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EXAMINING PATHWAYS TO COMPLIANCE FOR THE NATIONAL AMBIENT AIR
QUALITY STANDARDS FOR GROUND-LEVEL OZONE: LEGISLATIVE HEARING
ON S. 2882 AND 2072

Wednesday, June 22, 2016

United States Senate

Committee on Environment and Public Works

Clean Air and Nuclear Safety Subcommittee

Washington, D.C.

The committee met, pursuant to notice, at 2:30 p.m. in room 406, Dirksen Senate Office Building, the Honorable Shelley Moore Capito [chairwoman of the subcommittee] presiding.

Present: Senators Capito, Carper, Fischer, Inhofe, Cardin, and Whitehouse.

Also Present: Senator Flake.

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

Senator Capito. Thank you all for being here. I would like to start the Committee hearing on the Ozone Standard bill of the Clean Air and Nuclear Safety Subcommittee Ozone hearing.

I thank all the folks who are here to testify for their knowledge and for their willingness to come.

So I am going to take five minutes and make an opening statement, and then I will turn to the Ranking Member.

And the Chairman of the Full Committee, I would like to thank you for being here with us as well.

So today we are here to discuss the pathways to compliance for the National Ambient Air Quality Standards for Ground-Level Ozone and to examine two pieces of legislation that offer real solutions to improve EPA's ozone standard regulations, which are, in my view, overly complicated and duplicative. One of these bills is my Ozone Standards Implementation Act of 2016, which is co-sponsored by Senator Flake from Arizona and Senator Manchin from West Virginia, and several of my Republican colleagues, including Chairman Inhofe.

Last October, EPA announced a stricter ozone standard, dropping the acceptable amount of ozone to 70 parts per billion from 75 parts per billion. Currently, there are dozens of counties, I was speaking with Mr. Hamer there earlier about

this, with the 2008 ozone standard, showing us that EPA has yet to fully implement the previous standard. Moreover, EPA drastically missed its implementation deadlines and failed to designate non-attainment areas under the 2008 standard until May of 2012.

My home State of West Virginia was one of a dozen States to formally oppose the rule. Instead of encouraging States and stakeholders by showing pathways towards compliance for the 2008 standard, EPA decided to double-down and enable an even tougher standard before all areas had a chance to get into compliance.

Proponents of the new standard may claim that it allows for cleaner air for our citizens, but that is exactly what we are getting under the previous 2008 standard. The EPA itself reported that the Nation's air quality has improved dramatically over the past several decades. Regulated emissions from coal-fired power plants have been reduced 60 percent over the last 30 years. And these reductions have been accomplished while electricity from coal has increased approximately 140 percent.

If the EPA would merely allow the previous 2008 standard to be fully implemented, emissions would be cut by 36 percent. Yet, the Administration has decided to continue its assault on baseload power sources, while disregarding the economic impacts of newer and harsher regulations.

To address these issues today, we will examine two bills

that would protect economic growth and job creation, while ensuring air quality continues to improve. These are both bipartisan bills and have been endorsed by over 200 trade organizations representing sectors and jobs across the economy, from manufacturing to energy, construction, transportation, railroads, iron and steel, consumer products, textiles, pulp and paper, mining and agriculture, and the chambers of commerce.

In S. 2882, the bill I introduced, it, number one, ensures that EPA issues timely implementation regulations. Remember previously in my statement I talked about how long it took for EPA to do this previously. It ensures that for certain ozone non-attainment areas States are not required to include economically unfeasible measures in their plans. Charges that the EPA's mandatory review of NAAQS from five to ten years to combat rushed timelines and directs the EPA to submit a report to Congress regarding the impacts of emissions from foreign countries on NAAQS compliance.

S. 2072 is sponsored by Senators Hatch and McCaskill, which would require the EPA to set up an early action compact program that allows counties to take preemptive measures to avoid a non-attainment designation.

So, without objection, I would like to enter the following documents into the record: Senator Hatch's statement for the record, Senator Manchin's statement for the record, a letter of

support from the Utah Department of Environmental Quality, a letter of support from over 200 impacted industries from across the Country, a letter of support from 60 conservative organizations, and a letter of support from the Industrial Energy Consumers of America. So I have Senator Manchin's statement here, and I will submit for the record without objection.

[The referenced information follows:]

Senator Capito. Hearing no objection, I would like to recognize the Ranking Member and recognize him for five minutes for an opening statement.

[The prepared statement of Senator Capito follows:]

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

Senator Carper. Thanks, Madam Chair. Thank you for holding our hearing today.

I do want to thank each of our witnesses. Some of you have been here before. It is nice to see you again, whether it is your first time or not your first time. We are delighted that you are here. We welcome your testimony and your counsel for all of us.

Today is a day to remember not just because they are having a sit-in over in the House of Representatives; that is not memorable enough. But this morning a number of our colleagues, Senator Inhofe, myself, other members of this Committee had the privilege of witnessing the signing of a major piece of environmental legislation, something that hasn't happened in this Country in really a couple of decades. Today the Frank R. Lautenberg Chemical Safety Act for the 21st Century was signed into law, due in no small part to the good work of Senator Jim Inhofe, chairman of our full Committee, David Vitter, and others. Also in a supporting role here, this young man here to my left, Ben Cardin, our colleague from Maryland.

This legislation overhauls a 40-year-old law that never worked, a law that was supposed to regulate chemicals used in products that we rely on every day. It never worked in 40

years. Finally we just worked through all of our differences and decided to replace it with legislation that will do good things for our environment, do good things for our health, including especially the health of young people, very young people and very old people, and also provide businesses with certainty and predictability that they need in order to be successful, grow jobs, create jobs, especially in the manufacturing sector.

The legislation was built off of work done by Frank Lautenberg, a former colleague from New Jersey. He was a true champion of chemical safety. It was fitting that it is on the same day our Subcommittee discusses another of Frank Lautenberg's passions, and that is clean air. For years, Senator Lautenberg and I sat together, along with Ben Cardin and our Chairman. He was fighting for clean air all those years, for Americans.

Frank and I, and Ben Cardin as well, we represent something I called America's tailpipe, an area of our Country where emissions from other States, especially my native West Virginia, Ohio, Indiana, Illinois, Kentucky, Tennessee, they put bad stuff up in the air in order to get cheap electricity, and it just drifts, with the westerly wind, over to our States and fouls our air and makes us have to spend more money to clean up our air, and we end up with more expensive energy. Not fair.

But for Senator Lautenberg the fight was deeply personal. He had a sister who had problems with asthma, and she was a member of the school board and she always had a machine in her car that she would use if she had an asthma attack. One day she was at a school board meeting and suffered a really severe asthma attack, and raced to try to get to her car and didn't make it. So for Frank, clean air and asthma are really very special issues. Dad, I think, worked in a factory, maybe a silk factory, for many years in New Jersey and suffered lung impairment as a result of his work.

So I wish that the situation with Frank's late sister and his dad were unique and the kind of things that didn't happen much, asthma or other lung disorders, but they are not. There are millions of people in this Country who live with asthma. A lot of them are young. According to the Centers for Disease Control, almost 6.5 million kids in this Country have been diagnosed with asthma. That is 6.5 million kids who worry that they may not make it to their inhaler in time if they have an asthma attack.

For decades we have known that ozone pollution is linked to serious health problems like asthma attacks, strokes, heart attacks, and other respiratory ailments. More recently, ozone has even been linked to early deaths.

Since 1970, Congress has asked EPA to provide our Country

with national health standards protecting Americans from the most harmful and common air pollutants. Since 1970, EPA promptly did so in 1971, setting the first national health standard that covered ozone pollution. Congress wanted to make sure that the ozone health standards reflected the best science available, which is why Congress requires EPA to review the standard every five years. It is not something that EPA does on their own; that is a requirement that they face under the law.

Last year, EPA finished its congressional mandated review of the 2008 ozone health standard. After reviewing more than 1,000 scientific studies, EPA has concluded the 2008 ozone health standard was too weak and no longer adequately protected public health.

Despite what many may say today, the EPA rule is purely a statement of fact. To protect our health, we need less ozone pollution. To protect the 6.5 million kids with asthma, we need less ozone pollution in our air.

Finally, many of our biggest emitters today of ozone pollution, which include coal plants, older diesel engines, are already scheduled to be cleaned up, and this means the costs of compliance are not as high as they might have been two, four, or six years ago. I look forward to hearing today how we might meet these new ozone standards to protect public health and how we can meet these new health standards to ensure that we all

achieve cleaner and healthier air.

I would just finally say advances in science and technology that we use to understand what is making our air dirty has given us a more thorough understanding of how we can make our atmosphere safer for all of us, and I just hope we now seize the opportunity, seize the day, which is really not an opportunity at all, but I think a responsibility to do a good job today of cleaning up our air so that generations of Americans can live healthier lives and longer lives, and also still have a good job.

Thanks so much.

[The prepared statement of Senator Carper follows:]

Senator Capito. Thank you, Senator.

And with that I would like to welcome the witnesses. I will just introduce you as you begin your testimony. I would ask that you keep your statements to five minutes, as you know. I know you have submitted written statements for the record.

Mr. Kurt Karperos, who currently serves as Deputy Executive Officer on the California Air Resources Board. Welcome.

STATEMENT OF KURT KARPEROS, P.E., DEPUTY EXECUTIVE OFFICER, AIR
RESOURCES BOARD

Mr. Karperos. Good afternoon, Madam Chair, Ranking Member Carper, and members of the Subcommittee. My name is Kurt Karperos. I am Deputy Executive Officer for the California Air Resources Board. In this role I am responsible for implementation of the Clean Air Act statewide, including meeting Federal air quality standards in areas with the most persistent pollution, the greater Los Angeles area, that we refer to as the south coast, and the San Joaquin Valley.

Today I want to cover three points in my testimony: first, meeting Federal health-based standard for air quality is achievable in California; second, economic growth and development, while taking steps to reduce emissions, is not only possible, it is a reality in California; and, third, delaying the standards, as Senate bill 2882 and 2072 would do, is unnecessary and would negatively impact the health and well-being of millions of people.

About one-third of California's 38 million residents live in regions with pollution levels that exceed the standard. That includes almost 5 million children, with nearly half a million suffering from asthma. California supported EPA's setting of the more health-protective ozone standard because reaching that standard would reduce premature mortality, emergency room visits

for asthma, hospitalizations, and lost work days and school days. Simply putting, meeting the ozone standard is a public health imperative.

California has a long history and successful history of meeting health-based standards. Of California's 19 areas that once exceeded the one hour ozone standard and the original eight hour ozone standard, only 4 exceed those today. Continued progress has occurred in the San Joaquin Valley. This extreme non-attainment area now meets the one hour ozone standard. And just last week the San Joaquin Valley Air District adopted a plan to meet the eight hour ozone standard.

The south coast is more challenging, but progress is also significant. The region once measures one hour ozone values above the standard on over 200 days per year. Today that has dropped to 10. Similarly, the number of days over the eight hour standard has been cut in half since 1990. This progress has occurred at the same time that California's population has increased by over 25 percent and the State's gross domestic product has more than doubled.

At the same time we have been reducing emissions, California's economy has continued to grow and prosper. Over the last year, California grew to be the world's sixth largest economy, and job growth in the State over the last 12 months was 2.8 percent, outpacing the national average of 1.9 percent.

This while pursuing the Nation's most aggressive air quality and climate policies.

Today the air pollution control industry in California generates approximately \$6 billion a year and employs over 30,000 people. The clean energy sector generates an additional \$27 billion a year and employs approximately 125,000 people. Looking forward, EPA estimates that achieving the new ozone standard would save Californians an estimated 0.4 to \$1.3 billion per year when accounting for both the cost of reducing emissions and avoided costs of health care.

With its health-based air quality standards, meaningful deadlines, and requirements for comprehensive plans, the Clean Air Act has been the tool for achieving this combined air quality and economic success. The Clean Air Act requires early comprehensive planning. Delay can increase costs. And California uses the early planning required by the Clean Air Act as a tool to minimize costs in the long-term. In fact, California will adopt a plan this year that will not only provide the reductions needed to meet the 75 parts per billion ozone standard in 2031; it will also provide most of the emissions reductions needed for the new 70 parts per billion ozone standard in 2037.

California has used advanced technology provisions of the Act to drive innovation. Electric cars are the prime example.

And now California is working with EPA to demonstrate that trucks can be 90 percent cleaner by optimizing the technologies on the trucks today. Finally, working with EPA, businesses, and the public, we take advantage of the flexibility of the Clean Air Act to tailor control strategies to best fit California.

California's success is proof that Senate bill 2882 and 2072 are unnecessary. The bills would mean more people would breathe dirty air longer because they push off deadlines, erode requirements for incremental progress, and undermine the Clean Air Act's requirements for comprehensive air quality strategies. Senate bill 2882 would inappropriately insert control costs into EPA's science-based process for setting air quality standards. How healthful our air needs to be is not a function of the cost to clean it up; it is a function of what air pollution does to the human body.

In closing, let me stress that meeting the Federal health-based ozone standards is achievable. Clean Air Act provisions provide the needed flexibilities to effectively accomplish these goals, including in the areas where the Nation's most persistent pollution problems. Second, setting healthful air against economic prosperity is a false choice, as California has demonstrated. Third, delaying the standards will harm the health and well-being of millions of people in this Country. The San Joaquin Valley is home to high rates of poverty and

environmental pollution, so it is especially critical to continue progress in that region. The economic costs of health care associated with polluted air are substantial and far exceed the costs of cleaner technologies.

Thank you for the opportunity to speak with you today.

[The prepared statement of Mr. Karperos follows:]

Senator Capito. Thank you.

Our next witness is Dr. Mary Rice, who is the Vice-Chair on the American Thoracic Society's Environmental Health Policy Committee. She also works as an Assistant Professor of Medicine at the Beth Israel Deaconess Medical Center, an affiliate of Harvard Medical School. And I know she has been here at least one other time because I remember her testimony. Thank you.

STATEMENT OF MARY B. RICE, M.D., VICE-CHAIR, ATS ENVIRONMENTAL HEALTH POLICY COMMITTEE AMERICAN THORACIC SOCIETY, AND ASSISTANT PROFESSOR OF MEDICINE, BETH ISRAEL DEACONESS MEDICAL CENTER, HARVARD MEDICAL SCHOOL BIDMC

Dr. Rice. Thank you. Chair Capito, Ranking Member Carper, and other members of the Subcommittee, thank you for the opportunity to testify today on behalf of the American Thoracic Society about why EPA's new ozone standard and the Clean Air Act requirement of regularly reviewing and implementing health standards for the major air pollutants are so good for the health of American adults and children.

I am a pulmonary and critical care physician at Beth Israel Deaconess Medical Center at Harvard Medical School and I care for adults with lung disease, many of whom suffer from asthma or chronic obstructive pulmonary disease, commonly known as COPD.

Let me begin with a discussion of ground-level ozone, also known as smog. Ozone pollution is bad for people with lung disease, and this has been known for decades. Ozone is a powerful oxidant that irritates the tissue of the lung and damages it. Hundreds of research studies in different areas across the U.S. and around the globe have demonstrated that when people with common diseases like asthma or COPD are exposed to ozone, they get sicker.

One of my patients with severe asthma tells me that on high

ozone days in the summertime he feels his chest tighten and he can't get enough air. He stays home from work and he uses his inhaler around the clock, but it is not enough; and that is when he calls me, asking me for stronger medications. One summer his breathing difficulties were so severe that he landed in the hospital twice and he had to take a leave of absence from his job.

This is just one story. But hundreds of studies have demonstrated that increases in ozone result in children and adults having to increase use of medication to control asthma, having to miss school or work to visit the doctor or going to the emergency room, and hospitalization for respiratory illness. For some, especially the most vulnerable people, such as older people and people with COPD, high ozone days can result in premature deaths.

The more that scientists and physicians have studied the health effects of ozone, the more confident the medical community has become about ozone's harmful effects on the respiratory health of children, adults, and the elderly.

The new ozone standard is based on literally hundreds of studies that demonstrate that the previous ozone standard of 75 parts per billion was not sufficiently protective of human health because there are serious harms to human health at ozone levels below 75. These serious harms include high risk of

asthma attacks for people with asthma, high risk of hospitalization for respiratory infection among babies and very young children, and a higher risk of death for older adults.

What often gets lost is that ozone pollution is bad for otherwise healthy people, too. Research has shown that when normal healthy adults are exposed to ozone, including levels below the previous standard, lung function is reduced.

Based on this wealth of medical evidence, professional medical societies across the Country have called for a more protective ozone standard. These societies include the American Thoracic Society, the American Medical Association, the American Academy of Pediatrics, and others. The evidence of health effects of ozone above 70 parts per billion, even among young and healthy adults, is conclusive and undisputed in the medical community. Based on this strong evidence, the U.S. EPA set a public health standard for ozone of 70, and this new standard is expected to improve lung health, prevent asthma attacks, and save lives.

As a physician, I need to keep up with the pace of medical discovery and incorporate those advances in my care of patients. The pace of scientific discovery is rapid, and we need the U.S. EPA to review the most up-to-date medical evidence at regular intervals to ensure that we set health standards that are sufficiently protective. Our knowledge about the health effects

of air pollutants and their treatment is growing dramatically each year, which is why the American Thoracic Society is very concerned about proposals that would relax the interval for reviewing air quality standards from 5 to 10 years.

When a new drug is approved to cure disease, we don't wait 10 years to update practice guidelines. In the past two years alone, several new and important studies which advance our understanding of ozone's health effects have been published, and these include the studies showing that long-term exposure to ozone is associated with the development of acute respiratory distress syndrome, which is a major cause of mortality in American ICUs.

Why would we delay 10 years to consider and act on new information that is showing the adverse health effects of air pollution? That is not consistent with the standard of care that my patients expect of me.

My patients and every American depend on the U.S. EPA to review the most up-to-date evidence at regular intervals and keeping with the pace of medical progress, and to establish and implement standards based on those reviews to protect the health of Americans. Above all, we must protect the health of the most vulnerable members of our society, including young children and the elderly, who have no other way of protecting themselves from the health effects of outdoor air pollution.

I appreciate the opportunity to appear before the Subcommittee and I look forward to answering your questions.

Thank you.

[The prepared statement of Dr. Rice follows:]

Senator Capito. Thank you.

Our next witness is Mr. Andrew Chesley. He is the Director of San Joaquin Council of Governments in California. Welcome.

STATEMENT OF ANDREW T. CHESLEY, EXECUTIVE DIRECTOR, SAN JOAQUIN
COUNCIL OF GOVERNMENTS

Mr. Chesley. Good afternoon, Chair Capito, Ranking Member Carper, and members of the Committee. My name is Andrew Chesley. I am the Executive Director of the San Joaquin Council of Governments in Stockton, California. My region is located just east of the Bay Area, and each morning 65,000 of our residents make their way into the East Bay to work. We are one of the fastest growing counties in California, with a median income well below the State of California average.

I am here on behalf of the eight San Joaquin Valley Metropolitan Planning Organizations in Fresno, Kern, Keen, Madera, Merced, San Joaquin, Stanislaus, and Tulare. All are striving to seek ways to address the underlying causes of poverty, poor health, and unemployment that rank our valley among the worst in the Country.

Silicon Valley covers an eight county geographic area and it is approximately 4 million people, about the size of West Virginia. We are known for our agricultural prowess, but we also have three of the 100 largest cities in the Country, so on any given day our air quality challenges rival those of the Los Angeles Basin.

As a valley, we will deliver over \$40 billion in transportation projects over the next two decades if we are not

tripped up through a labyrinth of air quality tests requiring massive coordination among numerous regional, State, and Federal agencies. These transportation projects put people to work, move agricultural goods to market, move freight from northern to southern California, and increase the mobility of Californians, all valuable public policy objectives.

As of right now, we want to put the new resources and the facts back to work. I have attached Figure 1, which highlights the magnitude of the air quality challenge before us. We must reduce our pollution levels by over 90 percent over the next two decades to meet the 2015 ozone standard.

I am here today to support a strong Clean Air Act with common sense revisions that actually results in improved air quality. I am also here to speak about the risks regions like the San Joaquin Valley face in implementing the Clean Air Act as we strive to maintain our region's crumbling transportation infrastructure.

Since its adoption, the Clean Air Act has led to significant improvements in air quality and public health throughout our region. We support provisions of the Clean Air Act that call for review of health-based standards, clean air objectives that are technology-forcing and clean air delays that ensure expeditious cleanup and timely action. However, the Clean Air Act was last submitted in 1990. Over the last 25

years, local, State, and Federal agencies and affected stakeholders have learned important lessons from implementing the law, and it is clear that a number of provisions of the Act are leading to unintended consequences and misdirected resources.

I am here to support the San Joaquin Valley Air District's pursuit to, in a very small way, make the Clean Air Act more workable as part of Senator Capito's bill.

In the San Joaquin Valley we have eight MPOs in one non-attainment area. Sometimes we are eight MPOs and sometimes we have to function as one. Action on any one MPO's regional transportation plan requires the other seven be not just in compliance with the Act, but also with every process test in the endeavor. This means there are years where if one MPO fails, we all fail, and that results in losing transportation funding. We are connected at the hip in that way.

We are in non-attainment for two ozone standards: three PM2.5 standards and PM10. We anticipate being designated non-attainment for the 2015 ozone standard as well. Each of these standards requires a separate air quality plan which leads to multiple requirements and deadlines. Currently, there are 51 different air quality tests each of the eight transportation planning agencies must pass.

Regionally, that is 408 tests before we spend \$1.00 of

Federal transportation funding. Eighty of those tests are for ozone alone. Failure of one test by one MPO can result in the loss of funding for all eight, and we are set to do this on a schedule that averages about once every two to three years.

Needless to say, the process is complex and difficult to explain. We have tried to do that in Figure 2, which is attached. If any one of the processes is not complete in perfect harmony and done on schedule with the others, the result equals project delivery delays or the loss of funding. Should synchronization of 11 processes not occur, we face the potential for air quality conformity lockdown. Not that we fail to meet the standards, but we fail to meet the process requirements.

It is something of a credit to the agencies involved that we have only once fallen into a lockdown, until now. It is inevitable that we will go into a lockdown in the coming weeks. Target review dates in the case have slipped for the EPA, placing us in a lockdown situation. In the Valley, about \$450 million in potential project delays are on the table. Our expectation is that we will exit the situation in three to six months, quite likely missing whole construction seasons.

Examples of projects that will be impacted are a brand new interchange, the widening of a local arterial that is presently a mish-mash of two three-lane segments, and an operational project to provide a continuous left turn lane for drivers on

residential streets.

How we get into a lockdown is complex, but this is nothing new. We have been there before and we will get out of it again. But these will become more frequent and even intractable. Updating the Clean Air Act is needed to simplify and streamline the process because this is not the reason a region should lose transportation funding.

In closing, we support a strong Clean Air Act with common sense revisions that actually result in improved air quality. We need a way to greatly reduce the almost biannual updates with 51 tests that place our transportation funding at risk constantly. Common sense amendments to the Clean Air Act that you are considering today will benefit our efforts in the San Joaquin Valley.

Thank you very much.

[The prepared statement of Mr. Chesley follows:]

Senator Capito. Thank you.

Our next witness is Mr. Mark Raymond, who serves as
Commissioner and Chair of the Uintah County in Utah. Welcome.

STATEMENT OF MARK RAYMOND, UINTAH COUNTY COMMISSIONER AND CHAIR,
UINAH COUNTY, UTAH

Mr. Raymond. Good afternoon, Madam Chair and members of the Committee. I am Mark Raymond, and I serve as the Chairman of the Uintah County Commission, located within the Uintah Basin in eastern Utah.

I am honored to testify before the Committee today to support the legislation being considered, S. 2882 and S. 2072, and discuss the issues we face in controlling ozone levels in the Uintah Basin, especially the unique occurrence of high winter ozone levels. Additionally, I want to thank our own Senator Hatch for his efforts to craft and introduce S. 2072 and his willingness to work on this very difficult issue.

Uintah County stands ready to assist in the passage of both legislative proposals that will allow communities to deal with ozone in a rational and responsible manner, without the scarlet letter of non-attainment under the Clean Air Act.

Only two places in the Nation experience high levels of winter ozone, the Upper Green River Basin in Wyoming and the Uintah Basin in Utah, both very rural areas. Higher winter ozone levels are a result of a complex mix of geography, weather, and emission conditions. Winter ozone levels rise when snow cover and multiday temperature inversions occur. Snow reflects the sunlight back up to the cloud cover and this

becomes the perfect mix to allow pollutants to build and react to produce ozone.

However, in the absence of these conditions, exceedances of EPA's ozone standard have not occurred. Ozone levels in the Uintah Basin became the focus of local and State governments and the EPA as we experienced several winters of high ozone levels, higher energy production, and EPA's new standard of 70 parts per billion. Although it is clear that our energy industry contributes to ozone precursors, those same releases do not create high levels of ozone absent the precise weather conditions.

The energy industry is responsible for 60 percent of our economy and 50 percent of our jobs. We need this industry to feed our economy, which in turn provides the resources to tackle our ozone problem. Under non-attainment, the industry and their investments will relocate to other areas, leaving few, if any, resources to fund and implement air quality controls.

Voluntarily, we have spent years and millions of dollars to study, monitor, and model winter ozone. All we really know after this work is that this is a very complex issue that requires more years of research and monitoring to ensure that investments are effective and that our modeling is accurate in order to formulate appropriate controls.

It is our fear that EPA, armed with the new ozone standard,

will put Uintah Basin into a non-attainment status, and we will go into what could be decades of Clean Air Act compliance, which may not actually improve our air quality.

While EPA's current ozone standard is the hammer over my community's head, the real driving force of our efforts is to improve our air quality for our citizens. The Clean Air Act provides limited tools for communities to proactively improve air quality and provides disincentives to reduce emissions ahead of a non-attainment designation.

In 2002, the EPA initiated a strategy known as the Early Action Compact Program. This program allows communities to enter into Compacts with EPA to improve air quality, hold off non-attainment designation during compact implementation, and allowed credits for investments made pursuant to the Compact. Twenty-nine areas from 12 different States submitted signed Compact agreements. Of the 29 areas, 14 areas were able to defer non-attainment status and 15 areas were successful and reached attainment due to their implementation in the Compact Program.

Pursuant to an EPA study, the Compact Program was successful, gave local areas the flexibility to develop their own approach to meeting the ozone standard, provided communities with the tools to control emissions from local sources earlier than the Clean Air Act would otherwise require, and it improved

air quality faster and promoted regional cooperation.

Unfortunately, EPA scrapped the program due to litigation.

Under S. 2072, State, tribal, and local governments would initiate the application process and craft a proposed Compact plan for EPA's approval. Compact plans must ensure public involvement, provide credits for emission reductions, contain measurable milestones leading to attainment within 10 years, emission inventories, modeling, and planning for future growth. During the implementation period, the administrator agrees to withhold non-attainment designation so long as the compact is being implemented.

S. 2072 puts local, tribal, and State governments in control of improving air quality, fosters cooperation with the EPA, and will provide true air quality improvements. So. 2072 also requires EPA to issue separate guidelines for communities with winter ozone issues. These separate provisions are critical to ensure that winter ozone compacts will accommodate additional research and monitoring necessary for fully understanding this complex issue.

S. 2072 provides a proven, bipartisan, and successful mechanism for communities to improve air quality without destroying their economies. This is the goal of S. 2072 and we urge the Committee to approve this legislation.

I thank you for the opportunity to testify today and I

would be happy to answer any questions that you may have.

[The prepared statement of Mr. Raymond follows:]

Senator Capito. Thank you.

Our final witness is Mr. Glenn Hamer, who is President and CEO, Arizona Chamber of Commerce and Industry.

Welcome.

STATEMENT OF GLENN HAMER, PRESIDENT AND CEO, ARIZONA CHAMBER OF
COMMERCE AND INDUSTRY

Mr. Hamer. Thank you, Madam Chair, Ranking Member Carper, and members of the Committee.

My name is Glenn Hamer, and I am President and CEO of the Arizona Chamber of Commerce and Industry, and we are the leading statewide business advocate in Arizona.

I appreciate the opportunity to testify here this afternoon about the challenges and the economic impact to Arizona and other States with a western focus of the EPA's new standard for ground-level ozone. I have also submitted for the record a written statement, along with a copy of our latest paper by the Arizona Chamber Foundation and Prosper Foundation, entitled A Clear and Present Danger: How the EPA's New Ozone Regulations Threaten Arizona's Economy. That is a more comprehensive examination of the issue.

I would like to first thank the Chairwoman for her extraordinary leadership in sponsoring S. 2882. We were thrilled that earlier this month the House companion, H.R. 4775, passed the House. This is arguably one of, if not the most important bills pending right now in the Congress for the State of Arizona, and I will explain why in a bit.

We agree that delaying the implementation, the 70 parts per billion standard, is necessary, at the very least because it

relieves the immediate burden of complying with it. But the legislation have sponsored, Senator, also provides with the flexibility and the roadmap we need going forward. This is a smart piece of legislation.

I also want to commend our State's Attorney General, Mark Brnovich, for leading the legal challenge against the new ozone rule in Federal court, which now nine other States have joined, including Oklahoma.

The economic impact of the new one-size-fits-all national standard on Arizona and other western States is significant. The 70 parts per billion standard will be virtually impossible for Arizona and other parts of the Country to meet. For Arizona, it is because of our unique location in the southwestern region and because the primary sources of Arizona's ozone precursors are outside our State's control.

Protecting Arizona's air quality is obviously of utmost importance to those here in Arizona. Tourism is one of our largest industries and we want to make sure the air is clean. But the imposition of this new standard will unfairly punish Arizona for things we simply can't control.

First, Arizona's number one source of nitrogen oxide emissions is cars. Our State's location as a border State to Mexico and as a gateway to southern California means that Arizona's highways are heavily traveled. Yet, because vehicle

emissions are regulated at the Federal level, any possible reductions are really in the hands of the Federal regulators responsible for setting those standards. This says nothing of the cars crossing into the Arizona from Mexico that aren't even regulated by the United States Government.

Second, Arizona has incredibly high levels of biogenic or naturally occurring background ozone. With our State's vast ponderosa pine forest and high incidents of wildfires and lightening, some are raging right now, unfortunately, biogenic ozone emissions account for 43 percent of Arizona's volatile organic compound emissions. In fact, major industrial sources, this is an important point, only account for a mere 2 percent of nitrogen oxide emissions in Arizona's largest and most populous county, in Maricopa County, and just 1 percent of that county's VOC emissions.

Third, Arizona receives a significant amount of ozone from California. This cross-border transmission is also referred to as interstate transport. The EPA does not permit exclusions for interstate transport, so even if our State's Arizona Department of Economic Quality proved that this ozone originated in California, a complicated and expensive process, Arizona is still being penalized for ozone we did not create.

Fourth, Arizona receives significant international transport from Mexico, Canada, and Asia; and we like that this

bill requires a study on that issue. But because of the EPA's rule, even if, again, we prove this, at great cost, we still would not be placed out of non-attainment status.

Finally, almost 70 percent of the land in Arizona is tribal land or controlled and managed by the Federal Government. Yet, we are still held responsible for emissions originating there. Simply put, although Arizona has been making great strides from the regulation just put into place in 2008, we will be really hit very hard by this new regulation.

I would like to also say we appreciate what Senator Hatch and Senator McCaskill are moving towards in S. 2072 in terms of providing additional flexibility. If I could leave the Committee with a couple of thoughts, we need to make sure we get away from one-size-fits-all regulations. We simply can't penalize States and regions that have issues beyond their capability.

In terms of Arizona, I just want to say that we are working very, very hard to do everything possible under the 2008 standards to meet those, so for this to come up while we are making such great progress is a real problem. And, again, we urge passage of the Chairwoman's very important legislation.

Thank you.

[The prepared statement of Mr. Hamer follows:]

Senator Capito. Right on the number there.

Thank you all very much for your testimony, and I will begin the questioning.

First of all, let me just make a statement. Neither one of these bills would raise the standard of ozone allowed in the atmosphere; it simply is asking for flexibility, longer timelines, and to wait until some of the places that haven't been able to get into attainment catch up before they are further asked to squeeze down, which we have heard from Mr. Chesley, obviously causing an issue.

I did not realize, but I learned today, that one-third of the 38 million people living in California don't meet the standard, the 2008 standard. I think that is what our testimony was. So, Mr. Chesley, can you tell me what is the deadline for the San Joaquin Valley to comply with the 2008 ozone standard, the 75 parts per billion?

Mr. Chesley. Chair, I would actually prefer Mr. Karperos to answer that specific question, but I have to say that what we are doing in the San Joaquin Valley in terms of trying to address those various standards that have been set, we have, I think, 11 different ones that we have to be able to meet, comply with this on this has been heroic and herculean. In terms of the standards themselves, we are prepared to meet those standards, but we need a schedule to do it that actually is

achievable and that does not place valuable public policy interests, such as transportation infrastructure, at risk.

Senator Capito. Right. I think the testimony was somewhere around 2031, 2032 for California.

Mr. Chesley. Yes. Yes.

Senator Capito. Right. So that is an extension. That is a longer timeline for California to be able to meet the standard to be able to hang on your transportation dollars and also some of your economic development issues. So, in my view, that is an acknowledgment from EPA that just extending the deadlines is not necessarily an advocacy for dirtier air or having a higher ozone standard. They are trying to, at least in the case of California, build into the flexibility that I hear other members of the panel are asking.

It was also testified that delay increases costs. The costs to California obviously are going to be very good. I think the part of the bill, my bill that says that we are going to have a study that submits and looks into the impacts of emissions from foreign countries, in my view, that would be welcomed, I think, nationally, particularly from the State of California, Arizona, and others on the west coast.

Mr. Hamer, the 2015 ozone standard saddled States with significant new costs, one of which we heard is just the cost of actually performing the tests and figuring out where you are.

That is not a reason to not do them, but I think some flexibility there and some better technologies would probably help as well.

The Director of Environmental Protection in West Virginia pointed out that the EPA has admitted that 30 percent of the controls necessary to achieve the NAAQS at 70 parts per billion are unknown. In other words, 30 percent of the technologies that are going to be needed to meet the new standard are still undiscovered or untested or unable to be put into an economic model that can be actually used.

So you mentioned to me, when I first met you, that Maricopa County just now achieved the status of attainment. What do you envision for your largest county in your State to be able to move forward under a five-year timeline as opposed to, say, a ten-year timeline?

Mr. Hamer. Madam Chair, thank you for that thoughtful question. There is a difference between difficult to meet and impossible to meet right now, and we are in the impossible to meet. So out of the 10 counties in Arizona that have had to go and to work to meet the 75 per parts standard, 9 of those counties, including those in our most populous regions, would be out of attainment.

You mentioned another important part, that the EPA has acknowledged that there should be flexibility, given the action

they have taken in California. We have been working very, very hard, since 2008, which is not that long ago, to implement the 75 per part standard.

But Yuma County would be a good example. In fact, our director of the Department of Environmental Quality, Misael Cabrera, recently testified before the House Energy and Commerce Subcommittee and he specifically mentioned Yuma as a place where there is not a lot of industry, but because of the geographic region, right next to California and Mexico, it would simply be impossible for that county to become in compliance with the new standard.

Senator Capito. Thank you very much.

I would now like to recognize my cosponsor on S. 2882, Senator Flake from Arizona, to make an opening statement about the bill.

STATEMENT OF THE HONORABLE JEFF FLAKE, A UNITED STATES SENATOR
FROM THE STATE OF ARIZONA

Senator Flake. Well, thank you so much, Madam Chair. I appreciate you and Ranking Member Carper allowing me to speak in support of the Ozone Standards Implementation Act. I am pleased to join the Chairwoman in sponsoring this bill.

Since I testified last June on ozone reform, the EPA finalized its rule on the ozone emission standard at 70 parts per billion. In my opinion, this rule demonstrates complete tone-deafness on the part of the EPA, and it is particularly detrimental, as we were hearing, to my home State of Arizona, where the impacts of the EPA's failed air regulatory regime are apparent. With these costly compliance requirements, this rule will burden counties and businesses already working in good faith, as we have heard, to meet the previous standard.

I am particularly pleased to see Glenn Hamer here representing the Arizona Chamber, giving a perspective from Arizona businesses that are trying, in good faith, to meet these standards, but were very much, in the case of the EPA changing the rules in the middle of the game.

I, for one, believe it is time for Congress to step in, and this legislation includes a provision from the bill that I introduced previously, called the Ordeal Act, that would change the mandatory review of National Ambient Air Quality Standards

from 5 to 10 years. Among other provisions, the legislation also phases in implementation of the 2000 and 2015 ozone standards, extending the compliance date for the 2015 standards to 2025. It remains crucial that States have the flexibility and the time to implement their own innovative and proactive measures here.

Now, in response to the EPA tightening the standard despite public outcry, I introduced a congressional resolution that would permanently halt the implementation of EPA's final rule on ozone tightening. I can tell you the outcry has not dimmed in my State. I hear it statewide with the decision of the attorney general to file suit over the rule and to be joined by other States in that effort.

I hear it in Phoenix as members of the business community, such as Glenn here, realize that it is impossible, not just difficult, but impossible for Arizona to ever comply with that standard. And most recently my staff in Yuma attended a Board of Supervisors work session on this very topic, just last week, hoping to find a way to be protected from this last tightening. This effort I pledge to work on and achieve.

I am pleased that Congress is focusing on this and other legislative remedies. I am committed to pushing this legislation and will continue to introduce provisions providing regulatory relief and flexibility to lessen the impact of this

devastating rule on Arizona's community.

With that, Madam Chair, thank you so much for allowing me to speak.

[The prepared statement of Senator Flake follows:]

Senator Capito. Thank you.

I will turn it over to the Ranking Member, Senator Carper.

Senator Carper. Thanks.

Senator Flake, always good to see you. Thank you for doing this today. I know you have other things to do. If you could just stay for a couple minutes.

I make a unanimous consent request, if I could, to enter a couple letters from the environmental and health community expressing, believe it or not, opposition to S. 2702 and S. 2882. I would also like to ask unanimous consent to enter into the record taxable assistance from EPA that provides a description on the EPA's earlier Early Action Compact Program, as well as a comparison between the agency's earlier Early Action Compact Program and S. 2702, and a conclusion that S. 2702 could result in delayed reduction of pollutants.

Since Senator Boxer is going to be unable to join us today, she has asked that I ask unanimous consent that her statements be entered into the record.

Senator Capito. Without objection.

Senator Carper. Thank you so much.

[The referenced information follows:]

Senator Carper. The situation that they face in Arizona reminds me of the situation that we have faced in Delaware and I have explained that here before. When I was governor of Delaware, we could basically shut down our State's economy and still have been out of compliance because of all the pollution that is put up in the air to the west of us, States to the west of Delaware and the west of Maryland and so forth. So I am not unsympathetic to the concerns that he raised.

My staff has given me a map of the United States, and it is too small for me to share with all of you, but it is a map of the United States with a look ahead to 2025. It says EPA projects that the vast majority of counties across the Country would meet the updated ozone standards in 2025 without additional actions to reduce pollution. The map shows that they still have quite a bit to do in California, but most of this map is like there are no markings on the States and it looks they are free of any kind of additional actions that would be required to be in compliance in 2025.

I don't know who to ask here, but maybe Mr. Karperos, can you take maybe a minute or two and show us how States can address out-State pollution and their State implementation program? I believe there are Federal programs already being implemented that could go a long way to help reduce ozone

pollution across the Country. As a result, I am told that only 15 counties outside of California are expected to be in non-attainment by 2025. None of these counties expect to be out of attainment in 2025 are Arizona.

Is that your understanding?

Mr. Karperos. In my review of the modeling that U.S. EPA did to lead to the map that you were showing, Senator, it is my understanding that, yes, without any additional programs, just implementation of the programs that are on the books, that Arizona would achieve both the 70 and the 75 parts per billion standard.

I am not surprised by that. A similar situation in California. We currently have approximately 19 areas that we would expect, if the designations would be made today, would be non-attainment for the 70 parts per billion standard. By the time the designations are made next year, I expect it to be much fewer than 19.

There are a number of Federal programs that are absolutely critical for dealing with this sort of situation and the transport of emission from upwind. Certainly, Federal vehicle standards are critical of the Clean Power Plan, and the interstate provisions that EPA administers to help shield the downwind States for responsibility for emissions that are currently impacting downwind.

So there are critical provisions that the Federal Government needs to implement. In particular, when it comes to both California attainment, as well as attainment throughout the State and then downwind, Federal action to tighten standards for trucks and locomotives is absolutely critical. Right now we are partnering with U.S. EPA and the engine and truck manufacturers, as I said in my opening statement, to demonstrate that trucks, just by optimizing the technology that is on the trucks today, would be 90 percent cleaner.

That sort of Federal action, similar action on locomotives, absolutely critical. There is sort of a twofer in that sort of issue: the emissions blow downwind plus those trucks drive downwind. So you are getting actually a twofer for that sort of Federal action. Absolutely critical.

Senator Carper. All right, thanks for that clarification.

Sometimes, Madam Chair and colleagues, I think people think that they wake up in the morning over at EPA and they say, well, what can we tighten up today to make life miserable for the other States. As it turns out, my understanding is that EPA gets sued, not every day, but they get sued a lot because they are not doing enough to comply with the laws that are already in the books, and then they get sued because they are trying to comply, work something out and comply with these laws that were adopted under Republican administrations, if you can believe

that.

EPA putting out every five years these standards for ozone, why do they do this? Dr. Rice, why do they do this? Are they doing this on a whim? Is there some kind of requirement that they do this?

Dr. Rice. So the EPA is required to review the medical evidence at regular intervals so that --

Senator Carper. Required by law?

Dr. Rice. By law in order to incorporate the most up-to-date science and health standards that they set.

Senator Carper. If they didn't do that, would they be sued?

Dr. Rice. I believe they would be.

Senator Carper. Yes, they would.

Dr. Rice. I would like to make the point that that is particularly relevant for the health of children. So, for example, if we delay the review period for another 10 years, that means that findings that have been made about ozone, which there have been in the last few months, won't even be considered until 2025 at the earliest.

That means that babies that are born today, they are already going to be in grade school, and children's lungs continue to develop after they are born all the way until they are teenagers. There is evidence to show that air pollution is

harmful for child lung development. So it is a big deal.

Senator Carper. Okay, thank you.

My time has expired. Madam Chair, I would just say those of us whose roots are in West Virginia were raised by parents who believe in common sense. Maybe you and I can just sit down with our staffs and just figure out how we can use some common sense. Those of you who express some interest particularly in some changes to, I don't know, legislation that pertains to transportation projects and that kind of thing, I would be interested in a further conversation with you folks too. Thank you.

Senator Capito. Sounds good. Thank you.

Senator Fischer?

Senator Fischer. Thank you, Madam Chairman. I would say, Senator Carper, Rhode Island and Nebraska have common sense as well, so I know Senator Whitehouse and I would be happy to join in any discussion.

Senator Carper. Well, I heard Rhode Island has common sense.

Senator Fischer. Oh, now, just a minute. Come on.

[Laughter.]

Senator Fischer. No. Nebraska, we are known for our common sense. Please.

Senator Carper. Oh, that is right. I am sorry.

Senator Fischer. Mr. Hamer, nice to see you again. The EPA updated ozone standards in 2008. However, the EPA delayed implementing the 2008 ozone standard for two years while it pursued reconsideration. States are now catching up with implementing that standard, particularly since the EPA just issued implementation rules for the standard last March. And now EPA has finalized a new ozone standard that overlaps with the 2008 standards.

So do implementation delays like this challenge local communities and businesses that are tasked with putting ozone air standards in place? And would legislation that we are discussing today help to mitigate this type of harm?

Mr. Hamer. Senator Fischer, very nice to see you again. It is a great question and the issue that you are raising is that while this new standard is finalized in 2015, Arizona continues to make sure that it has everything buttoned up with the 2008 regulations.

The new regulation certainly ratchets things up in a way that we believe is impossible to meet at this time for the nine out of the ten counties that are already monitored. But it is a very, very difficult situation. And I am trying to put this in concrete terms.

So here you have areas that are becoming in attainment and they are able to get the permits and do the things they need so

manufacturers could add jobs and things like that, and now you have this new standard that would clearly throw big areas of Arizona and other portions of the Country out of containment. I mean, this map really gives an idea. It is not just an Arizona thing. They may have a disproportionate effect on the west, but this hits a lot of different parts of the United States.

And, again, I just want to say that we are deeply concerned about clean air in Arizona, deeply concerned. Human beings like moving to our State. We are now the 14th largest State in the Country. We just passed Massachusetts.

Senator Carper, you began your statement --

Senator Fischer. This is my time.

Mr. Hamer. Oh, I am sorry. But I was going to tie it to your question.

Senator Fischer. Okay.

Mr. Hamer. The issue is there is a formula that brings, just like with the legislation that the President signed, there is a formula that brings industry, environmental groups, States together in a common sense way so we move away from one-size-fits-all legislation.

Senator Fischer. Right. And in the policy brief that you included with your testimony, it discusses exceptional events and it describes them as an event natural or caused by human activity that affects air quality is unlikely to occur and

cannot be reasonably controlled or prevented.

This past spring Nebraskans were affected by two events, the Anderson Creek fire from Kansas and Oklahoma, as well as the Alberta wildfires, and that did result in air quality issues in the State of Nebraska. So if air quality standards were exceeded because of these wildfires, it seems as though they should be considered exceptional events under the Clean Air Act so that Nebraska can exclude them from regulatory consideration.

In your experience, can you describe how successful States have been in having submissions for these exceptional events granted by the EPA and what the costs are associated with that process, and what is the typical timeframe that we can see when the EPA is going to make a decision on those?

Mr. Hamer. Senator, thank you for that question. And I want to just commend Senator Flake for his extraordinary leadership here. He has been a leader in the Congress on dealing with exceptional events. I think he has put the word haboob in the national lexicon. And those are things you can see from outer space. It still is very, very difficult and very, very expensive to work with the EPA to get these exceptional events designated.

Now, I will say we are making progress, but here is another area --

Senator Fischer. How long does it take? What are the

costs?

Mr. Hamer. I hope I am completely accurate, but I believe it is about 4 to 8 months. Some of these, according to our Arizona Department of Environmental Quality, could cost \$50,000 per event. That is real money for a State government. Some take longer and some cost more.

Again, the legislation that is pending before this Committee is vitally important to including exceptional events as something to be considered.

Senator Fischer. Thank you very much.

Thank you, Madam Chair.

Senator Capito. Thank you.

Senator Whitehouse.

Senator Whitehouse. Thank you, Madam Chair.

As is often the case, where you are helps determine where you stand on these things, and, like Senator Carper, where I am is Rhode Island, and Rhode Island is a downwind State. I distinctly remember driving to work in the morning on a nice summer day and hearing the radio station tell me that today is a bad air day in Rhode Island and that children and elderly folks and people with breathing conditions should stay indoors.

There wasn't much that we could do about it because most of this came from out-of-State sources that were pumping it up into the sky and then it was drifting over Rhode Island.

Particularly NAAQS wasn't being sun-treated during that time, and by the time it hit Rhode Island we were not in attainment and there wasn't a thing we could do about it.

So the enforcement of these standards has meant a big deal to Rhode Island. We are back in attainment; our bad air days are diminished; there are fewer asthma and hospital visits. And that is all very real to people in Rhode Island.

We are still looking at plants in West Virginia and Pennsylvania that, by my calculation, are releasing 45,000 tons more of NAAQS than they did just seven years ago, which suggests that it is not either the best technology or they are not operating it at efficiency, that they have tailed off and haven't upgraded their protections. So we downstream States take this very, very seriously.

To add to what Senator Carper said, if they are local conditions, like in Uintah Basin there is a peculiar geographic phenomenon that you can't get around, we are more than happy to work with you on something like that. If there is a particular unique event like a forest fire. But anything that takes a broad cut at the baseline standards here puts States like mine in real peril and it is very frustrating.

Let me ask a question. Let me ask Mr. Karperos. Clearly, you would concede that there are costs to cleaning up air and avoiding ozone and so forth, correct?

Mr. Karperos. Absolutely, Senator.

Senator Whitehouse. And would you also concede that there are benefits and values from having cleaned-up air?

Mr. Karperos. Yes.

Senator Whitehouse. What would you think of a study that counted the costs to clean up the air, but didn't count the value or the benefits from the cleaned-up air?

Mr. Karperos. Missing half the equation.

Senator Whitehouse. Yes. Pretty basic? Are there values, for instance, the value of a child being able to play outside, that are hard to put a monetary value on, but that ought to count in considering whether or not the air should be clean?

Mr. Karperos. Oh, absolutely. I would agree with you completely.

Senator Whitehouse. So if you go to a purely monetary standard, you are likely to understate the benefits.

Mr. Karperos. Yes.

Senator Whitehouse. And there is a place in Mr. Hamer's testimony. By the way, welcome back. I really enjoyed working with Senator Kyl. Any staffer of his I am for, so than you for being back here.

Mr. Hamer. Thank you, Senator.

Senator Whitehouse. You say in your testimony, this would be a question for Dr. Rice, some studies, while inconclusive,

suggest that ground-level ozone, on its own or when mixed with other potential pollutants such as particulate matter, can have adverse health consequences like asthma and bronchitis.

Let me ask you first, Dr. Rice, is this an area in which you have some expertise?

Dr. Rice. Yes, it is, Senator. I study air pollution in addition to taking care of patients.

Senator Whitehouse. And how do you react to the suggestion that the studies that link ground-level ozone to health consequences like asthma and bronchitis are inconclusive?

Dr. Rice. I disagree with that statement. There is a preponderance of evidence spanning decades of ozone, chamber studies, observational studies, looking at thousands and thousands of people, and they have conclusively shown that there health effects of ozone exposure, particularly for the lungs.

Senator Whitehouse. As we go forward and as people learn more about these illnesses and how the pollutants relate to the illnesses, are there scientific advancements that are made that can indicate that the standard needs to change?

Dr. Rice. Certainly, Senator. The Clean Air Act is an amazing success story and air quality has improved dramatically, and that has allowed us to look at the health effects of air pollution exposure at lower and lower levels. In my own research, I found that exposure to ozone within the previous

standard caused the lung function of healthy people to be worse, and that is one small piece of information that is added to the wealth of research that has been informing how the EPA sets air quality standards.

Senator Whitehouse. And if in fact it is scientific evidence about human health that drives the change in the exposure levels, is it fair to describe that as just changing the rules in the middle of the game?

Dr. Rice. Can you explain that better? I am not I understand the question.

Senator Whitehouse. We had a comment earlier that to change this is the equivalent of changing the rules in the middle of the game.

Dr. Rice. Right.

Senator Whitehouse. If you are changing the rules because the science indicates that that is where the safe level is, is that a fair characterization of what is going on to just call it changing the rules in the middle of the game?

Dr. Rice. Certainly not. I wouldn't put it that way. The rules have all along been that the EPA is obligated to set air quality standards based on the protection of human health with an adequate margin of safety. As we learn more and more about the health effects of air pollution, we have set those standards lower and lower because we want to protect the health of adults

and of children.

Senator Whitehouse. Thank you, Chairman.

Senator Carper. Thank you.

Senator Cardin?

Senator Cardin. Thank you, Madam Chair. I thank you for this hearing. I was here listening to most of the presentations, then I had a meeting in my office and was listening to the question and answer, and I just really wanted to come back and thank particularly Dr. Rice and Mr. Karperos for your comments in regards to the health-related issues, because I think that is the key point.

Dr. Rice, I was reading your testimony in preparation for today's hearing and I was impressed by the fact, if I asked the people in Maryland what the difference is between 75 or 65 ppbs, they wouldn't have the faintest idea what I am talking about. But they do know the impact of a bad smog day, and parents particularly know that when I hear from parents that they can't let their kids go to camp on a given day. And then the parents stay home from work and they see the impact of that.

I want you just to elaborate a little bit more because one would say, well, is reducing it by this amount, does it really make any difference? What does 1 ppb really mean? And I was impressed by your written testimony where you indicated that each point means people are going to be dramatically impacted.

Can you just tell us the difference on these standards as to what it means?

Dr. Rice. Certainly, Senator Cardin. So ppb refers to parts per billion. It is a concentration of the pollutant in the air, and the standard is set according to an average over eight hours. But what we are really talking about is relationships between how high the level of the pollution is and health effects.

So if I can give you another example, in the City of Atlanta during 1996, during the Olympics, there were changes that were made that reduced the level of traffic in the city for a short interval during the Olympic Games. When scientists looked back at the experience during those Olympics, not only did traffic levels go down, but ozone concentrations went down from 80 ppb to 60 ppb. That resulted in a 44 percent decrease in asthma admissions for kids during that time interval who were on Medicaid.

So there are real children. When you looked at the rate of kids coming in with asthma attacks before the Olympics, you looked at the rate during the Olympic period, and then you looked at it afterwards, you found that there was a real decrease in the number of kids getting sick when the ozone level decreased.

Senator Cardin. Mr. Karperos, California is usually used

as the example of the State where the challenges are the greatest. Your testimony is that this rule is doable and that California will be able to move forward and be able to accomplish this. So these are achievable goals?

Mr. Karperos. Thank you, Senator Cardin. Absolutely they are achievable goals. The San Joaquin Valley, to use an example, an extreme non-attainment area, one of the two in the Nation, has achieved the one hour ozone standard. They have developed a plan and are in fact implementing the plan and U.S. EPA has approved the plan for attainment of the 80 ppb standard in 2023.

Just last week, the local air district adopted a plan to achieve the 75 ppb standard in 2031. Part of my written testimony was that ARB staff report reviewing that plan saying it meets all the requirements of the Clean Air Act. In fact, it is the Clean Air Act for the reason they have made sort of progress.

Finally, my agency will be considering a plan to further reduce emissions from cars and trucks that we think for the San Joaquin Valley, again, to use them as an example, will provide most, if not all, of the reductions needed for the 70 ppb standard even before it is designated non-attainment.

Senator Cardin. Of course, what the law envisions this review to be done is to determine, first and foremost, what the

health standards should be to protect the public health of our children and our families and our population; and then, secondly, it needs to be within a realm of what can be achieved, because otherwise it would not be achievable and we wouldn't have effective regulations.

From your testimonies, you believe that this change is, first, needed for the purposes of public health and can be achieved; and if we do stick with this schedule, families will be healthier and will save not only misery, but will also save resources in regards to health care and lost days at work, and things on that line.

Thank you, Madam Chair.

Senator Capito. Thank you.

I think that concludes. I thought Chairman Inhofe might return, but he has been detained, so I would just like to thank the witnesses.

Just a final two-second comment. I would like to say to Senator Carper that I certainly want to look for common sense solutions, ways to maybe massage the issue to make it so that some of the concerns that we have heard voiced today would be addressed. But I would also like to point out that the title of the hearing is Examining Pathways Towards Compliance.

So I think that shows that we are on the same pathway. Sometimes we try to get there different ways. Hopefully we can

get together and find some easier methods for some folks who are having more difficulty.

Thank you all very much. With that, I will call the meeting adjourned. Thank you.

[Whereupon, at 3:50 p.m. the subcommittee was adjourned.]