on their families' tables, and deeply entrenched in their legacy of industry.** So the transition must include a well-managed cultural revolution as well. Who exactly among them will lead it?

3. What is your philosophy for balancing environmental protection and economic growth?

RESPONSE: I am not smart enough to have a "philosophy," but I think you will have an idea where I stand on this question if you re-read my answer to #2. Congressman Shimkus, please, do not take my answers as any disrespect to you or your staff, but "philosophy" breaks down when you have the wolf at your door. For many of these communities, these industry clusters are all they have ever known, and they are proud of their heritage and legacy, even as the stand in unemployment lines. We have seen private industry prove over and over that it's easier to relocate an entire operation overseas where labor is cheap and unregulated than it is for them to rethink and recreate their operations to remain on US soil. Why is it left to communities to balance environmental protection and economic growth – would this question be better posed to the manufacturers that would rather leave the nation hungry and homeless than address these very problems?

4. Can you talk more about the need to create "career highways" to new manufacturing jobs?

RESPONSE: In the past, it was possible for people to pick a profession and expect to benefit from a lifetime of employment from it. The expected lifespan of any career is as varied as the job and the economic times we are in. We must embrace personal and professional curiosity and aggressively seek out new ways to identify the interests and capacity of employees to want to develop new skills and, if the interest is there, to evolve into leadership and management if the skill and interest is within the employee.

5. Can you explain what makes grant programs from EPA "front end" or site ready money? What does this mean and why is it important?

RESPONSE: I define "front end" as the effort to prepare land for a building to be constructed or infrastructure to be installed. Before a building can be constructed, or road installed, it has to be prepared for the construction. The site has to be graded, a structure has to be removed, or utilities need to be brought to the site. Most of our country's developable sites have some form of environmental contamination that must be removed

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prior to constructing a building or installing infrastructure. If not, there is no chance of getting conventional financing or federal funding. There is only one source of money, from the federal government, for preparing a site for land development if it is contaminated. That source is the USEPA.

There is a reason why so many abandoned factories, power plants, mines, gas stations, and houses litter our landscape. No one wants to get on the chain of title for the environmental liability.

EPA front-end programs provide a greater return on private investment, for every public dollar granted, than any other program in the federal government. Why? Because the EPA's brownfields program is one of the few, if not only, economic development tool that allows rural economic development officials to level the playing field in the competition with urban economic development officials, with the trophy being a cleaner, healthier environment that offers new employment opportunities to frontline communities.

a. How does EPA's funding dovetail with the funding from the Economic Development Administration?

RESPONSE: EPA funding is great for reuse planning, community consensus building and public involvement, environmental assessments, and environmental remediation. EDA funding is great for developing the economic and market analysis to target market the industries and business to recruit onto the brownfield/RCRA site that was identified in the reuse plan, providing infrastructure to the site, constructing a building on the site, and training the workforce for the industry that will locate in the building on the site.

b. How do these resources help economic development officials like you to attract more investment?

RESPONSE: There are so many financial gaps to fill in the industry/business recruitment and retention process. Each transaction requires a capital stack of money to close the deal. This stack includes soft costs (surveys, attorney costs, studies, plans, architecture and civil designs, construction drawings, and construction administration) and hard costs (site acquisition, site preparation, utilities and infrastructure, and building construction). These funding sources help agencies, like ours, attract business and industry, finance the construction or expansion of our industries, and grow our workforce. In order to stay competitive nationally and internationally, we need to have a robust tool box of incentives to grow our existing industries and recruit new industries to employ our labor force.

6. When you do your work, how to you work to focus on the communities most in need?

RESPONSE: We meet regularly with our partners in education, workforce training, employers, elected officials, faith-based communities, justice-involved communities,

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civic organizations, military organizations, community-action agencies, and neighborhood groups to identify the employment opportunities in our community and available workforce to meet these opportunities. Once identified, we focus on increasing our labor participation rate, recruiting a workforce outside our region, and training our workforce to meet the demands of our industries.

a. Do you work to identify zoning and other issues that can be an impediment to healthy economic development?

RESPONSE: Yes, and we collaborate with our partners to remove the impediments.

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