S. HRG. 114–363

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

HEARING

BEFORE THE

SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

JUNE 22, 2016

Printed for the use of the Committee on Environment and Public Works

Available via the World Wide Web: http://www.gpo.gov/fdsys

U.S. GOVERNMENT PUBLISHING OFFICE

21–264 PDF WASHINGTON : 2016

For sale by the Superintendent of Documents, U.S. Government Publishing Office
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C O N T E N T S

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

WEDNESDAY, JUNE 22, 2016

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY,
Washington, DC.

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

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

Also present: Senator Flake.

OPENING STATEMENT OF HON. SHELLEY MOORE CAPITO, U.S. 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 5 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 imple-

mentation deadlines and failed to designate non-attainment areas under the 2008 standard until May 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 toward 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, No. 1, it 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 5 to 10 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:]

STATEMENT OF HON. ORRIN G. HATCH,
U.S. SENATOR FROM THE STATE OF UTAH

Chairman Capito, today I wish to speak about ozone and current Environmental Protection Agency (EPA) ozone standards.

Ozone is a naturally occurring phenomenon. In many ways, ozone is good for our planet because it shields us from the sun's harmful ultraviolet rays. On the other hand, scientists tend to agree that extreme concentrations of ozone, especially when it hovers over cities, can have adverse health effects on human populations. Because of this, the EPA regulates ozone levels across the country under the authority of the Clean Air Act.

Now I understand the importance of keeping America's air clean, especially if too much ozone presents a public health risk. But if we are going to alter Federal ozone standards, revisions should be both based on science and mindful of economic impacts. Regrettably, EPA's recently released and updated National Ambient Air Quality Standards fail to meet these two criteria.

While EPA's revisions may be well intended, the agency misses several critical points. For example, in a rush to create national standards, EPA glossed over regional environmental variables. EPA chose to simply establish a blanket, nationwide standard for permissible atmospheric ozone, and in doing so they ignored the science concerning naturally occurring ozone—or what many call "background" or "ambient" ozone, which varies from region to region.

Unfortunately, for many areas across the West, this new standard is either at or near background ozone levels. As a result, EPA's new standard will disproportionately impact many Western communities. Even before the updated standard, if you happened to live in an area with high levels of ambient ozone you were likely already at risk of being designated as living in a "non-attainment" area. Now that the standard has become more stringent, it is likely to push these areas over the edge. And to be clear, a non-attainment designation can result in significant and detrimental economic consequences for a community.

For these reasons, while I recognize the importance of protecting our environment and monitoring air quality, I question the practicality of EPA's recently updated standards. In my view, as a matter of responsible governance, we need to push back against these types of one-size-fits-all Federal mandates that inadequately account for regional dynamics. In this case, especially due to the high potential for economic ramifications, ozone regulations need to be based on sound science and must consider regional ozone levels that occur regardless of human contribution.

Chairman Capito, at a time when Americans across the country are struggling to regain their footing and make ends meet, our Federal Government should be facilitating job creation and economic expansion, not stifling these efforts. Without a doubt, we should be exploring ways to improve our environment, but I believe that economic and environmental progress are not mutually exclusive. The choice between jobs and the environment does not have to be a zero-sum game. With this in mind, I have introduced legislation, S. 2072 alongside my colleague and friend, Senator Claire McCaskill. Our bill would direct the EPA to implement a program allowing communities to enter into voluntary, cooperative agreements with the EPA to craft local solutions that improve air quality in compliance with Federal standards.

Specifically, existing law is failing to energize efforts to improve air quality because it does not permit the EPA to give at-risk communities any "early action" credit for environmentally beneficial actions taken before a non-attainment designation. Instead, the EPA can only give credit for improvements that are made after a designation is declared and the damage is already done. Early action cooperative agreements help address this problem, and they have a strong precedent and a proven track record.

As background, in 2002 the EPA initiated a plan similar to the one outlined in S. 2072, called the Early Action Compact Program (the Program), which allowed areas struggling to comply with Federal standards to enter into an agreement with the EPA. The goals of these agreements were to improve air quality, to avoid a non-attainment designation during implementation, and to provide credits for investments made as part of the compact. Under the Program, 29 areas from over 10 States entered into agreements by December 2002. Of those areas, 14 successfully deferred non-attainment status and 15 achieved attainment. Ultimately, only one area—Denver, Colorado—failed to complete the Program. The Program's ability to provide flexibility provided communities with the tools they needed to control emissions more efficiently. Most importantly, the Program achieved success in a way that didn't come at the cost of jobs and the economy.

Unfortunately, far left environmental activists—more interested in blocking industry than preserving our environment—sued the EPA. By 2007 the EPA scrapped the Program due to litigation which argued that there was no authority under the Clean Air Act for the program. Thus, after 2007, the Program ended.

The legislation I introduced with Senator McCaskill will give clear authorization and direct the EPA to implement a program similar to the program of the early 2000s. Our bill will allow vulnerable areas across the country to again have the option of taking early action at the local level where it is most effective. This way, our communities can actually improve air quality and avoid a non-attainment designation and the negative economic consequences that come with it. If enacted, the EPA will be granted clear authority to give early action credit to at-risk areas across the country looking for help in complying with Federal standards. In turn, communities will be able to propose local, proactive solutions, in voluntary cooperation with the EPA, to improve air quality without risk.

To conclude, Chairman Capito, compromise isn't a bad word. You understand that improving good governance, the economy, and the environment is not a zero-sum game. Empowering our cities and counties with tools to implement locally crafted solutions to our problems will always deliver better results than big, one-size-fits-all Federal mandates, standards, and rules crafted by unelected bureaucrats in Washington.

STATEMENT OF HON. JOE MANCHIN,
U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

I want to thank Chairman Capito, Ranking Member Carper and the subcommittee for holding this hearing on S. 2882—the Ozone Standards Implementation Act of 2016.

Senator Capito's leadership on this issue is to be commended, and I am delighted to be a co-sponsor with her on this legislation. Her continued work on this issue is of critical importance to our Nation, and I fully support her efforts.

Our Nation has made great strides in achieving cleaner air. Since 1980 ozone levels have dropped 33 percent—this trend will continue as States implement the 2008 ozone standard and additional counties reach attainment. But States need time to catch up.

As the committee is aware, I previously sponsored legislation with Senator Thune regarding the Environmental Protection Agency's 2015 national ambient air quality standards (NAAQS) for ozone. That bill—the Clean Air, Strong Economies Act—would have prevented the EPA from finalizing a new rule lowering the standard for ozone causing emissions unless and until 85 percent of non-attainment counties were in compliance with the 2008 standard.

Despite our efforts, the EPA moved forward with promulgating a new standard that imposes overlapping and burdensome new schedules on States and has the potential to cause both immediate and long-term economic harm across our Nation. In fact, the EPA estimates that the new 70 parts per billion standard will increase the number of counties impacted from 217 counties to 958 counties.

That represents nearly one-third of the Nation, which will experience negative effects on job growth and development. Businesses will have to install expensive control technology and acquire a PSD permit in order to build or expand operations and create jobs in these counties. Yet, the EPA itself estimates that almost the entire Nation will be in compliance with the 2008 standard by 2025 using current methods.

The new EPA standard will hit our manufacturing community hard at a time when we are desperately in need of economic development in many areas of the country, including Appalachia.

S. 2882 is a common sense measure that allows for thoughtful implementation of ozone standards and reforms the law to improve how and when the national ambient air quality standards (NAAQS) are reviewed and updated.

Specifically, this bill will ease the negative effects of the new standard by extending compliance deadlines and facilitating implementation of the rule in a pragmatic, thoughtful way. It allows States to catch up and prevent undue economic harm.

The bill also changes the required review period for NAAQS from 5 years to 10 years. In practice, a 10-year review period is more appropriate particularly in light of the fact that the EPA is not meeting the existing 5-year deadline.

For example, the next major NAAQS will be for particulate matter (PM). The statutory deadline by which EPA must promulgate a new PM standard is 2017, but the EPA has stated it will likely need until 2021—that's 9 years, not 5 years.

The bill also authorizes the Administrator of the EPA to consider technological feasibility as factor when revising these standards and provides a pathway for States to seek relief in certain exceptional situations.

When this bill recently passed the House, the National Association of Manufacturers commented that, it "would ensure continued air quality improvements across the country, while better aligning the rule's requirements with the realities of the economy, technology and existing policies."

S. 2882 bill will provide greater predictability and certainty for American businesses while continuing the national trend toward cleaner air. I commend Senator Capito and the subcommittee for its consideration of this legislation and urge the full committee to pass the bill as soon as possible.

Thank you.

State of Utah
GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-034-16

June 22, 2016

Senator Jim Inhofe, Chair
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Senator Inhofe and Committee Members,

I'm reaching out to convey the impacts of the mandatory Clean Air Act requirements in response to pending designations of non-attainment under the 2015 ozone standard in the rural west and in particular with respect to winter ozone formation in Utah's high mountain valleys.

The Utah Department of Environmental Quality's mission is to safeguard public health and our quality of life by protecting and enhancing the environment. We take that mission seriously, and the public health impacts of ozone are important to address. We want to ensure that our efforts are focused on emission reduction strategies that are effective and appropriate in reducing ozone levels without requiring difficult, expensive measures that make no sense. The ozone provisions of the Clean Air Act and EPA's implementing regulations lead to a path of mandatory controls that were not designed to achieve attainment in rural areas. Transportation-focused measures in small rural communities will not be effective, nor will overly stringent controls applied to remote industrial sources. Applying the mandatory ozone control strategies in the absence of a thorough understanding of the formation and identification of effective control strategies won't improve public health in Utah.

The Utah Department of Environmental Quality, in partnership with local governments, industry, the Bureau of Land Management, the Environmental Protection Agency, the Ute Tribe, and various scientific research organizations, has been working diligently to determine the causes of wintertime ozone, identify control strategies to reduce emissions, and encourage industry to take proactive steps to cut emissions ahead of statutory deadlines.

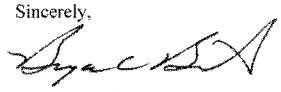
While great efforts have been made to further the understanding of winter ozone formation in Utah, it remains a complex problem where the results of extensive research have led to more questions. In early 2016, elevated ozone values were observed despite dramatic reductions in oil and gas production activity in the region. Our understanding must improve before there can be certainty that attainment with the standard can be achieved.

Senators Hatch and McCaskill have drafted S.2072 – "A bill to require the Administrator of the Environmental Protection Agency to establish a program under which the Administrator shall defer the designation of an area as a nonattainment area for purposes of the 8-hour ozone national ambient air quality standard if the area achieves and maintains certain standards under a voluntary early action compact plan." The bill language provides additional paths that promote innovative emissions reduction planning that improves air quality through local solutions to local problems rather than relying on mandatory strategies that were developed solely to address summer ozone in large urban areas.

Governor Herbert has stressed in communications with EPA that there needs to be action to create incentives for industry to take early action on ozone. Under current law, industry does not get regulatory credit for actions taken to reduce emissions before an area is designated as nonattainment. Consequently, the incentive is to wait for a designation before acting. As outlined in the bill language, providing industry with credit for early action (pre-designation) would serve the interests of air quality, health and common sense.

I appreciate these efforts in recognition that winter ozone formation is a complex problem that is not adequately addressed under the available regulatory programs. Additional time is needed to work with the established partnerships to understand, develop the technical tools and tailored emission reduction strategies before embarking on the prescriptive regulatory path that was not designed to address the unique conditions in Utah's mountain valleys.

Sincerely,



Bryce C. Bird
Director

April 18, 2016

The Honorable Mitch McConnell
Majority Leader
United States Senate
Washington, D.C. 20510

The Honorable Paul Ryan
Speaker
United States House of Representatives
Washington, D.C. 20515

The Honorable Harry Reid
Minority Leader
United States Senate
Washington, D.C. 20510

The Honorable Nancy Pelosi
Minority Leader
United States House of Representatives
Washington, D.C. 20

Dear Majority Leader McConnell, Speaker Ryan, and Minority Leaders Reid and Pelosi:

The undersigned, which represent a diverse group of industries from across the country, write to express our strong support for H.R. 4775, the "Ozone Standards Implementation Act of 2016." This legislation provides a common-sense approach for implementing national ambient air quality standards, recognizes ongoing state efforts to improve air quality through a reasonable implementation schedule for the 2015 ozone standards, streamlines the air permitting process for businesses to expand operations and create jobs, and includes other reforms that bring more regulatory certainty to federal air quality standards. Additionally, the undersigned support the request by numerous members of the House of Representatives that certain elements of H.R. 4775 be included in the Fiscal Year 2017 Interior, Environment and Related Agencies Appropriations bill.

We have significant concerns that the 2015 ozone standards overlap with existing state plans to implement the 2008 standards, leading to duplicative and wasteful implementation schedules, and unnecessary and severe economic impacts. The new ozone standards were promulgated in October 2015, only months after states received their final guidance from the Environmental Protection Agency (EPA) on how to implement the 2008 standards. This delay was the result of the Obama administration's decision to halt work on the 2008 standards during a 2010-2011 reconsideration period. The EPA, however, did not account for this self-imposed delay when issuing the 2015 standards, thereby imposing duplicative costs and burdens of implementing multiple standards simultaneously. This is particularly wasteful as the EPA itself projects that nearly the entire country would attain the 2015 standards simply by being provided an opportunity to fully implement their state implementation plans for the 2008 standards. Local economies also face severe impacts, as analysis of data indicates that the 2015 standards could expand nonattainment to more than 950 counties if reductions under the 2008 standards are not allowed time to take effect, subjecting large parts of the country to costly nonattainment control requirements.

Notwithstanding concerns expressed by thousands of elected officials, state agencies, businesses, community groups, and other stakeholders, the EPA issued the 2015 standards without addressing the overlap with the 2008 standards and the enormous impacts that dual implementation would have on limited state resources, permitting, and the economy. It is now up to Congress to address these issues, and that is why we support the introduction of H.R. 4775. By better aligning the 2015 ozone standards with the 2008 standards and their associated emissions reductions, H.R. 4775 will help prevent unnecessary nonattainment designations and cost burdens, without sacrificing environmental protection. The legislation's permitting relief and other reforms are also an important step towards air standards that balance environmental protection and economic development.

In sum, H.R. 4775 and the related appropriations request provide a common-sense plan that maintains continued air quality improvement without unnecessarily straining state and local economic resources.

We strongly encourage Congress to act quickly on this critical legislation.

Alabama Forestry Association
Alabama Petroleum Council
Alaska Chamber
Alliance of Automobile Manufacturers
Aluminum Association
American Chemistry Council
American Coalition for Clean Coal Electricity
American Coatings Association
American Coke and Coal Chemicals Institute
American Composites Manufacturers Association
American Concrete Pressure Pipe Association
American Farm Bureau Federation
American Forest & Paper Association
American Foundry Society
American Fuel & Petrochemical Manufacturers
American Highway Users Alliance
American Iron and Steel Institute
American Petroleum Institute
American Road & Transportation Builders Association (ARTBA)
American Wood Council
Anderson Area Chamber of Commerce
API New York
API Ohio
Arizona Chamber of Commerce and Industry
Arkansas Petroleum Council
Arkansas State Chamber of Commerce
Ascension Chamber of Commerce
Asphalt Roofing Manufacturers Association (ARMA)
Associated Industries of Arkansas
Associated Petroleum Industries of Michigan
Associated Petroleum Industries of Pennsylvania
Association of American Railroads
Association of Washington Business
Baton Rouge Area Chamber
Black Hills Forest Resource Association
Business Council of Alabama

Central Chamber of Commerce
Charleston Metro Chamber of Commerce
Charlotte Chamber of Commerce
Chemical Industry Council of California
Chemical Industry Council of Delaware
Chemical Industry Council of Illinois
Chemistry Council of New Jersey
Cherry Creek Chamber of Commerce
Clay County Chamber of Commerce
Colorado Association of Commerce & Industry
Colorado Business Roundtable
Colorado Petroleum Association
Colorado Timber Industry Association
Connecticut Petroleum Council
Consumer Energy Alliance
Consumer Specialty Products Association
Corn Refiners Association
Corpus Christi Chamber of Commerce
Council of Industrial Boiler Owners (CIBO)
Dallas Regional Chamber
Delaware State Chamber of Commerce
Denver Metro Chamber of Commerce
Extruded Polystyrene Foam Association (XPSA)
Fashion Jewelry & Accessories Trade Association
Flexible Packaging Association
Florida Chamber of Commerce
Florida Petroleum Council
Forest Resources Association
Galveston Regional Chamber of Commerce
Gas Processors Association
Georgia Agribusiness Council
Georgia Association of Manufacturers
Georgia Chamber of Commerce
Georgia Chemistry Council
Georgia Petroleum Council
Glass Packaging Institute (GPI)

Global Cold Chain Alliance
Granbury Chamber of Commerce
Greater Beaumont Chamber of Commerce
Greater El Paso Chamber of Commerce
Greater Elkhart Chamber of Commerce
Greater Irving-Las Colinas Chamber of Commerce
Greater New Braunfels Chamber of Commerce
Greater North Dakota Chamber of Commerce
Greater Port Arthur Chamber of Commerce
Greater Summerville/Dorchester County Chamber of Commerce
Greater Topeka Chamber of Commerce
Greenville Chamber
Iberville Chamber of Commerce
Illinois Chamber of Commerce
Illinois Fertilizer & Chemical Association
Illinois Petroleum Council
Independent Lubricant Manufacturers Association
Independent Petroleum Association of America
Indiana Chamber of Commerce
Indiana Petroleum Council
Industrial Energy Consumers of America (IECA)
Industrial Environmental Association
Industrial Minerals Association - North America
Institute of Makers of Explosives
Institute of Shortening and Edible Oils
Intermountain Forest Association
International Association of Refrigerated Warehouses
International Institute of Synthetic Rubber Producers, Inc.
Iowa Association of Business & Industry
ISSA, The Worldwide Cleaning Industry Association
Kansas Chamber of Commerce
Kansas Independent Oil & Gas Association
Kansas Petroleum Council
Kentucky Association of Manufacturers
Kentucky Chamber of Commerce
Kentucky Chemical Industry Council

Kitchen Cabinet Manufacturers Association
League City Regional Chamber of Commerce
Louisiana Association of Business and Industry
Louisiana Chemical Association
Lubbock Chamber of Commerce
Maine State Chamber of Commerce
Maryland Petroleum Council
Massachusetts Petroleum Council
Metro Atlanta Chamber
Michigan Chemistry Council
Milledgeville-Baldwin County Chamber
Minden-South Webster Chamber of Commerce
Minnesota Chamber of Commerce and Industry
Minnesota Crop Production Retailers
Minnesota Petroleum Council
Mississippi Economic Council
Missouri Agribusiness Association
Missouri Chamber of Commerce
Missouri Petroleum Council
Monroe Chamber of Commerce
Montana Chamber of Commerce
Motor & Equipment Manufacturers Association
Myrtle Beach Area Chamber of Commerce
National Association for Surface Finishing
National Association of Chemical Distributors
National Association of Convenience Stores
National Association of Home Builders
National Association of Manufacturers
National Black Chamber of Commerce
National Corn Growers Association
National Cotton Council
National Council of Textile Organizations
National Federation of Independent Business
National Lime Association
National Marine Manufacturers Association
National Mining Association

National Oilseed Processors Association
National Tooling and Machining Association
National Waste & Recycling Association
NATSO, Representing America's Travel Plazas and Truckstops
Nebraska Chamber of Commerce & Industry
Nevada Manufacturers Association
New Jersey Chamber of Commerce
New Jersey Petroleum Council
New Mexico Association of Commerce and Industry
New Mexico Business Coalition
New Mexico Oil & Gas Association
New York State Chemical Council
North American Die Casting Association
North Carolina Chamber
North Carolina Petroleum Council
North San Antonio Chamber
Ohio AgriBusiness Association
Ohio Chamber of Commerce
Ohio Chemistry and Technology Council
Oklahoma State Chamber
Oregon Women In Timber
Overland Park Chamber of Commerce
Palacios Chamber of Commerce
Pennsylvania Chamber of Business and Industry
Pennsylvania Chemical Industry Council
Petroleum Marketers Association of America
Portland Cement Association
Precision Machined Products Association
Precision Metalforming Association
Roanoke Valley Chamber of Commerce
Rogers-Lowell Area Chamber of Commerce
Roof Coatings Manufacturers Association (RCMA)
Silver City Grant County Chamber of Commerce
Society of Chemical Manufacturers and Affiliates
Society of Independent Gasoline Marketers of America
South Carolina Chamber of Commerce

South Carolina Manufacturing Alliance
South Carolina Petroleum Council
SPI: The Plastics Industry Trade Association
Tennessee Chamber of Commerce and Industry
Tennessee Petroleum Council
Texas Association of Business
Texas Association of Manufacturers
Texas Chemical Council
Texas Forest Industries Council
The Business Council of New York State
The Chamber of Commerce of Reno, Sparks, and Northern Nevada
The Fertilizer Institute
The Greater Summerville/Dorchester County Chamber of Commerce
The Kansas Chamber of Commerce
The Lake Houston Area Chamber of Commerce
The Ohio Manufacturers' Association
Treated Wood Council
Truck and Engine Manufacturers Association
U.S. Chamber of Commerce
Upstate Chamber Coalition
Utah Petroleum Association
Virginia Chamber of Commerce
Virginia Forestry Association
Virginia Manufacturers Association
Virginia Petroleum Council
West Baton Rouge Chamber of Commerce
West Virginia Chamber of Commerce
West Virginia Manufacturers Association
West Virginia Petroleum Council
Western Wood Preservers Institute
Wichita Metro Chamber of Commerce
Wisconsin Manufacturers & Commerce
Wisconsin Paper Council
Wyoming Ag-Business Association
Wyoming Business Alliance
CC: U.S. House of Representatives
U.S. Senate

60 Conservative Organizations to Congress:
Reform the EPA's Ozone Standard to Save American Jobs

May 9, 2016

Dear House Energy and Commerce Committee Chairman Upton and Senate Environment and Public Works Committee Chairman Inhofe:

On behalf of the 60 organizations listed below and the millions of Americans represented, we urge you to take action on the Environmental Protection Agency's National Ambient Air Quality Standard (NAAQS) for Ozone and to reform the rulemaking process for ozone and other pollutants regulated under NAAQS. Without changes to the ozone regulation and reform of the rulemaking process, economic activity could be brought to a standstill in many areas across the country.

The ozone regulation has questionable benefits, but certain economic costs. Last year, when the EPA lowered the compliant level of ozone from 75 to 70 parts per billion (ppb), it estimated the regulation would cost $1.4 billion annually and admitted the cost of the regulation greatly outweighed the benefits of further ozone reductions. Previous cost estimates by the EPA ranged between $3.4 and $25 billion annually. The only way EPA could justify the regulation was to use questionable co-benefits. In reducing ozone, there may also be benefits from reductions of other pollutants, in this case particulate matter (PM). However, the EPA already has another set of regulations dealing exclusively with PM. Either the EPA has woefully inadequate standards for PM or it is effectively "double counting" the health benefits of PM reductions to justify the ozone regulation.

The EPA had to use questionable co-benefits to justify the regulation because of the tremendous reductions in ozone already achieved. Since 1980, ozone concentrations have fallen by 33%. In many areas across the county, ozone concentrations are nearing background levels – concentrations resulting from natural and nonlocal manmade sources. Before finalizing the current regulation, EPA was considering an ozone standard so strict Yellowstone National Park would have been noncompliant.

Many states are still working to implement the 2008 standard of 75 ppb. 177 counties, which contain just under one-third of the U.S. population, are designed as nonattainment areas under the 2008 standard. By making the ozone standard stricter, the EPA has made it significantly harder for these counties to be in compliance and ignores their hard work at meeting the prior standard.

The ozone regulation places a tremendous burden on communities

across America. The result of a nonattainment designation can be disastrous and bring economic activity to a halt. Local governments risk losing federal highway funds. Oil and gas operations, with the royalty and tax revenue they bring, may cease. Manufacturers may be forced to relocate or shut down, destroying jobs in the process.

Given the harmful economic effects, we ask that you consider measures to change the ozone standard and reform the rulemaking process. Currently, the Ozone Standards Implementation Act of 2016 (H.R. 4775, S. 2882) is one such measure that achieves these objectives. The legislation would push back the attainment deadline for states and require economic feasibility to be considered. Additionally, it would bring much needed reform to the rulemaking process by changing the review period for pollutants under NAAQS from every 5 years to every 10.

Thank you for your consideration and work on this important issue.

Sincerely,

Brent Gardner, Vice President of Government Affairs
Americans for Prosperity

Amy Noone Frederick, President
60 Plus Association

Alex St. James, Chairman Emeritus
African-American Republican Leadership Council (AARLC)

Dick Patten, President
American Business Defense Council

Phil Kerpen, President
American Commitment

George David Banks, Executive Vice President
American Council for Capital Formation

Sean Noble, President
American Encore

Tom Pyle, President
American Energy Alliance

Coley Jackson, President
Americans for Competitive Enterprise

Peter J. Thomas, Chairman
Americans for Constitutional Liberty

Richard Manning, President
Americans for Limited Government

Grover Norquist, President
Americans for Tax Reform

Dan Weber, CEO
Association of Mature American Citizens

Alex St. James, Executive Director
Blacks Economic-Security Today Trust Fund (BEST Trust Fund)

Jeffrey Mazzella, President
Center for Individual Freedom

Peter Nelson, Vice President and Senior Policy Fellow
Center of the American Experiment (Minnesota)

Marita Noon, Executive Director
Citizens' Alliance for Responsible Energy (CARE)

Col. Francis X. De Luca USMCR(Ret), President
Civitas Institute

Matt Anderson, Policy Analyst
Coalition for Self-Government in the West

Tom Brinkman Jr., Chairman
Coalition Opposed to Additional Spending and Taxes (COAST)

Craig Rucker, Executive Director, Co-Founder
Committee for a Constructive Tomorrow (CFACT)

Myron Ebell, Director, Center for Energy and Environment
Competitive Enterprise Institute

Tom Schatz, President
Council for Citizens Against Government Waste

Craig Richardson, Executive Director
Energy & Environment Legal Institute (E&E Legal)

Marita Noon, Executive Director
Energy Makes America Great

Dick Ribbentrop, Senior Vice President, Policy
Freedom Partners Chamber of Commerce

Wayne T. Brough, Ph.D., Chief Economist and VP for Research
FreedomWorks

George Landrith, President
Frontiers of Freedom

Mario H. Lopez, President
Hispanic Leadership Fund

Wayne Hoffman, President
Idaho Freedom Foundation

Amy Oliver Cooke, Executive Vice President and Director, Energy Policy Center
Independence Institute

Carrie Lukas, Managing Director
Independent Women's Forum

Heather Higgens, President and CEO
Independent Women's Voice

Andrew Langer, President
Institute for Liberty

Sal J. Nuzzo, Vice President of Policy
James Madison Institute (Florida)

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John Locke Foundation (North Carolina)

Dave Trabert, President
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Rio Grande Foundation (New Mexico)

William Whipple III, President
Secure America's Future Economy

David Williams, President
Taxpayers Protection Alliance

Judson Phillips, Founder
Tea Party Nation

John Colyandro, Executive Director
Texas Conservative Coalition Research Institute

Brooke Rollins, President
Texas Public Policy Foundation

Joseph Bast, President and CEO
The Heartland Institute

Daniel Garza, Executive Director
The LIBRE Initiative

Matthew Gagnon, CEO
The Maine Heritage Policy Center

Michael W. Thompson, Chairman and President
Thomas Jefferson Institute for Public Policy (Virginia)

Carl Bearden, Executive Director
United for Missouri

Industrial Energy Consumers of America
The Voice of the Industrial Energy Consumers

1776 K Street, NW, Suite 720 • Washington, D.C. 20006
Telephone 202-223-1420 • www.ieca-us.org

May 3, 2016

The Honorable Shelley Moore Capito
Chairman, Subcommittee on Clean Air and Nuclear Safety
Committee on Environment and Public Works
U.S. Senate
172 Russell Senate Office Building
Washington, DC 20510

Re: IECA Supports S. 2882, the "Ozone Standards Implementation Act of 2016"

Dear Chairman Capito:

On behalf of the Industrial Energy Consumers of America (IECA), we support passage of S. 2882, the "Ozone Standards Implementation Act of 2016." There are several reasons why more time is needed on implementing the ozone standards. States are struggling to meet the existing 2008 standard, deep concerns remain regarding the significant transport of ozone from China and its precursors, the role of ozone background levels need to be better understood, and the fact that EPA admits there is no identified technology available to meet the standards are all sound justifications for this legislation.

Mounting EPA regulatory costs have made it very difficult for manufacturing companies to compete with global competitors, thereby impacting U.S. jobs. For example, while China's manufacturing jobs have increased by 31.5 percent since 2000, U.S. manufacturing jobs have declined by 21.6 percent. Furthermore, the 2015 U.S. manufacturing trade deficit stands at $627 billion and 61 percent of the deficit is with one country, China.[1]

S. 2882 would phase-in implementation of the 2008 and 2015 ozone standards, while extending to 2025 the date for final designation of the 2015 standard. The bill would also change the mandatory review of NAAQS from 5 to 10 years, authorize the EPA Administrator to consider technological feasibility as a secondary consideration when revising NAAQS, ensure that states may seek relief with respect to certain exceptional events, and direct EPA to submit a report to Congress within 2 years regarding the impacts of foreign emissions on NAAQS compliance and related matters.

IECA supports cost-effective action to reduce ozone emissions in a manner that will not impair manufacturing competitiveness. Thank you for your leadership on this important issue.

Sincerely,

Paul N. Cicio
President

cc: Senate Committee on Environment and Public Works

[1] Global Patterns of U.S. Merchandise Trade, U.S. Department of Commerce, http://tse.export.gov/TSE/TSEOptions.aspx?ReportID=1&Referrer=TSEReports.aspx&DataSource=NTD.

Senator CAPITO. Hearing no objection, I would like to recognize the Ranking Member and recognize him for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. 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 at-

tack, 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 5 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 2, 4, or 6 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:]

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

I would like to thank the Chairman for having this hearing today and thank our witnesses for taking the time to be here. Today is a monumental day. This morning, many of my colleagues and I had the privilege to witness the signing of a major piece of environmental legislation—the Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law, which overhauls a 40-year-old law that regulates thousands of chemicals used in products Americans rely on every day.

The bill that was signed today builds off the work done by the late Senator Frank Lautenberg, who was a true champion of chemical safety. I think it is fitting that on the same day our subcommittee discusses another of Senator Lautenberg's passions—clean air.

For years, Senator Lautenberg and I sat together on this committee fighting for cleaner air for all Americans. We both represented States whose residents live in what I like to call "America's tailpipe." Other States' dirty emissions from cars and power plants drift east to our States, impacting the health of our constituents.

For Senator Lautenberg, the fight was deeply personal. It is hard to forget his story. His sister was diagnosed with asthma and had a machine in her car that would help her breathe during asthma attacks. One day at a school board meeting, his sister felt an asthma attack coming on. She raced to her car to get to her machine. Tragically, she didn't make it in time and as a result passed away.

I wish this were a unique case—but sadly, there are thousands of mothers, fathers, brothers and grandparents in this country that have lost a loved one because of asthma.

Millions in this country are living with asthma. According to the Centers for Disease Control (CDC), 6.3 million children in this country have been diagnosed with asthma. That means that more than 6 million children worry every day if they will 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 even has been linked to early deaths.

Since 1970 Congress has asked EPA to provide the country with national health standards protecting Americans from the most harmful and common air pollutants.

The EPA promptly did so in 1971, setting the first national health standard that covered ozone pollution. Congress wanted to make sure the ozone health standard reflected the best science available, which is why Congress required the EPA to review the standard every 5 years.

Last year, the EPA finished its congressionally mandated review of the 2008 ozone health standard. After reviewing more than a thousand scientific studies, the 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's rule is purely a statement of fact—to protect our health, we need less ozone pollution. To protect the 6.3 million children with asthma, we need less ozone pollution in our air. Fortunately, many of today's biggest emitters of ozone pollution—such as old coal plants and older diesel engines—are already scheduled to be cleaned up. This means the costs of compliance are not as high as they might have been 2, 4 or 6 years ago.

Since Senator Lautenberg's sister passed away over 30 years ago, we have made remarkable progress in cleaning up harmful ozone air pollution. But let us honor her memory by never letting the challenge we face to ensure our air is clean and healthy for children and adults alike slip out of sight. Advances in science and the technology we use to understand what is making our air dirty have given us a more thorough understanding of how we can make the atmosphere safe for everyone. We must now seize the opportunity—which is really not an opportunity at all, but rather a responsibility—to do a good job today of cleaning up our air so that the generations of tomorrow can live healthier and longer lives.

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 5 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, CALIFORNIA 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 1-hour ozone standard and the original 8-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 1-hour ozone standard. And just last week the San Joaquin Valley Air District adopted a plan to meet the 8-hour ozone standard.

The south coast is more challenging, but progress is also significant. The region once measures 1-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 8-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 billion 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 with 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:]

Hearing of the Senate Committee on Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

Examining Pathways Towards Compliance of the National Ambient Air Quality Standard for Ground-Level Ozone: Legislative Hearing on S. 2882 and S.2072

June 22, 2016, 2:30 PM
Room 406, Dirksen Senate Office Building

Kurt Karperos, PE
Deputy Executive Officer
California Air Resources Board

Introduction

Good afternoon Madam Chair, Ranking Member Carper, and members of the Subcommittee.

My name is Kurt Karperos. I am a 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 the areas with the most persistent pollution – the greater Los Angeles area that we refer to as the South Coast, and the San Joaquin Valley.

These two regions are the nation's only areas that EPA has designated as extreme nonattainment for ozone.

Today I want to cover three points in my testimony.

First, meeting federal health-based standards for air quality is achievable in California, including the San Joaquin Valley and the South Coast.

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 bills 2882 and 2072 would do, is unnecessary and will negatively impact the health and well-being of millions of people.

Public Health Imperative

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 a half-million suffering from asthma.

California supported EPA's setting of the more heath-protective ozone standard because reaching that standard will reduce premature mortality, emergency rooms visits for asthma, hospitalizations, and lost work and school days.

Simply put, meeting the ozone standard is a public-health imperative.

California's Success Implementing the Clean Air Act

California has a long and successful history of meeting health-based standards.

Of California's 19 areas that once exceeded either the 1-hour or original 8-hour ozone standards, only 4 still exceed those standards today.

Continued progress has occurred in the San Joaquin Valley. This extreme nonattainment area now meets the 1-hour ozone standard, and just last week the San Joaquin Valley adopted a plan to meet the 8-hour standard. This is an important accomplishment for the Valley.

The South Coast is more challenging, but progress is also significant. The region once measured 1-hour ozone values above the standard on over 200 days per year. Today it has dropped to 10. Similarly, the number of days over the 8-hour standards 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.

A Growing Economy at the Same Time

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 rate 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 dollars a year and employs over 30,000 people. The clean energy sector generates an additional 27 billion dollars 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 1.4 billion dollars per year when accounting for both the costs of reducing emissions and the avoided costs of healthcare, lost work days and low productivity, and other impacts of pollution.

The Clean Air Act has been the Tool for Achieving this Success

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 cost, 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, including in the San Joaquin Valley, it will also provide most of the emissions reductions needed for the new 70 parts per billion ozone standard in 2037.

California has used the advanced technology provisions of the Act to drive innovation, using incentives to bring cost-effective technologies to market. 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 already on trucks today.

Finally, working with EPA, business, and the public, we take advantage of the flexibility of the Clean Air Act to tailor control strategies to best fit California.

Changes to the Clean Air Act are Unnecessary

California's success is proof that Senate bills 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's a function of what air pollution does to the human body.

Closing

In closing, let me stress that meeting the federal health-based ozone standards is achievable.

Clean Air Act provisions provide the needed flexibility to effectively accomplish these goals, including in the areas with the nation's most persistent pollution problems.

Second, setting healthful air against economic prosperity is a false choice, as California has continued to demonstrate that reducing emissions and economic growth go hand in hand.

And third, delaying the standards will harm the health and well-being of millions of people in this country. The San Joaquin Valley, in particular, is home to high rates of poverty and environmental pollution, so it is especially critical to continue progress in that region. In addition, the economic costs of healthcare associated with polluted air are substantial, and far exceeds the costs of using cleaner technologies.

Thank you for the opportunity to speak with you today. I would be happy to answer any questions.

California's Progress Towards Meeting Federal Ozone Standards

Over the last 25 years, California has made substantial progress in reducing ozone levels through implementation of comprehensive federal, State, and local control programs. The Clean Air Act has been a key driver for this success and the ongoing health protection it provides for California's residents. Table 1 highlights the incremental progress towards meeting progressively health-protective ozone standards established by the U.S. Environmental Protection Agency (U.S. EPA). Twenty-five years ago, many areas of the State routinely experienced 1-hour ozone levels well in excess of the standard. Today, only the South Coast region remains above the 1-hour ozone standard, and the severity of the problem has diminished significantly. Peak 1-hour ozone levels have decreased 60 percent, and the number of days that ozone levels exceed the standard has declined over 90 percent. Similar progress has occurred in the San Joaquin Valley, and the region met the 1-hour ozone standard in 2014. Most nonattainment areas have also met the 80 parts per billion (ppb) 8-hour ozone standard, and each year the number of areas meeting the more stringent 75 ppb standard continues to grow. As a result, today over two-thirds of Californians live in communities with ozone levels that meet the 75 ppb standard. This progress has occurred at the same time that California's population has increased over 25 percent, and the State's gross domestic product has more than doubled.

California has a diversity of air quality challenges, from large urban areas, rural desert and mountain communities, to regions along the border with Mexico. This includes the only two areas in the nation classified as extreme nonattainment for the federal ozone standard, the South Coast and the San Joaquin Valley. The Air Resources Board (ARB), working with local air districts and U.S. EPA, has demonstrated continued success in the development of State Implementation Plans (SIPs) to address the scope of these challenges. Clean Air Act provisions have served as an effective structure for this planning process. Recognizing that certain areas require more comprehensive solutions, areas with higher pollution levels are given more time to meet the standard, but are also subject to more stringent control requirements. At the same time, requirements for incremental emission reductions have ensured ongoing air quality progress. Additional Clean Air Act provisions related to the impacts of exceptional events such as wildfires, and cross-border international transport have also provided the necessary flexibility to address unique situations.

Investments in cleaner technologies and fuels made as part of each SIP provide the foundation for meeting subsequent standards. Ongoing implementation of California's current control programs will continue to reduce emissions of oxides of nitrogen, the key smog forming constituent in California. The benefits of these programs are expected to bring almost all areas of the State, including the San Joaquin Valley, into attainment of

the 75 ppb ozone standard. The SIP for the San Joaquin Valley demonstrates attainment of the 75 ppb ozone standard, an area with one of the most persistent ozone problems in the nation. This SIP meets all the requirements of the Clean Air Act including:

- Attainment demonstration
- Reasonable further progress demonstration
- Reasonably available control measures demonstration
- Contingency measures for progress and attainment
- Transportation conformity budgets
- Vehicle miles travelled offset demonstration

To address the remaining attainment needs for the South Coast, in May 2016 ARB released a proposed mobile source SIP strategy outlining a comprehensive suite of actions to establish requirements for both zero and near-zero technologies, require cleaner fuels, and ensure in-use performance. These actions represent an integrated effort to meet federal air quality standards, as well as California's climate and risk reduction goals over the next 15 years. They will also provide a trajectory for meeting the more protective ozone standard of 70 ppb established by U.S. EPA last year. ARB's successful legacy of innovative environmental and public health policies, coupled with the programmatic mechanisms of the Clean Air Act, will continue to provide effective approaches for bringing healthy air to all Californians.

Table 1: California Ozone Standards Attainment Status

Area	→ CLEANER AIR / MORE PROTECTIVE →		
	(1979) 1-Hour 0.12 ppm	(1997) 8-Hour 0.08 ppm	(2008) 8-Hour 0.075 ppm
South Coast			
San Joaquin Valley	✓		
Mojave Desert	✓		
Coachella Valley	✓		
San Diego	✓	✓	
Ventura	✓	✓	
Sacramento	✓	✓	
Kern County	✓	✓	
Nevada County	✓	✓	
Imperial County	✓	✓	
San Francisco Bay Area	✓	✓	✓
Santa Barbara	✓	✓	✓
Monterey Bay	✓	✓	✓
San Luis Obispo	✓	✓	✓
Butte County	✓	✓	✓
Amador County	✓	✓	✓
Calaveras County	✓	✓	✓
Tuolumne County	✓	✓	✓
Mariposa County	✓	✓	✓

This table includes areas that have been designated nonattainment for one or more federal ozone standards

Staff Report

ARB Review of the San Joaquin Valley 2016 Plan for the 2008 8-Hour Ozone Standard

Release Date: June 17, 2016
Hearing Date: July 21, 2016

California Environmental Protection Agency
Air Resources Board

Electronic copies of this report are online at http://www.arb.ca.gov/planning/sip/planarea/sanjqnvllysip.htm. Alternatively, paper copies may be obtained from the Visitors and Environmental Services Center of the Air Resources Board, located at 1001 I Street, Sacramento, California 95814, or by contacting ARB's Office of Communications at (916) 322-2990.

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Table of Contents

EXECUTIVE SUMMARY

This report presents the Air Resources Board (ARB or Board) staff's assessment of the San Joaquin Valley Air Pollution Control District's 2016 Plan for the 2008 8-Hour Ozone Standard (2016 Ozone SIP). The 2016 Ozone SIP addresses the federal 8-hour ozone standard of 75 parts per billion (ppb), representing the next building block in planning efforts to meet increasingly health protective air quality standards. Over the past decade ozone levels in the Valley have shown significant improvement in response to accelerated reductions in emissions of oxides of nitrogen (NOx). Current control programs will continue this pace, and NOx emissions are projected to decline a further 50 percent over the next fifteen years through ongoing implementation of ARB and District control programs. These reductions will provide for attainment of the standard by the District's attainment deadline of 2031.

ARB staff has concluded that the 2016 Ozone SIP meets all requirements of the Clean Air Act (Act), including attainment demonstration, reasonably available control measure demonstration, reasonable further progress demonstration, contingency measures for progress and attainment, transportation conformity budgets, and vehicle miles travelled offset demonstration. The Board is scheduled to consider the Plan on July 21, 2016. If approved, the ARB will submit the 2016 Ozone SIP to the U.S. Environmental Protection Agency (U.S. EPA) as a revision the California State Implementation Plan (SIP).

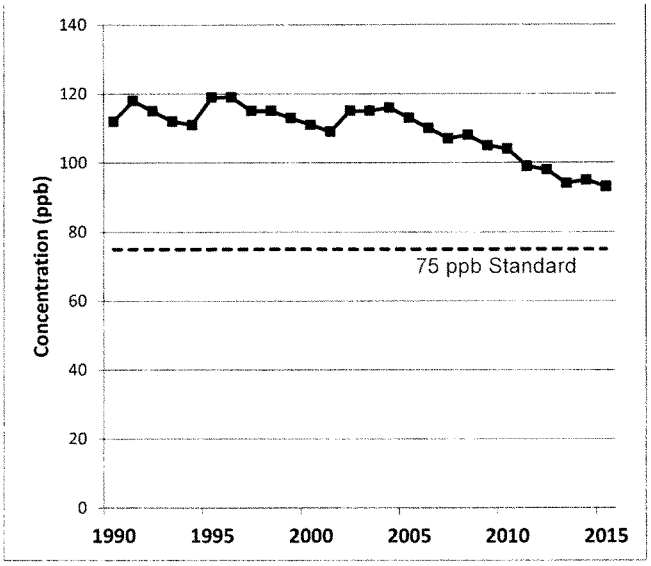
The Act requires U.S. EPA to set air quality standards and periodically review the latest health research to ensure that standards remain protective of public health. Based on research demonstrating adverse health effects at lower exposure levels, EPA has set a series of increasingly health protective ozone standards, beginning with a 1-hour ozone standard in 1979. Subsequent health studies demonstrated the greater effects of exposure to ozone over longer time periods, resulting in U.S. EPA establishing an 8-hour ozone standard of 80 ppb in 1997, and the 75 ppb standard in 2008. ARB and the District have developed a series of SIPs defining the actions needed to meet these standards, with each SIP and the corresponding control programs providing the foundation for subsequent planning efforts. The SIP process established under the Act has been effective, and an important driver for air quality progress in the Valley.

The design of effective control strategies has been informed by substantial research investments to provide an improved understanding of the nature and sources of ozone formation in the Valley, including comprehensive field studies, data analyses, and air quality modeling. This work has demonstrated the importance of NOx reductions to achieve ozone progress. As a result of comprehensive control programs that have reduced NOx emissions over 50 percent over the last decade, the Valley attained the 1-hour standard in 2014.[1] It is making steady progress in reducing 8-hour ozone levels

[1] 81 FR 31206 Proposed rule: Determination of Attainment of the 1-hour Ozone National Ambient Air Quality Standards in the San Joaquin Valley Nonattainment Area in California https://www.gpo.gov/fdsys/pkg/FR-2016-05-18/pdf/2016-11630.pdf

and is projected to attain the 80 ppb standard by the 2023 attainment deadline. Since 2004, 8-hour ozone concentrations have decreased by nearly 20 percent, and the number of days exceeding the 75 ppb the standard has dropped by over 40 percent. Figure 1 highlights this ongoing progress.

Figure 1. 8-Hour Ozone Design Value Trend



Building on this progress, air quality modeling conducted as part of the 2016 Ozone SIP demonstrates that the substantial NOx reductions that continue to accrue from implementation of the existing control program will provide for attainment of the 75 ppb 8-hour ozone standard by 2031. This modeling also indicates that NOx reductions will become increasingly effective as NOx emissions continue to decrease, leading to accelerated ozone progress over time.

In addition to current control programs, in May 2016, ARB staff released the Proposed 2016 State Strategy for the State Implementation Plan[2] (State SIP Strategy). The State SIP Strategy describes ARB staff's proposed measures for mobile sources to attain federal air quality standards throughout the State over the next fifteen years. As part of the strategy, ARB staff will propose an additional emission reduction commitment beyond the current program for the San Joaquin Valley for Board consideration in September. The new measures identified in the strategy will provide additional

[2] ARB, 2016, Proposed 2016 State Strategy for the State Implementation Plan http://www.arb.ca.gov/planning/sip/2016sip/2016statesip.pdf

reductions in the Valley to accelerate progress towards meeting the 75 ppb ozone standard. In addition, in 2015, U.S. EPA further strengthened the 8-hour ozone standard to 70 ppb. Air quality modeling indicates this will require a further 15 percent reduction in NOx emissions from 2031. Coupled with the ongoing control program, reductions from the State SIP Strategy are expected to provide the basis for meeting the 70 ppb standard by the District's attainment deadline of 2037.

Looking forward, meeting PM2.5 standards in the Valley within the next decade will present the greater air quality challenge. Modeling efforts are underway to evaluate the magnitude of reductions needed for attainment. The PM2.5 attainment strategy for the Valley will need to consider the diversity of sources that contribute to PM2.5, as well as the specific timeframes of meeting both the annual and 24-hour PM2.5 standards. Additional reductions from sources of directly emitted PM2.5 under local district control will be critical based on their contribution to ambient PM2.5 levels in the Valley. Given the earlier attainment dates for PM2.5 compared to ozone, accelerating the pace of NOx reductions will also be necessary. Ongoing mobile source NOx reductions will provide for significant regional improvement, but strategic use of incentive funding will be essential to achieve earlier penetration of cleaner technologies. Efforts to accelerate NOx reductions to address PM2.5 attainment needs will also provide ongoing benefits for continued progress in reducing ozone.

I. BACKGROUND

Ozone is a highly reactive gas that can damage the tissues of the respiratory tract, causing inflammation and irritation, and resulting in symptoms such as coughing, chest tightness and worsening of asthma symptoms. Ozone exposure can also lead to decreased lung function.

The Act requires U.S. EPA to set air quality standards and periodically review the latest health research to ensure that standards remain protective of public health. Based on research demonstrating adverse health effects at lower exposure levels, EPA has set a series of increasingly health protective ozone standards, beginning with a 1-hour ozone standard in 1979. Subsequent health studies demonstrated the greater effects of exposure to ozone over longer time periods, resulting in U.S. EPA establishing an 8-hour ozone standard of 80 ppb in 1997, and the 75 ppb standard in 2008. In May 2012, U.S. EPA designated nonattainment areas for the 75 ppb ozone standard, effective July 20, 2012.[3] Ozone nonattainment areas are classified according to the severity of their air pollution problem. Areas with higher pollution levels are given more time to meet the standard (attainment date), but are also subject to more stringent control requirements. The South Coast and San Joaquin Valley are the only two extreme areas in the nation, with an attainment deadline of 2031.

ARB and the District have developed a series of SIPs defining the actions needed to meet these standards, with each SIP and the corresponding control programs providing the foundation for subsequent planning efforts. On June 16, 2016, the District adopted the 2016 Ozone SIP to address the 75 ppb standard. The 2016 Ozone SIP must demonstrate the Valley will attain the standard by 2031. The 2016 Ozone SIP also addresses Act requirements applicable to an extreme 8-hour ozone nonattainment area, consistent with U.S. EPA's 2015 Implementation Rule for the 2008 8-hour ozone standard (Implementation Rule).[4]

II. NATURE OF THE OZONE PROBLEM IN THE SAN JOAQUIN VALLEY

Ozone forms in the atmosphere through complex chemical reactions between oxides of nitrogen (NOx) and reactive organic gases (ROG) emitted from motor vehicles, factories and other industrial sources, consumer products, and other off-road equipment. The relative mixture of these precursor gases in a region drives the nature of the needed control strategy.

The San Joaquin Valley, encompassing 25,000 square miles in the central portion of California, is characterized by unique topography and meteorology. Mountains bound the area on the west (Coastal Mountain range), the east (Sierra Nevada range), and the south (Tehachapi Mountains) which limit air flow. The Valley's hot, dry weather conditions during the summer cause poor air dispersion and stagnation, which are conducive to ozone formation. The northern portion of the Valley borders the

[3] 77 FR 3088 http://www.gpo.gov/fdsys/pkg/FR-2012-05-21/pdf/2012-11618.pdf
[4] 80 FR 12264 http://www.gpo.gov/fdsys/pkg/FR-2015-03-06/pdf/2015-04012.pdf

Sacramento Valley and Delta lowland. Because of the marine influence, which extends into this area through gaps in the Coastal Range to the west, the northern Valley's more temperate climate results in the lower ozone concentrations. The highest ozone concentrations occur in the central and southern portion of the Valley due to higher temperatures and dominant summer wind flow patterns that recirculate pollutants within these sub-regions.

Table 1 lists the current 8-hour ozone design values (the official metric used to determine compliance with the standard), by region throughout the Valley. Over the last 20 years, the site with the highest 8-hour ozone levels in the Valley has alternated between the southern and central regions. Currently, the highest design value is recorded in the central region at the Clovis monitoring site.

Table 1. 2015 8-Hour Ozone Design Values (ppb)[1][2]

	County	Site	2015
Northern	Merced	Merced-S Coffee Avenue	82
	San Joaquin	Stockton-Hazelton Street	68
	San Joaquin	Tracy-Airport	76
	Stanislaus	Modesto-14th Street	79
	Stanislaus	Turlock-S Minaret Street	82
Central	**Fresno**	**Clovis-N Villa Avenue**	**93**
	Fresno	Fresno-1st Street/Fresno-Garland	87
	Fresno	Fresno-Drummond Street	86
	Fresno	Fresno-Sierra Skypark #2	87
	Fresno	Parlier	91
	Fresno	Tranquility-32650 West Adams Avenue	75
	Kings	Hanford-S Irwin Street	85
	Madera	Madera-28621 Ave 14	83
	Madera	Madera-Pump Yard	82
Southern	Kern	Arvin-Di Giorgio	87
	Kern	Bakersfield-5558 California Avenue	85
	Kern	Bakersfield-Municipal Airport	90
	Kern	Edison	84
	Kern	Maricopa-Stanislaus Street	79
	Kern	Oildale-3311 Manor Street	79
	Kern	Shafter-Walker Street	80
	Tulare	Porterville-1839 Newcomb Street	82
	Tulare	Sequoia and Kings Canyon Natl Park	89
	Tulare	Sequoia Natl Park-Lower Kaweah	85
	Tulare	Visalia-N Church Street	79

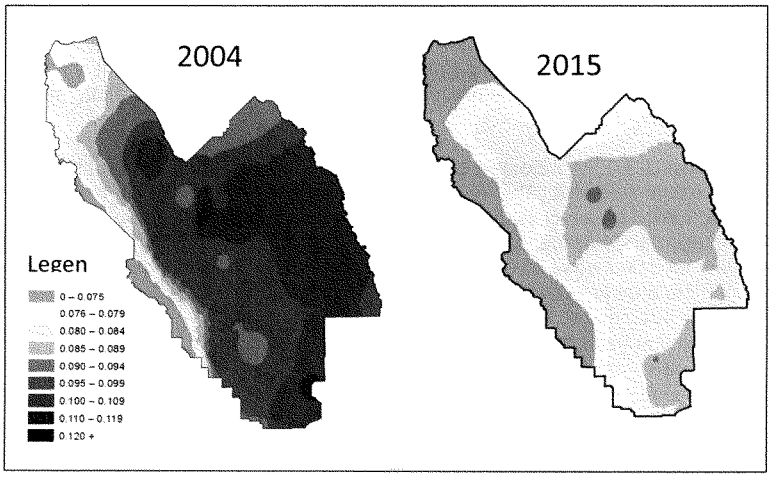
(1) The design value is the official metric used to determine compliance with the standard. The 8-hour ozone design value for a specific monitoring site is the average of the fourth highest daily maximum 8-hour concentration measured in each of three consecutive years (e.g., the 2015 design value equals the average of the fourth highest 8-hour ozone concentration measured in each 2013, 2014, and 2015).
(2) Accounting for rounding, the 80 ppb 8-hour standard is met when the design value is less than or equal to 84 ppb and the 75 ppb standard is met when the design value is less than or equal to 75 ppb.

The San Joaquin Valley is one of the most extensively studied regions in the world, and the current understanding of ozone formation in the Valley is based on this comprehensive scientific foundation. This includes an extensive network of routine ozone monitors located throughout the Valley, as well as targeted field studies supported by local, state, and federal agencies as well as academic institutions. Two core efforts include the Central California Ozone Study (CCOS) conducted during the summer of 2000, and the CalNex climate and air quality study, conducted during 2010.

This research has shown that the majority of ozone in the Valley is generated from emissions within the Valley. In addition, given the large emissions of ROG from biogenic sources in the region, reducing NOx emissions is the most effective approach for improving ozone air quality. Air quality modeling also indicates that NOx reductions will become increasingly effective as NOx emissions continue to decrease, leading to accelerated ozone progress over time. These research efforts have provided the basis for development of necessary control strategies for meeting ozone standards.

Figure 2 illustrates the progress accomplished in reducing the level and spatial extent of 8-hour ozone design values in the Valley between 2004 and 2015. In 2004, almost the entire Valley violated the 75 ppb standard, with concentrations exceeding the standard on 140 days. However, over the last decade, ozone levels have shown significant improvement in response to accelerated reductions in NOx emissions, which have decreased over 50 percent through implementation of ARB and District control programs.

Figure 2. Reduction in Level and Spatial Extent of 8-Hour Ozone Design Values in the San Joaquin Valley



Today, ozone design values have decreased 20 percent, and the severity and spatial extent of the ozone problem is diminishing. The Valley met the 1-hour ozone standard in 2014 and is expected to attain the 80 ppb 8-hour ozone standard by 2023. This incremental progress establishes a trajectory for meeting the more health protective 75 ppb ozone standard over the next fifteen years.

III. DEMONSTRATING ATTAINMENT

SIPs must identify both the magnitude of reductions needed and the actions necessary to achieve those reductions as part of demonstrating attainment of the standard. ARB and the District have prepared an attainment demonstration that provides for expeditious attainment of the 75 ppb ozone standard. The attainment demonstration includes the benefits of ARB and District control programs that provide ongoing emission reductions. Continued implementation of these control programs provides new emission reductions each year, resulting in a 60 percent decrease in NOx emissions between 2012 and 2031. ARB's mobile source control program contributes 90 percent of the total NOx reductions. These measures provide the necessary control strategy, demonstrating the Valley will attain the standard by 2031.

A. Photochemical Modeling Approach and Results

The Act requires the use of air quality modeling to relate ozone levels to emissions in a region and simulate future air quality based on changes in emissions. ARB staff conducted the modeling for the 2016 Ozone Plan. The modeling approach draws on the products of large-scale scientific studies in the region, as well as collaboration between technical staff of ARB and the District. This modeling uses emission inventories, with measurements of meteorology and air quality, to establish the relationship between emissions and air quality. This modeling is used to identify the benefits of controlling different ozone precursors and the most expeditious attainment date.

ARB staff followed U.S. EPA modeling guidance[5] to demonstrate attainment of the 75 ppb 8-hour ozone standard. The year 2012 was chosen as the modeling base (or reference) year based on analysis that meteorology in 2012 was particularly favorable for ozone formation and buildup, and the availability of a detailed emissions inventory. The future year modeled was 2031, the year attainment must be demonstrated for an extreme ozone nonattainment area. The attainment demonstration modeling includes the benefits of all adopted regulations. Table 2 summarizes the 2012 and 2031 emissions modeled in the attainment demonstration.

[5] U.S. EPA, 2014, Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5 and Regional Haze, available at https://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf

Table 2. 2012 and 2031 Summer Emission Inventories (tpd)

Source	NOx			ROG		
	2012 (tpd)	2031 (tpd)	Percent Difference	2012 (tpd)	2031 (tpd)	Percent Difference
Stationary	42	30	-30	85	100	17
Area	5	5	4	147	153	4
On-road Mobile	188	45	-76	60	18	-70
Off-road Mobile	105	52	-50	45	26	-42
Total	340	132	-61	337	297	-12

Results of the attainment demonstration modeling are shown on Table 3. The 2031 design values are predicted to be below the 75 ppb standard at all sites, with values that range between 57 and 74 ppb. Similar to today, the highest concentrations are expected to remain in the central portion of the Valley. Complementary analysis of unmonitored areas required under U.S. EPA's modeling guidance also demonstrates that all regions in the Valley will attain the standard by 2031.

Further information on the modeled attainment demonstration is included in Appendix A of this report and Appendices H, I and J of the 2016 Ozone SIP.

Table 3. 2031 Modeled 8-hour Ozone Design Values (DVs) Demonstrating Attainment

	County	Site	Weighted 2012 DV (ppb)[1]	2031 DV (ppb)
Northern	**Stanislaus**	**Turlock-S Minaret Street**	**86.0**	**69**
	Merced	Merced-S Coffee Avenue	81.7	65
	San Joaquin	Tracy-Airport	79.3	66
	Stanislaus	Modesto-14th Street	76.0	61
	San Joaquin	Stockton-Hazelton Street	68.3	57
Central	**Fresno**	**Clovis-N Villa Avenue**	**95.7**	**74**
	Fresno	Fresno-Drummond Street	92.3	71
	Fresno	Parlier	92.0	69
	Fresno	Fresno-Garland	90.7	70
	Fresno	Fresno-Sierra Skypark #2	89.0	68
	Kings	Hanford-S Irwin Street	86.0	64
	Madera	Madera-28621 Ave 14	84.7	65
	Madera	Madera-Pump Yard	79.3	61
	Fresno	Tranquility	76.3	60
Southern	**Tulare**	**Sequoia and Kings Canyon Natl Park**	**93.0**	**65**
	Kern	Arvin-Di Giorgio	89.3	64
	Kern	Edison	87.7	64
	Kern	Bakersfield-5558 California Avenue	86.7	65
	Tulare	Porterville-1839 Newcomb Street	86.3	63
	Kern	Oildale-3311 Manor Street	84.7	65
	Tulare	Sequoia Natl Park-Lower Kaweah	84.0	61
	Kern	Maricopa-Stanislaus Street	83.3	63
	Kern	Shafter-Walker Street	83.0	62
	Tulare	Visalia-N Church Street	82.3	60

(1) For the modeling attainment demonstration, U.S. EPA guidance recommends using an average of three design values to account for year-to-year variability in meteorology. In this case the average of 2012, 2013, and 2014 design values were used, which represents a weighted average of the 2012 base year design value.

B. Weight of Evidence

U.S. EPA modeling guidance requires that the modeled attainment demonstration be accompanied by a weight of evidence analysis (WOE) to provide a set of complementary analyses. Examining an air quality problem in a variety of ways provides a more informed basis for the attainment strategy as well as a better understanding of the overall problem and the level and mix of emissions controls needed for attainment. ARB staff prepared the WOE, which is provided in Appendix B. WOE analyses include assessment of trends in ozone air quality, ozone precursor concentrations, and ozone precursor emissions; meteorology impacts on ozone air quality trends; and summary of corroborating analyses. The WOE analysis draws on

the wealth of data collected in the Valley from both the routine network and special studies. This assessment demonstrated the increasing effectiveness of NOx emission reductions in the Valley. The substantial NOx reductions from implementation of the ongoing control program are consistent with past progress, and the results predicted in the modeled attainment demonstration.

IV. CONTROL STRATEGY

The ongoing emission reductions from continued implementation of ARB and District control strategies developed to meet prior standards provide the attainment control strategy for the 2016 Ozone SIP. By 2031, implementation of the mobile source control program will reduce NOx emissions by 196 tons per day (tpd) and the stationary source control program will reduce NOx emissions by 12 tpd. The following sections highlight ongoing ARB control programs and District measures that provide the emission reductions included in the attainment demonstration. Further information on mobile source control programs and a comprehensive listing of ARB regulations are included in Chapter 5 and Appendix D of the 2016 Ozone SIP.

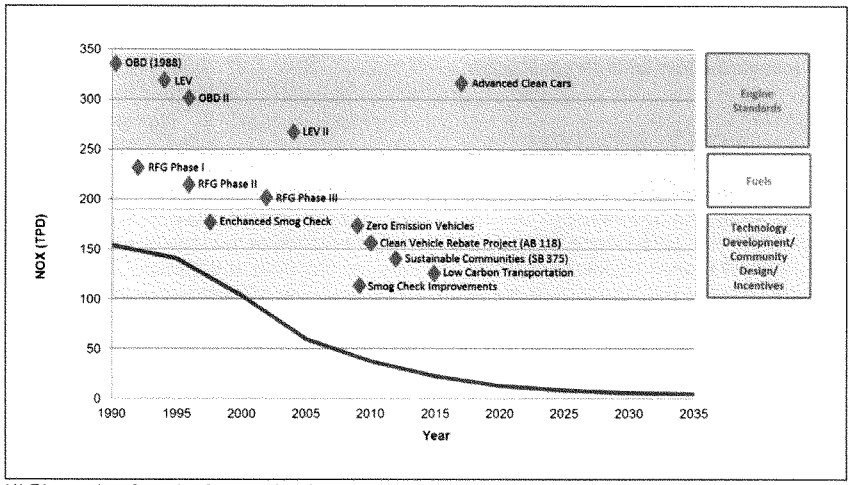
A. Mobile Source Control Program

Given the severity of California's air quality challenges, ARB has implemented the most stringent mobile source emissions control program in the nation. ARB's comprehensive strategy to reduce emissions from mobile sources consists of emissions standards for new vehicles, in-use programs to reduce emissions from existing vehicle and equipment fleets, cleaner fuels, and incentive programs to accelerate the penetration of the cleanest vehicles beyond that achieved by regulations alone. The following sections highlight key programs for both on-road and off-road mobile sources.

1. Light-Duty Vehicles

Figure 3 illustrates the trend in NOx emissions from light-duty vehicles and key programs contributing to those reductions. As a result of these efforts, light-duty vehicle emissions in the Valley have been reduced significantly since 1990, with a further 70 percent reduction form today's levels by 2031. Key light-duty programs include Advanced Clean Cars, On-Board Diagnostics, Reformulated Gasoline, Incentive Programs, and the Enhanced Smog Check Program, and incentive programs.

Figure 3. Key Programs to Reduce Light-Duty NOx Emissions[1]



(1) Diamonds refer to implementation dates.

Emission Standards

Since setting the nation's first motor vehicle exhaust emission standards in 1966, California has dramatically tightened emission standards for light-duty vehicles. The Board established California's Low Emission Vehicle (LEV) program in 1990 and the LEVII program in 1998. Additionally, ARB's Zero Emission Vehicle (ZEV) regulation which affects passenger cars and light -duty trucks, has spurred commercialization of advanced clean cars and light-duty trucks. Today's cars are 99 percent cleaner than they were 25 years ago.

Advanced Clean Cars Program

Light-and medium-duty vehicles are currently regulated under California's Advanced Clean Cars (ACC) program including the LEV III and ZEV programs. The ACC program combines the control of smog and soot causing pollutants, and greenhouse gas emissions, into a package of requirements for passenger car model years 2015 through 2025.

Additional Programs

Other programs, including California's Reformulated Gasoline (RFG) program and the State's goal to put 1.5 million zero-emission vehicles on the road by 2025, will produce substantial and cost-effective emission reductions from gasoline-powered vehicles. Many additional programs are currently in place to reduce emissions from the passenger car legacy fleets and accelerate fleet turn over. California's Enhanced Smog

Check Program, administered by the Bureau of Automotive Repair (BAR), ensures that passenger vehicles stay clean as they age and on-board diagnostic systems identify smog control problems.

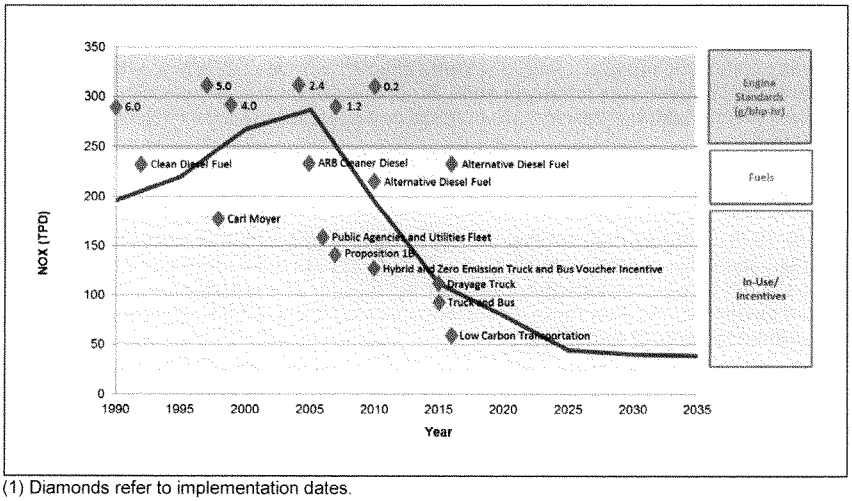
ARB is also active in implementing programs for owners of older dirtier vehicles to retire them early. The "car scrap" programs, like the Enhanced Fleet Modernization Program, and Clean Vehicle Rebate Project have provided monetary incentives to replace old vehicles with zero-emission vehicles.

2. Heavy-Duty Trucks

California's heavy-duty vehicle emissions control program includes requirements for increasingly tighter new engine standards and addresses vehicle idling, certification procedures, on-board diagnostics, emissions control device verification, and in-use vehicles.

Figure 4 illustrates the trend in NOx emissions from heavy-duty vehicles and key programs contributing to those reductions. As a result of these efforts, heavy-duty vehicle emissions in the San Joaquin Valley have been reduced significantly since 1990, with a further 60 percent from today's levels by 2031. Key programs include Heavy-Duty Engine Standards, Clean Diesel Fuel, Truck and Bus Regulation, and incentive programs.

Figure 4. Key Programs to Reduce Heavy-Duty Emissions(1)



(1) Diamonds refer to implementation dates.

Heavy-Duty Engine Standards

This program is designed to achieve an on-road heavy-duty diesel fleet with 2010 engines emitting 98 percent less NOx and PM2.5 than trucks sold in 1986. Since 1990, heavy-duty engine NOx emission standards have been reduced significantly, dropping from 6 grams per brake horsepower-hour (g/bhp-hr) in 1990 down to the current 0.2 g/bhp-hr standard, which took effect in 2010. In the ongoing efforts to go beyond federal standards and achieve further reductions, ARB adopted the Optional Reduced Emissions Standards for Heavy-Duty Engines regulation in 2014 that establishes the next generation of optional NOx emission standards for heavy-duty engines. Engine manufacturers can now certify to three optional NOx emission standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, and 0.02 g/bhp-hr. The optional standards allow local air districts and ARB to preferentially provide incentive funding to buyers of cleaner trucks, thereby encouraging the development of cleaner engines.

Cleaner In-Use Heavy-Duty Trucks (Truck and Bus Regulation)

The Truck and Bus Regulation, first adopted in in December 2008, represents a multi-year effort to turn over the legacy fleet of engines and replace them with the cleanest technology available. Starting in 2012, the Truck and Bus Regulation phases in requirements applicable to an increasingly larger percentage of the truck and bus fleet over time, so that by 2023 nearly all older vehicles must be upgraded to exhaust emissions meeting 2010 model year engine emissions levels. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, including on-road and off-road agricultural vehicles, and privately and publicly owned school buses. Moreover, the regulation applies to any person, business, school district, or federal government agency that owns, operates, leases or rents affected vehicles. The regulation also establishes requirements for any in-state or out-of-state motor carrier, California-based broker, or any California resident who directs or dispatches vehicles subject to the regulation.

Additional Programs

Since 1993, ARB has required that diesel fuel have a limit on the aromatic hydrocarbon content and sulfur content of the fuel. In 2006, ARB required a low-sulfur diesel fuel, to be used not only by on-road diesel vehicles but also for off-road engines. The diesel fuel regulation allows alternative diesel formulations as long as emission reductions are equivalent to the ARB formulation.

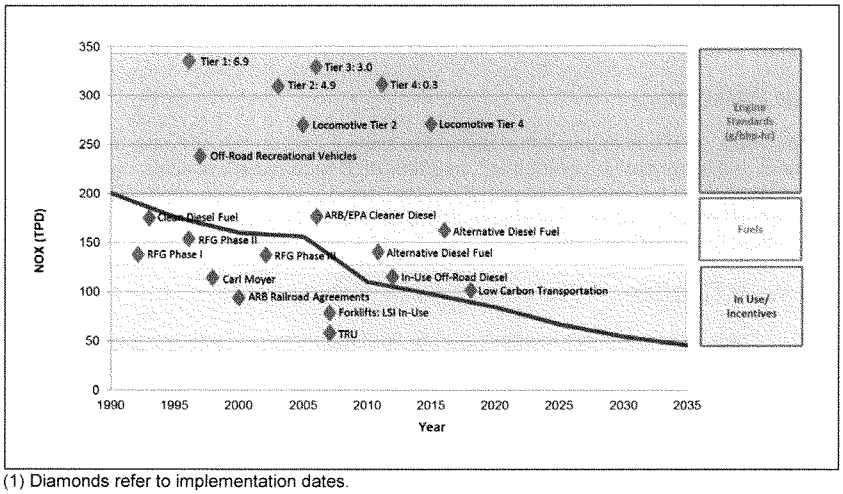
Incentive programs focusing on heavy-duty vehicles have also been instrumental in achieving further emission reductions beyond traditional regulations. These include the Carl Moyer Program, Goods Movement Emission Reduction Program funded by Proposition 1B, and the Air Quality Improvement Program that has funded the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). ARB has also administered a Truck Loan Assistance Program since 2009.

3. Off-Road Sources

Off-road sources encompass equipment powered by an engine that does not operate on the road and include locomotives, aircraft, tractors, harbor craft, off-road recreational vehicles, construction equipment, forklifts, and cargo handling equipment.

Figure 5 illustrates the trend in NOx emissions from off-road equipment and key programs contributing to those reductions. As a result of these efforts, off-road emissions in the San Joaquin Valley have been reduced significantly since 1990 and will be reduced a further 40 percent by 2031. Key programs include Off-Road Engine Standards, Locomotive Engine Standards, Clean Diesel Fuel, Cleaner In-Use Off-Road Regulation, In-Use LSI Fleet Regulation, and incentive programs.

Figure 5. Key Programs to Reduce Off-Road Emissions(1)



(1) Diamonds refer to implementation dates.

Off-Road Engine Standards

ARB has adopted three tiers of progressively more stringent exhaust emission standards for small off-road engines (SORE) such as lawn and garden equipment.

Forklifts are subject to new engine standards for both diesel and Large Spark Ignition (LSI) engines, with the most recent Tier 4 Final emission standards for off-road diesel engines phased in starting in 2013, and the cleanest emission standards for LSI engines phased-in starting in 2010.

Emissions from locomotive engines are under U.S. EPA jurisdiction. In 1998, U.S. EPA approved regulations that primarily emphasized NOx reductions through Tiers 0, 1, and 2 national locomotive emission standards. In 2008, U.S. EPA approved regulations emphasizing PM reductions through three tiers of standards, plus a fourth tier of NOx and PM emission standards.

Cleaner In-Use Off-Road Equipment (Off-Road Regulation)

The Off-Road Regulation, adopted in 2007 and amended in 2010, is an extensive program designed to accelerate the penetration of the cleanest equipment into California's fleets, and impose idling limits on off-road diesel vehicles. The program goes beyond emission standards for new engines through comprehensive in-use requirements for legacy fleets. These off-road vehicles are used in construction, manufacturing, the rental industry, road maintenance, airport ground support and landscaping. In December 2011, the Off-Road Regulation was modified to include on-road trucks with two diesel engines. The performance requirements of the Off-Road Regulation are phased in from January 1, 2014 through January 1, 2019.

Clean Diesel Fuel

Since 1993, ARB has required that diesel fuel have a limit on the aromatic hydrocarbon content and sulfur content of the fuel. In 2006, ARB required a low-sulfur diesel fuel to be used not only by on-road diesel vehicles but also for off-road engines. The diesel fuel regulation allows alternative diesel formulations as long as emission reductions are equivalent to the ARB formulation.

LSI In-Use Fleet Rule

Forklift fleets can be subject to either the LSI fleet regulation, if fueled by gasoline or propane, or the off-road diesel fleet regulation. Both regulations require fleets to retire, repower, or replace higher-emitting equipment in order to maintain fleet average standards. The LSI fleet regulation was originally adopted in 2007 with requirements beginning in 2009. While the LSI fleet regulation applies to forklifts, tow tractors, sweeper/scrubbers, and airport ground support equipment, it maintains a separate fleet average requirement specifically for forklifts. The LSI fleet regulation requires fleets with four or more LSI forklifts to meet fleet average emission standards.

Incentive Programs

Similar to programs targeted at on-road fleets, incentive programs have been instrumental in achieving additional emissions reductions. The Carl Moyer Program is one example that provides grant funding for cleaner-than-required off-road engines, agricultural equipment, and locomotives.

Engines and equipment used in agricultural processes are unique to each process and are often re-designed and tailored to their particular use. Fleet turnover to cleaner

engines is the focus for these engines. In the San Joaquin Valley, where agriculture has a larger impact on air quality than in other areas of the state, state incentive programs have been leveraged with federal and local incentives to provide farmers assistance to replace their older, higher-polluting equipment with the cleanest available technology. ARB is also working with the District on developing a pilot project that gives farmers opportunity to replace their high-emitting equipment through a trade-up system.

B. District Control Program

Consistent with its regulatory authority, the District has adopted rules for reducing emissions from broad scope of stationary and area sources. Table 4 highlights District stationary source rules that achieve emission reductions in 2012 and beyond. The District has also adopted rules to reduce emissions due to mobile source activity associated with indirect sources and to reduce employer based trips.

Table 4. Adopted District Rules Achieving Emission Reductions in and After 2012

District Rule		Date Adopted or Last Amended
4103	Open Burning	4/15/210
4307	Boilers, Steam Generators, and Process Heaters 2 to 5 MMBtu/hr	5/19/11
4308	Boilers, Steam Generators, and Process Heaters 0.075 to <2 MMBtu/hr	11/14/13
4311	Flares	6/18/09
4306/ 4320	Boilers, Steam Generators, and Process Heaters > 5 MMBtu/hr	10/16/08
4352	Solid Fuel Fired Boilers, Steam Generators, and Process Heaters	12/15/11
4354	Glass Melting Furnaces	5/19/11
4565	Biosolids, Animal Manure, and Poultry Litter Operations	3/15/07
4566	Organic Material Composting Operations	8/18/11
4601	Architectural Coatings	12/17/09
4605	Aerosol Assembly and Component Coating Operations	9/20/07
4653	Adhesives and Sealants	9/16/10
4682	Polystyrene, Polyethylene, and Polypropylene Products Manufacturing	9/20/07
4684	Polyester Resin Operations	9/20/07
4702	Internal Combustion Engines	8/18/11
4905	Natural Gas-Fired, Fan-Type Residential Central Furnaces	1/22/15
9610	State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs	6/20/13

In addition, the District operates an extensive voluntary incentives program for achieving further emission reductions needed for attainment. From 1992 to date, the District and grant recipients (through matching funds) have invested more than $1.4 billion in clean air projects. The District currently has $136 million available in incentive funds for 2015-2016.

Further information on District control programs are included in Chapter 5 and Appendix C of the 2016 Ozone SIP.

C. Further Efforts to Enhance Progress

Although the current ARB and District control strategies provide the emission reductions necessary to meet the 75 ppb 8-hour ozone standard by 2031, ARB and the District are pursuing efforts above and beyond those included in the attainment demonstration to continue to enhance ozone progress. These efforts are described below.

1. Proposed ARB SIP Strategy

In May 2016, ARB staff released the Proposed 2016 State Strategy for the State Implementation Plan (State SIP Strategy). The State SIP Strategy describes ARB staff's proposed measures for mobile sources to attain federal air quality standards throughout the State over the next fifteen years. The State SIP Strategy includes measures that combine technology-forcing fleet average standards for new vehicles, cleaner burning fuels, durability requirements and inspection programs to ensure clean in-use performance, sales requirements for advanced technologies, pilot programs to demonstrate technologies, and incentive programs and other actions to accelerate technology deployments. The proposed SIP measures identify the regulatory and programmatic approaches necessary to deploy these cleaner technologies and fuels.

As part of the strategy, ARB staff will propose an emission reduction commitment for the San Joaquin Valley for Board consideration in September. The new measures identified in the strategy will provide additional reductions in the Valley to enhance progress towards meeting the 75 ppb ozone standard. The strategy includes approximately 9 tpd of NOx emission reductions from measures under ARB direct regulatory authority, which when coupled with strong action at the federal level, could achieve a total of 22 tpd of NOx reductions in 2031. Measures providing reductions in the San Joaquin Valley are shown in Table 5.

Table 5. San Joaquin Valley Expected NOx Emission Reductions from State SIP Measures
All emission reductions in tpd

Proposed Measure	2031
On-Road Light-Duty	
Advanced Clean Cars 2	0.2
Total Category Reductions	**0.2**
On-Road Heavy-Duty	
Low-NOx Engine Standard – California Action	7
Low-NOx Engine Standard – Federal Action	8
Advanced Clean Transit	<0.1
Last Mile Delivery	0.2
Zero-Emission Airport Shuttle Buses	<0.1
Total Category Reductions	**16**
Off-Road Federal and International Sources*	
More Stringent National Locomotive Emission Standards	5
Total Category Reductions	**5**
Off-Road Equipment	
Zero-Emission Off-Road Forklift Regulation Phase 1	<0.1
Zero-Emission Airport Ground Support Equipment	<0.1
Small Off-Road Engines	0.3
Transport Refrigeration Units Used for Cold Storage	NYQ
Low-Emission Diesel Requirement	1
Total Category Reductions	**1**
Aggregate Emission Reductions	**22**

* Quantification of emission reductions are based on current growth forecasts, which are undergoing review.
"NYQ" denotes emission reductions are Not Yet Quantified
"—" denotes no anticipated reductions

In addition, in 2015, U.S. EPA further strengthened the 8-hour ozone standard to 70 ppb. Air quality modeling indicates this will require a further 15 percent reduction in NOx emissions from 2031. Coupled with the ongoing control program, reductions from the State SIP Strategy will provide the foundation for meeting the 70 ppb standard by the District's attainment deadline of 2037.

2. Additional District Measures

As part of the 2016 Ozone SIP, the District has committed to work with affected operators in amending the following rules:

Rule 4311 Flares

The District commits to amend the Rule 4311 by December 31, 2017, to include additional ultra-low NOx flare emission limits for existing and new flaring activities at Valley facilities, and to include additional flare minimization requirements to the extent that these controls are technologically and economically feasible.

Rule 4694 Wine Fermentation and Storage Tanks

Modeling shows that ozone formation in the Valley is NOx limited, especially in future years, and ROG emission reductions are not as effective. Thus, the District commits to first evaluate the technological and economic feasibility of control technologies to reduce ROG emissions from wine fermentation processes and potential benefit in reducing ozone. The District commits to then amend Rule 4694 by December 31, 2018.

V. CLEAN AIR ACT REQUIREMENTS

In addition to the elements related to the attainment demonstration, the Act also requires SIPs for ozone extreme areas to address the following elements:

- Base year emission inventories and future year forecasts for manmade sources of ozone precursors;
- Demonstration that control measures meet reasonably available control measures (RACM) level;
- Plan provisions that require reasonable further progress (RFP);
- Provisions for sufficient contingency measures for RFP and attainment;
- Transportation conformity emission budgets to ensure transportation projects are consistent with the SIP; and
- Demonstration that sufficient transportation control strategies and transportation control measures (TCM) have been adopted and implemented to offset any growth in emissions due solely to growth in vehicle miles travelled (VMT).

A. Emission Inventory

Ozone SIPs must contain base year inventories of NOx and ROG, as well as future year forecasts. An emission inventory consists of a systematic listing of sources of air pollutants with an estimate of the amount of pollutant emissions from each source category over a period of time.

ARB and District staff worked jointly to prepare an updated summer average emission inventory for the 2016 Ozone SIP. The inventory includes a category-by-category review and update using the most recent information available on emissions-generating activities and anticipated population and economic growth in the region. Additional information on the emission inventory methodologies and resulting base and future year emissions can be found in Appendix B of the 2016 Ozone SIP. Information on the emissions reporting programs is provided in Chapter 3 of the 2016 Ozone SIP.

New Source Review rules require new and modified stationary sources that increase emissions in amounts exceeding specified thresholds to provide emission reduction offsets to mitigate the emissions growth. Emission reduction offsets represent either on-site emission reductions or use of banked emission reduction credits (ERCs). ERCs are voluntary, surplus emission reductions, which are registered, or banked, with the District for future use as offsets.

Per U.S. EPA policy, ERCs banked before the plan's emission inventory base year (2012 for this plan) must be explicitly treated as emissions in the air. As shown in Table 6, projected ERC use is equal or less than the plan's estimated total growth in emissions for each pollutant. Further detail on ERCs is provided in Appendix L of the 2016 Ozone SIP.

Table 6. Expected ERC Use

Pollutant	Expected ERC Use (tpd)	Growth (tpd)
NOx	5.27	5.28
ROG	12.66	23.57

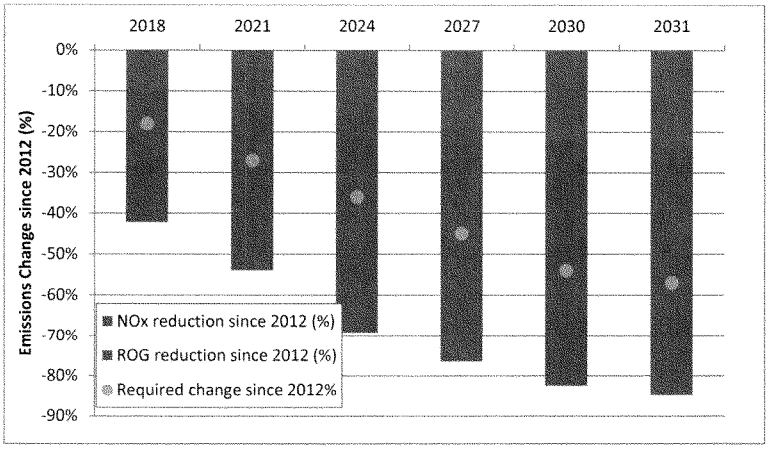
B. Reasonably Available Control Measures Demonstration

As specified in the Act, the SIP shall provide for the implementation of RACM as expeditiously as practicable to provide for attainment of the ozone standard. RACM must also include emission reductions from existing sources that may be obtained through the adoption, at a minimum, of reasonably available control technology (RACT). The U.S. EPA has interpreted RACM as those emission control measures that are technologically and economically feasible and when considered in aggregate, would advance the attainment date by at least one year. The 2016 Ozone SIP contains a RACM demonstration for State, District, and metropolitan transportation agencies that demonstrate no new measures were identified that would advance attainment. These analyses are further described in Chapter 6 of the 2016 Ozone SIP. The District submitted the required RACT SIP to U.S. EPA in 2014. Appendix C of the 2016 Ozone SIP presents the District's further rule evaluation.

C. Reasonable Further Progress

The purpose of the RFP demonstration is to ensure that a nonattainment makes steady progress towards attainment. Per the Implementation Rule, the Valley must demonstrate an average 18 percent reduction in ROG or NOx or in combination for the first six years of the attainment planning period, and an average of three percent per year reduction in emission every three years thereafter until the attainment date. The RFP demonstration in Chapter 6 of the District 2016 Ozone SIP shows that ROG and NOx emission reductions are more than sufficient to meet the required RFP in every milestone year. Figure 6 shows the percent reductions in ROG and NOx emissions, along with the required percent reduction targets since 2012. The emission reductions exceed those required for RFP, as the incremental reductions needed for attainment in an extreme ozone nonattainment area are much larger than the minimum requirements for progress required under the Act.

Figure 6. ROG and NOx Emission Reductions Relative to RFP Targets(1)



(1) Graph from data in Table 6-3 *San Joaquin Valley 2008 8-Hour Ozone NAAQS Reasonable Further Progress* in the 2016 Ozone SIP.

D. Contingency Measures

Contingency measures provide additional emission reductions in the event a nonattainment area fails to achieve RFP targets or attain the ozone standard by its attainment date. These reductions are additional, since they are reductions not accounted for in the RFP or the attainment demonstration. U.S. EPA has interpreted this requirement to represent one year's worth of RFP, amounting to three percent of reductions from measures that are already in place or that would take effect without further rulemaking action.

The RFP demonstration in the 2016 Ozone SIP shows the San Joaquin Valley meets RFP milestone year contingency requirements. The three percent contingency was secured by the first milestone year (2018) and carried through to the attainment year (2031).

To meet the three percent emission reduction for attainment contingency (4 tpd NOx), the 2016 Ozone Plan relies in part on additional reductions occurring between 2031 and 2032 from the continued implementation of the mobile source control program, including the turnover in the mobile source fleet (2.4 tpd). To provide for the remaining reductions, the District's plan makes a small commitment under the 182(e)(5) advanced technology provisions of the Act for extreme nonattainment areas. However, subject to approval by the Board, the reductions identified for the San Joaquin Valley in the State SIP Strategy are sufficient to eliminate the need to include a 182(e)(5) commitment to satisfy the Act's contingency requirements.

E. Transportation Conformity Budgets

Under section 176(c) of the Act, transportation plans, programs, and projects that receive federal funding or approval must be fully consistent with the SIP before being approved by a Metropolitan Planning Organizations (MPO). U.S. EPA's transportation conformity rule[6] details requirements for establishing motor vehicle emission budgets (budgets) in SIPs for the purpose of ensuring the conformity of transportation plans and programs with the SIP.

The 2016 Ozone SIP establishes county-level on-road motor vehicle emission budgets for each RFP milestone year, as well as for the attainment year. Emission budgets for NOx and VOC were calculated using EMFAC2014 and reflect summer average emissions. The emission budgets established in the 2016 Ozone SIP fulfill the requirements of the Act and U.S. EPA regulations to ensure that transportation projects will not interfere with progress and attainment of the annual PM2.5 standard. Additional detail on the on-road motor vehicle emission budgets can be found in Appendix D of the 2016 Ozone SIP.

F. VMT Offset Demonstration

The Act requires areas classified as severe or extreme nonattainment of the ozone standard to submit a VMT offset demonstration. The San Joaquin Valley Air Basin is currently designated as extreme and is therefore subject to this requirement. For areas classified as extreme, Section 182(d)(1)(A) of the Act requires that SIPs include a demonstration that "identifies specific enforceable transportation control strategies and transportation control measures to offset any growth in vehicle miles travelled or number of vehicle trips in such area...."

[6] Federal transportation conformity regulations are found in 40 CFR Part 51, subpart T – Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. of the Federal Transit Laws. Part 93, subpart A of this chapter was revised by the EPA in the August 15, 1997 Federal Register.

The 2016 Ozone SIP includes a VMT offset demonstration with analysis provided by ARB. This demonstration was prepared pursuant to the requirements of the Act and is consistent with August 2012 U.S. EPA guidance entitled "Implementing Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Traveled." The 2016 Ozone SIP demonstrates that the VMT offset demonstration is satisfied for the San Joaquin Valley and is described further in Appendix D of SIP.

G. Other Requirements

As described in the 2016 Ozone Plan, the Valley already meets the following Act requirements, since they were addressed as part of previously adopted ozone SIPs.

New Source Review: District Rule 4001 (New Source Performance Standards) satisfies the Act's requirements for the preconstruction review and permitting of new or modified major stationary sources. In addition, Rule 2201 (New and Modified Stationary Source Review Rule) sets the emission offsets requirements.

Clean Fuels and Advanced Technologies for Boilers: District Rules 4305, 4306 and 4352 address NOx emission limits for boilers in this category. U.S. EPA approved these rules as part of the SIP for the previous 8-hour ozone Plan[7] that they comply with the Act requirement for clean fuels and technologies for boilers.

H. Bakersfield Area Monitor

An adequate monitoring network is important for assessing pollutant exposure across a region. As part of meeting Infrastructure SIP requirements defined in the Act, states must demonstrate that the monitoring network meets all federal monitoring regulations. On April 1, 2016, U.S. EPA partially disapproved elements of the California Infrastructure SIP related to ozone monitoring requirements in the Bakersfield Metropolitan Statistical Area (MSA)[8]. ARB operated an ozone monitor at the Arvin Bear Mountain monitoring site for twenty years. At the time of operation, this site recorded the highest ozone concentrations in the Bakersfield MSA. However, in 2009 the Arvin Edison Water District notified ARB that it would not renew ARB's lease for the Arvin Bear Mountain site. Although ARB immediately established a replacement site at the Arvin Di Giorgio elementary school, U.S. EPA had not yet approved the relocation at the time of their disapproval of the Infrastructure SIP. The relocation of the Bear Mountain monitoring site to the Di Giorgio monitoring site was subsequently approved by U.S. EPA on May 2, 2016. A copy of the approval letter is included in Appendix C. Documentation of the approval of Arvin Di Giorgio as the replacement site included in this SIP submission addresses U.S. EPA's partial disapproval of the California Infrastructure SIP.

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[7] 76 FR 57846 https://www.gpo.gov/fdsys/pkg/FR-2011-09-16/pdf/2011-23656.pdf
[8] 81 FR 18766 http://www.gpo.gov/fdsys/pkg/FR-2016-04-01/pdf/2016-07323.pdf

VI. ENVIRONMENTAL IMPACTS

The District found that the 2016 Ozone Plan will not result in any potentially significant adverse effects on the environment and is exempt from the provisions of the California Environmental Quality Act (CEQA) under the provisions of sections 15061 (b)(3) (the general rule that CEQA only applies to projects which have the potential for causing a significant effect on the environment) and 15308 (actions taken by a regulatory agency for protection of the environment) of the CEQA Guidelines.

ARB has determined that its review and approval of the 2016 Ozone Plan submitted by the District for inclusion in the California State Implementation Plan (SIP) is a ministerial activity by ARB for purposes of CEQA (14 CCR § 15268). A "ministerial" decision is one that involves fixed standards or objective measurements, and the agency has no discretion to shape the activity in response to environmental concerns. (14 CCR § 15369; *San Diego Navy Broadway Complex Coalition v. City of San Diego* (2010) 185 Cal.App.4th 924, 934.)

ARB's review of the 2016 Ozone Plan is limited to determining if it meets all the requirements of the Act. ARB is prohibited from approving it or changing it unless ARB finds that it does not comply with the Act (Health and Safety Code § 41650 and 41652). Since ARB lacks authority to not approve the plan, or modify it, in response to environmental concerns raised through the CEQA process, ARB's action on the plan is ministerial for purposes of CEQA.

VII. STAFF RECOMMENDATION

ARB staff recommends that the Board:

1. Adopt the San Joaquin Valley 2016 Ozone SIP, including emission inventory, attainment demonstration, RACM demonstration, RFP demonstration, contingency measures, transportation conformity budgets, and VMT offset demonstration, as a revision to the California SIP.

2. Submit ARB's request in the staff report identifying the Arvin-Di Giorgio ozone monitoring site as the maximum ozone concentration monitor in the Bakersfield MSA as an addition to the California SIP to address U.S. EPA's partial disapproval of the California Infrastructure SIP.

3. Direct the Executive Officer to submit the San Joaquin Valley 2016 Ozone SIP and the ARB staff report to U.S.EPA for approval.

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, AMERICAN THORACIC SOCIETY ENVIRONMENTAL HEALTH POLICY COMMITTEE, 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 2 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:]

American Thoracic Society

American Journal of Respiratory and Critical Care Medicine ® | American Journal of Respiratory Cell and Molecular Biology ® | Annals of the American Thoracic Society ®

Written Testimony of Mary B. Rice MD MPH
on behalf of the American Thoracic Society
Before the Senate Environment and Public Works Committee, Clean Air and Nuclear Safety Subcommittee
Regarding Ozone and EPA NAAQS
June 22, 2016

Testimony Summary

The American Thoracic Society supports the U.S. Environmental Protection Agency's decision to establish a more protective National Ambient Air Quality Standard for ozone and opposes legislative efforts to weaken or delay EPA's authority to establish and implement a more protective standard for ozone. The adverse human health effects of exposure to ozone are well-established through decades of medical research. These health effects include asthma attacks in children and adults with asthma, exacerbations of chronic obstructive pulmonary disease, and premature death. Ozone's effects are most prominent among vulnerable populations, including children, the elderly and patients with cardiopulmonary disease. The current evidence also demonstrates that the previous ozone standard of 75 ppb/8-hours failed to sufficiently protect public health and needed to be strengthened.

Mr. Chairman, Ranking member, and members of the Committee, my name is Mary Rice. I am a pulmonary and critical care physician in the Division of Pulmonary, Critical Care & Sleep Medicine Beth Israel Deaconess Medical Center, at Harvard Medical School. On behalf of the American Thoracic Society, I would like to thank the Committee for the opportunity to testify regarding the Ozone National Ambient Air Quality Standard proposed by the U.S. Environmental Protection Agency (EPA). The American Thoracic Society is a medical professional organization with over 15,000 professionals and patients who are dedicated to the prevention, detection, treatment and cure of respiratory disease, critical care illnesses and sleep-disordered breathing. We pursue our mission through research, clinical care, education and advocacy.

The Clean Air Act stipulates that the EPA review the latest health effects research every five years and, based on what the current research shows, determine whether the National Ambient Air Quality Standards protect public health with an adequate margin of safety. The American Thoracic Society supports the approach required by the US Congress in the Clean Air Act. As physicians and scientists, we value the importance of regular scholarly reviews to evaluate emerging research and interpret the findings. Our members seek to treat their patients according to the most up-to-date assessment of the science. The approach required in the Clean Air Act follows those principles.

Looking at current research, the ATS supports the' EPAs decision to establish a more protective for ozone and, in fact, supports a more stringent standard of 60 ppb/8-hour[1–3]. The ATS opposes legislative

efforts to weaken or delay EPA's authority to establish and implement a more protective standard for ozone. The adverse human health effects of exposure to ozone are well-established, including increases in mortality and significant morbidity. Effects are most prominent in vulnerable populations including children, the elderly and patients with cardiopulmonary disease. The latest medical evidence clearly demonstrates that the previous ozone standard of 75 ppb/8-hours failed to protect human health and needed to be strengthened.

Ozone Air Pollution Increases Mortality

Ozone air pollution kills. Studies have found that a 75 ppb ozone standard – the previous EPA standard for ozone - is insufficient to protect the public from ozone-related death.

The link between ozone pollution and higher mortality risk has become increasingly evident over the last few years and has been replicated in multiple medical studies[4–9]. The pooled dose-response effect of ozone based on 39 studies is a 0.9% increase in mortality for each 10 ppb increase in daily averaged ozone[4]. Even ten years ago, the 2006 Integrated Science Assessment concluded that evidence was "highly suggestive" of a link between short-term ozone exposure and increased mortality[10]. The 2013 assessment strengthened this conclusion, finding there is "[l]ikely to be a causal relationship" between increased total mortality and short-term ozone exposure[11]. The same assessment noted that evidence now also suggests a causal relationship between long-term ozone exposure and increased mortality. Studies examining the relationship between ozone and mortality have been published yearly since the ozone standard was reviewed in 2006. These studies have overwhelmingly concluded that ozone exposure increases risk of premature death, particularly for certain more vulnerable adults including the elderly, women, African Americans and people with pre-existing heart disease[9,12].

The latest medical evidence also indicates that increases in mortality are attributable to ozone exposure at concentrations lower than previously documented, and lower than the previous 75 ppb standard. For example, a 2009 study of twelve Canadian cites demonstrated "positive and statistically significant associations" between increased ozone exposure and higher cardiovascular mortality, with seven cities meeting the 70 ppb standard and five meeting an even lower 65 ppb standard[13]. A long-term exposure study examining the effect of daily maximum ozone concentration on mortality demonstrated a 2 to 4 percent increase in the risk of death from respiratory causes with each 10 ppb increase in ozone concentration[5]. This study suggested an adequate safety threshold of ozone exposure was around 56 ppb as an 8-hr. average. These and other results collectively indicate that ozone exposures at a level of 70 ppb and even 65 ppb increase the risk of death, particularly for the many adults over age 65 with heart or lung disease.

Ozone Causes Asthma Symptoms and Asthma Attacks

Ozone pollution acts as a direct respiratory irritant by oxidizing the lining of the lung, and is particularly harmful to people with lung diseases like asthma. Asthma is a chronic lung disease affecting as many as 24 million Americans—7.4 percent of all adults and 8.6 percent of all children in the US[14]. Asthma inflames and narrows the airways of the lungs, making it difficult for an individual to breathe[15]. People with asthma have heightened sensitivity to irritants like ozone[16], because airway irritation leads to asthma symptoms such as wheezing, chest tightness, shortness of breath, and coughing. An asthma attack can be sudden and is often frightening; recurrent asthma exacerbations frequently require

expensive treatment[17]. Left untreated, asthma attacks can lead to permanent airway and lung damage, limiting a person's ability to work and exercise, and reducing overall life expectancy[18]. Asthma attacks can even result in death due to an inability to breathe, and each year approximately 3,630 adults and children die from asthma in the US[19].

Health experts maintain that air pollution is "one of the most under-appreciated contributors to asthma exacerbation[20]." The EPA's ozone Integrated Science Assessment concluded that "[t]he clearest evidence for health effects associated with exposure to [ozone] is provided by studies of respiratory effects[11]." A large number of health studies have discovered that people with asthma, particularly children with asthma, experience asthma symptoms including wheeze, chest tightness, shortness of breath and cough, when exposed to ozone at levels below 75 ppb and this leads to emergency room and hospital visits, doctor visits and increased medication use for asthma[21–26].

Ozone Worsens Chronic Obstructive Pulmonary Disease
Studies also link ozone pollution with increased hospitalization among adults suffering from Chronic Obstructive Pulmonary Disease (COPD). COPD is an incurable, progressive, and debilitating disease. The Center for Disease Control reports that 15 million patients in the United States have physician-diagnosed COPD[27] and it is the third-leading cause of death in the US[28]. Studies have found that exposure to ozone increases risk of hospitalization among people with COPD[29–31] For example, a study including 13 years of hospital admission data for 36 cities in the United States found that for every 5 ppb increase in the two-day average ozone level, the number of COPD hospitalizations increased significantly[30].

Ozone Causes Cardiovascular Effects
Medical evidence also links ozone exposure to cardiovascular effects like premature death due to heart disease. A large, multi-continent study demonstrated an increased risk of premature death from cardiovascular disease triggered by ozone pollution[13]. Several other large epidemiologic studies from the United States[8], Europe[6], and Asia[32] have provided further confirmation of premature death from cardiovascular disease after ozone exposure, including two large studies that confirmed this effect after controlling for the effects particulate matter air pollution exposure[13,33]. Previous studies have also shown adverse associations between ozone exposure and various cardiovascular effects, including alterations in heart rate variability in older adults[34], cardiac arrhythmias[35], strokes[36], heart attacks[37], and hospital admissions for cardiovascular diseases[38]. People with pre-existing chronic diseases, including COPD, appear to be at especially high risk for the cardiovascular effects of ozone exposure[39]. The EPA's Integrated Science Assessment concluded that "[o]verall, the body of evidence indicates that there is likely to be a causal relationship between short-term exposures to [ozone] and cardiovascular effects, including cardiovascular mortality[11]."

Ozone Has Even More Severe Effects on Vulnerable Populations
Recent research also demonstrates that children, the elderly, and adults with preexisting respiratory disease are especially susceptible to ozone pollution effects. Low-income urban communities and outdoor seasonal workers also experience increased risk of health effects from exposure to this harmful air pollutant. EPA has a statutory duty to set a standard that provides adequate protection for these most vulnerable subpopulations.

Children: Our nation's infants and young children are especially susceptible to harm from exposure to ozone pollution[25,40–42]. Even before birth, prenatal exposure of the pregnant mother to ozone may harm her baby's fetal lung and central nervous system development, and reduce fetal growth, resulting in lower birthweight[43]. Babies and children also face increased risks from ozone compared to adults, because their lungs are still developing, a process that continues throughout childhood and adolescence[44]. Further, children breathe more air per pound of body weight than adults, which increases the dose of inhaled pollutants[2]. Relative to adults, children spend more time outdoors where they are often more physically active, increasing the volume of polluted air that is inhaled.

Acute health effects of ozone exposure include difficulty breathing and hospitalization for respiratory illness among infants and toddlers[45–47], and increased hospitalizations and medical care for asthma attacks among children[23–25,40,48–51]. Many of these studies have demonstrated a relationship between ozone exposure below 75 ppb, even 65 ppb, and hospital admissions for asthma among young children. For example, a very large study of children under the age of six in New York State, where ozone levels are 37 ppb on average, found that the risk of hospitalization for asthma in these children increased 22 percent with each 1 ppb increase in average ozone concentration during the summer season, and that effects were greatest among very young children and low income children[40]. EPA estimates that 230,000 asthma attacks among children aged 6 to 18 could be avoided each year by 2025 with the attainment of a 70 ppb ozone standard, and this estimate excludes the state of California[52].

The Elderly: For the elderly and those with pre-existing heart and lung disease, exposure to high levels of ozone can lead to hospitalization and death[8,12].(49) Older adults are more susceptible to the adverse health effects of exposure to air pollution, including ozone, because they have a higher prevalence of pre-existing chronic illness. In particular, these populations experience both heightened prevalence of heart and lung disease—conditions exacerbated by ozone exposure—and a gradual decline in the functioning of the body's biological defenses against ozone. Even low levels of ozone pollution can increase emergency room visits for respiratory illnesses among older populations[53]. As discussed above, older adults are also most at risk of death from ozone exposure.

Low Income Communities: Several large studies have determined that children of low socioeconomic status or of African American race face higher risk of hospital admissions and emergency department visits associated with ozone pollution[24,40] Communities with fewer homes using central air conditioning face greater risk of respiratory hospitalization due to ozone compared to communities with more air conditioning[30]. People living in communities with high unemployment, lower prevalence of central air conditioning, or other markers of low socioeconomic status are also at greater risk of premature death from ozone pollution compared to people of higher socioeconomic status[54]. Americans in poverty may be more vulnerable to ozone pollution because they are more likely to have chronic diseases such as asthma and heart disease, conditions worsened by ozone. They may be more heavily exposed due to infiltration of outdoor air into their homes, especially during the hot summer months. These Americans also have reduced access to medication and medical care that could prevent the worst health consequences of ozone exposure.

Conclusion

The medical community and the American public depend on the US EPA to conduct a thorough safety assessment, and to examine the full body of research concerning the health effects of ozone (and the other harmful criteria air pollutants regulated by the Clean Air Act) every 5 years. The purpose of the

National Ambient Air Quality Standard is to set a standard that protects public health with an adequate margin of safety. With last year's review of ozone, the Clean Air Scientific Advisory Committee[55] and the US EPA[56] **both concluded that the evidence clearly demonstrates serious harms to human health at levels below the previous standard of 75 ppb**. This body of evidence included a number of landmark studies that have emerged in the past 5 years, demonstrating the adverse effects of ozone on mortality among adults, and respiratory hospitalization among young children at levels below 75 ppb. While the American Thoracic Society and other medical professional organizations[1,57] would have preferred an even more protective standard, the American Thoracic Society opposes any legislation that would weaken or delay EPA's authority to issue and implement a revised and more protective National Ambient Air Quality Standard for ozone. We rely on the US EPA to review the most up-to-date evidence at regular intervals, in keeping with the pace of medical progress, and to establish and implement standards based on those regular reviews in order to protect the health of Americans. Above all, we must protect 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 pollution.

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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, STOCKTON, CALIFORNIA

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 was 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 8-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 3 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 clean up 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 $PM_{2.5}$ standards and PM_{10}. 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 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 2 to 3 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 completely 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 3 to 6 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:]

Testimony Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

Testimony Presented Before the Subcommittee June 22, 2016 By

ANDREW CHESLEY, EXECUTIVE DIRECTOR, SAN JOAQUIN COUNCIL OF GOVERNMENTS, STOCKTON, CALIFORNIA

Introduction

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 among the fastest growing counties in California with a median income below the State of California average.

I am here on behalf of the eight San Joaquin Valley metropolitan planning organizations (MPO): Fresno Council of Governments, Kern Council of Governments, Kings County Association of Governments, Madera County Transportation Commission, Merced County Association of Governments, San Joaquin Council of Governments, Stanislaus Council of Governments, and Tulare County Association of Governments. All are striving to seek ways to address the underlying causes of poverty, poor health and unemployment that rank among the worst in the country.

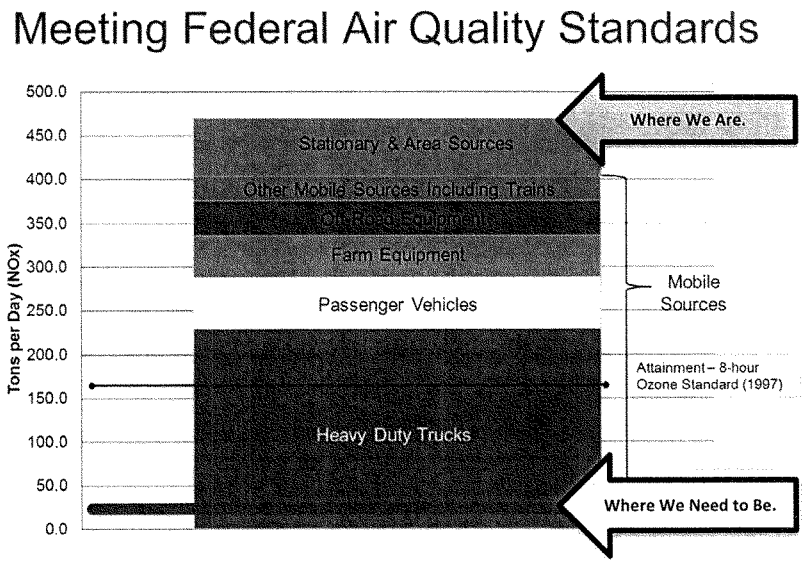
The San Joaquin Valley covers an eight county geographic area slightly larger than West Virginia and is home to approximately 4 million people. We are known for our agricultural prowess, but we also have three of the 100 largest cities in the country. On any given day, our air quality challenges often 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 projects,put people to work, move agricultural goods to market, move freight from Northern to Southern California, and increase the mobility of Californians. And as for right now, we want to put the new resources in the FastACT to work.

Figure 1 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.

Testimony Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

Figure 1: San Joaquin Valley NOx Emissions by Source Category and Targets for Attainment of New Federal Ozone and PM2.5 Standards



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 risk regions like the San Joaquin Valley face in implementing the Clean Air Act as we strive to maintain our region's crumbling transportation infrastructure.

Support for the Air District

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

The Clean Air Act was last amended 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 now, that a number of the provisions in the Act are leading to unintended consequences and misdirected resources.

I am here today to support the San Joaquin Valley Air District's pursuit to, in a very small way make the Clean Air Act more workable.

Testimony Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

Setting

In the San Joaquin Valley, we have eight MPOs in one non-attainment area. Sometimes we are 8 MPOs and sometimes we have to function as one. Action on any one MPO's regional transportation plan or transportation improvement program requires the other seven be, not just in compliance with the Clean Air Act, but also with every process test in the endeavor. This means there are years where if one MPO fails, we all stand to lose transportation funding. We are connected at the hip in that way.

We are 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 8 transportation planning agencies must pass. Regionally, that's 408 tests before we spend one dollar of federal transportation funding. 80 of those tests are for Ozone alone. Failure of one test, by one MPO can result in a 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. Figure 2 illustrates how complex the process is. Each of the green, blue, and grey arrows in the diagram represents a process that must be complete before or after any of the yellow arrows to prevent the loss of transportation funding. To be clear, that represents the harmonization of 11 air quality and transportation planning processes. 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 to transportation projects.

Should synchronization of the 11 processes not occur, we face the potential for an air quality conformity lockdown. In layman's terms, that means we face the potential for project delivery delays and the loss of over $420 million. All of this, the result of a process failure. That's right process. 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 (the EPA, FHWA, FTA, the California Air Resources Board, Caltrans, the San Joaquin Valley Air Pollution Control District and the eight MPOs), 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 this case have slipped for the EPA placing us in a lockdown. In the Valley about $450 million in potential project delays are on the table. Our expectation is that we will exit this situation in three to six months quite likely missing whole construction seasons.

Testimony Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

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, and three lane segments; and an operational project to provide a continuous left hand turn lane for driveways and residential streets.

This is so complex, only a picture can make it comprehensible. (Figure 2) Maybe.

How we get into a lockdown is complex, but it is not new, and will likely happen again. In fact we are expecting that with the adoption of a new PM 2.5 plan to meet new standards that our lockdowns 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!

When EPA updates an air quality standard, like the 2015 Ozone standard, it begins an extensive implementation. In my region, long before anyone begins development of an air quality plan to meet the new standard, we begin with a simple question – how do we minimize our process risks? We ask this question, not because we believe we cannot meet the standard, we don't know the answer to that yet; we ask, because the workings of our transportation modeling, our air quality modeling the numerous plan reviews is complex, challenging, and tough to predict.

Through all of the challenges, the Valley works together. Over the last 2 decades, the Valley has come together to manage the process with great success. These efforts have resulted in enhanced communication and coordination across all agencies involved in implementing the Clean Air Act. I am very proud of this unique effort that happens nowhere else in the country.

A series of coordinated planning efforts are happening throughout the San Joaquin Valley. One effort, known as the San Joaquin Valley Blueprint, takes a big-picture look at how the Valley can grow over time in a way that uses resources efficiently, protects existing communities, conserves farmland and open space, and supports the Valley economy, ultimately reducing pollution and greenhouse gas emissions. Mutual goals from this effort have been incorporated into the Valley's regional transportation plans and are being implemented.

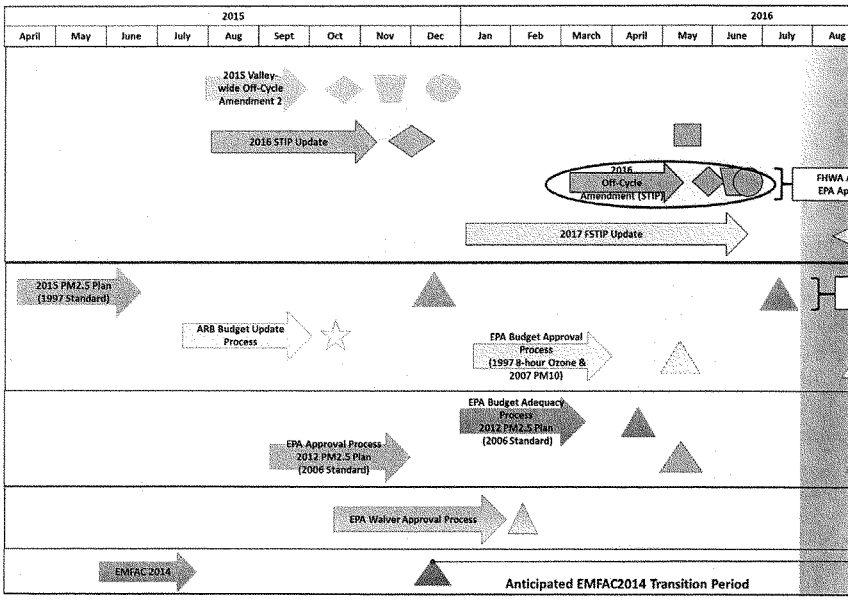
These are not going to be enough though to protect the transportation funding so necessary for the growth of the San Joaquin Valley.

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 biennial updates, with 51 tests that place our transportation funding at risk constantly. Common sense amendments to the Clean Air Act as you are considering today will benefit our efforts in the San Joaquin Valley.

Thank you. It has been a privilege to address the subcommittee this afternoon.

Testimony Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety

Figure 2: 2015-2016 San Joaquin Valley Planning Schedule



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, UINTAH 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:]

U. S. Senate Committee on Environment and Public Works
Chairman Jim Inhofe

Examining Pathways Towards Compliance of the National Ambient Air Quality Standard for Ground-Level Ozone: Legislative Hearing on S. 2882 and S.2072

Testimony of Uintah County Commissioner Mark Raymond, Chairman
Uintah County, Utah
Wednesday, June 22, 2016

Mr. Chairman, and Members of the Committee, I am Mark Raymond and I serve as the Chairman of the Uintah County Commission located within the Uinta 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 Uinta Basin—especially the unique occurrence of high winter ozone levels. Additionally, I want to thank Senator Hatch for his efforts to craft and introduce S. 2072 and his willingness to work on this difficult issue with Uintah County.

The Uintah County Commission supports the passage of both S. 2882, the Ozone Standards Implementation Act of 2016 and Senator Hatch's S. 2072, which would require the establishment of an Early Action Compact Program. Uintah County stands ready and willing to assist in the passage of both of these important legislative proposals that will allow communities, such as mine, to deal with elevated ozone in a rational and responsible manner—without the scarlet letter of nonattainment under the Clean Air Act. My comments will focus primarily on Senator Hatch's S. 2072 as Uintah County's experience and seeking Congressional action has attempted to assist the Senator in this important effort.

Uintah County sits in the Uinta Basin, which is exactly as the name depicts. My county sits in a basin that is surrounded by high mountains and creates the perfect conditions to generate winter

ozone. Only two places in the nation experience high levels of winter ozone: the upper Green River Basin in Wyoming and the Uinta Basin in Utah. High winter ozone levels are a result of a complex mix of geography, weather, and emission conditions. Primarily, winter ozone levels rise when snow cover and multi-day temperature inversions occur. An inversion occurs when high level warmer air traps low level cold air inside the Basin. 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. In the absence of these conditions, exceedances of EPA's ozone standard have not been observed.

Ozone levels in the Uinta Basin became the focus of local governments, the EPA, the State of Utah, and outside interest groups as we experienced several winters of high ozone levels, energy exploration and production at historic highs, and of course the EPA lowering the ozone standard to 70 parts per billion. Although we certainly explored and continue to support a legislative measure that would fully implement the previous 75 ppb standard and provide an additional 10 years for the nation to comply, Uintah County is seeking additional tools to improve our air quality which are reflected in S. 2072. While the 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 the citizens of Uintah County. It is our opinion that the Clean Air Act provides limited tools for communities such as mine to proactively improve air quality, implement emission controls, and provides disincentives for industry and citizens to proactively reduce emissions ahead of a nonattainment designation.

Uintah County, the State of Utah, the Ute Tribe, and industry have spent several years and millions of dollars to study, monitor, and model winter ozone. After all of this work, what we know for sure is that we need several more years of research and monitoring to insure that

investments we make are effective and that we have a precise model in order to formulate appropriate controls. It is our fear that EPA, armed with the new standard of 70 ppb, will put the Uinta Basin into nonattainment status, and we will go into what could be decades of Clean Air Act compliance which may not actually improve our air quality.

In 2002 the EPA initiated a strategy known as the Early Action Compact Program through approval of a protocol initiated by the State of Texas that allowed communities to enter into a compact with EPA to improve air quality, hold off a nonattainment designation while the compact was being implemented, and would allow for credits for investments made pursuant to the compact. Twenty-nine areas from 12 states submitted signed compact agreements in the early 2000's. Of the 29 areas, 14 areas were able to defer nonattainment status and 15 areas were successful in being designated as attainment due to their participation in the Early Action Compact Program. (Early Action Compact Program for Ground-Level Ozone: A Study, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Outreach and Information Division, Research Triangle Park, North Carolina) The only exception was the Denver, Colorado area which did not complete the program due to an air quality violation. Pursuant to the EPA, the Early Action 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 improved air quality faster, and all the while improving regional cooperation in solving air quality problems. Unfortunately, the EPA scrapped the Program due to litigation for lack of authority under the Clean Air Act. S. 2072 would authorize and require the Administrator to craft and implement this type of Early Action Compact Program.

S. 2072 would require the Administrator to establish an Early Action Compact Program within one year of enactment. These compacts are initiated by state, tribal or local governments and are completely voluntary. An applicant would have one year after notification to the Administrator to submit a proposed compact plan for the Administrator's approval. Under the legislation, compact plans must: insure public involvement, provide credits for emission reductions resulting from the plan, contain measurable milestones leading to attainment within 10 years, emission inventories, modeling, and planning for future growth of the area. During the implementation of the compact, the Administrator agrees to withhold a nonattainment designation so long as the compact is being implemented. The approach of S. 2072, puts local, tribal, and state governments in control of improving their air quality, fosters cooperation with the EPA, and will provide true air quality improvements.

S. 2072 will also allow Uintah County and other communities dealing with winter ozone to work with the Administrator to issue separate guidelines due to the unique nature of winter ozone. The Administrator is directed to issue separate plan requirements for an Early Action Compact for the mitigation of winter ozone, including the opportunity to conduct further study and monitoring to insure emission controls are effective for this complex problem. Although it is clear that our oil and gas industry contributes to ozone precursors through the release of NOx, VOC, and formaldehyde, those same releases do not create high levels of ozone absent precise weather conditions. Winter ozone is not as simple as removing cars and trucks from the roads. We live in a rural community where population densities are sparse. Winter ozone is a complex problem that requires specific treatment by EPA in order to achieve meaningful improvements in air quality. The oil and gas industry is responsible for 60% of our economy and 50% of our jobs. We need this industry to stay in the Basin to feed our economy which in turn provides the

resources to tackle our ozone problem. Under non-attainment, the industry and their investments will simply relocate to other areas—leaving few if any resources and funding to implement emission controls.

Flexibility is a key component to allow communities to implement solutions to air quality issues that are unique to their area. We believe enactment of S. 2072 that mandates an Early Action Compact Program with provisions that contemplate the complexities of winter ozone is an appropriate mechanism for communities to improve air quality without destroying their economy. So few federal programs are successful, yet in this case the Early Action Compact Program was very successful, achieved real improvements to air quality, and allowed communities to control their own futures. This is the goal of S. 2072 and we urge the Committee to approve this legislation and work to enact its provisions.

I thank you for the opportunity to testify today and I will be happy to answer any questions you may have or I am happy to provide additional information.

Mark D Raymond 6.17.16

Commissioner Mark Raymond Date

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 you 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 No. 1 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 U.S. 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 nonattainment 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 toward 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:]

ARIZONA CHAMBER
OF COMMERCE & INDUSTRY

Testimony by Glenn Hamer, Arizona Chamber of Commerce and Industry, submitted to the Senate Environmental and Public Works Committee's Subcommittee on Clean Air and Nuclear Safety Hearing entitled "Examining Pathways Towards Compliance of the National Ambient Air Quality Standard for Ground Level-Ozone: Legislative Hearing on S. 2882 and S. 2072," June 22, 2016

On behalf of the Arizona Chamber of Commerce and Industry (Arizona Chamber or Chamber), I welcome this opportunity to submit for the record the following testimony regarding the economic implications for the state of Arizona of the Environmental Protection Agency's new standard for ground-level ozone. In addition to this written testimony, I am including for the record a copy of the latest paper by the Arizona Chamber Foundation and Prosper Foundation titled "A Clear and Present Danger: How the EPA's New Ozone Regulations Threaten Arizona's Economy," which provides a comprehensive examination of the issue.

In October 2015, the Environmental Protection Agency (EPA) lowered the national standard for ground-level ozone to 70 parts per billion (ppb) from the previous standard, set in 2008, of 75 ppb. This new one-size-fits-all national standard will be virtually impossible for Arizona to meet because of Arizona's unique location in the southwestern region of the United States, and because the primary sources of Arizona's ozone precursors are outside our state's control. Protecting Arizona's air quality is of utmost important to those of us here in Arizona, and our state's businesses and regulators have been working diligently to reduce our emissions so that all Arizonans enjoy healthy air. But the imposition of this new standard will punish Arizona for ozone we cannot control.

First, Arizona's number one source of nitrogen oxide emissions is cars. Our state's location as a border state and a gateway to Southern California mean that Arizona's highways are heavily traveled. Yet because vehicle emissions are regulated at the federal level, they are wholly outside Arizona's control. In other words, Arizona's most effective strategy for reducing its ozone is entirely in the hands of federal regulators responsible for vehicle emission standards.

Second, Arizona has incredibly high levels of biogenic, or naturally occurring, background ozone. With our state's vast ponderosa pine forest and high incidence of wildfires and lightning, biogenic ozone emissions account for 43 percent of Arizona's volatile organic compound emissions. Point source major emitters account for a mere 1% of Arizona's VOC emissions.

Third, Arizona receives a significant amount of ozone from neighboring California, also referred to as "interstate transport." Proving that this ozone originates in California is complicated and expensive, and the EPA does not permit exclusions for interstate

transport. Thus, despite the fact that ozone originates in California, Arizona is penalized for it.

Fourth, Arizona receives significant "international transport" from Mexico as well as Asia, by way of California. But because of the EPA's rules, even if Arizona's Department of Environmental Quality could prove—at great cost—that Arizona would be in attainment "but for" the internationally transported ozone from Mexico and Asia, it would still be put into nonattainment status.

Finally, almost 70% of the land in Arizona is tribal land or controlled by the federal government, yet Arizona is still responsible for controlling emissions originating there.

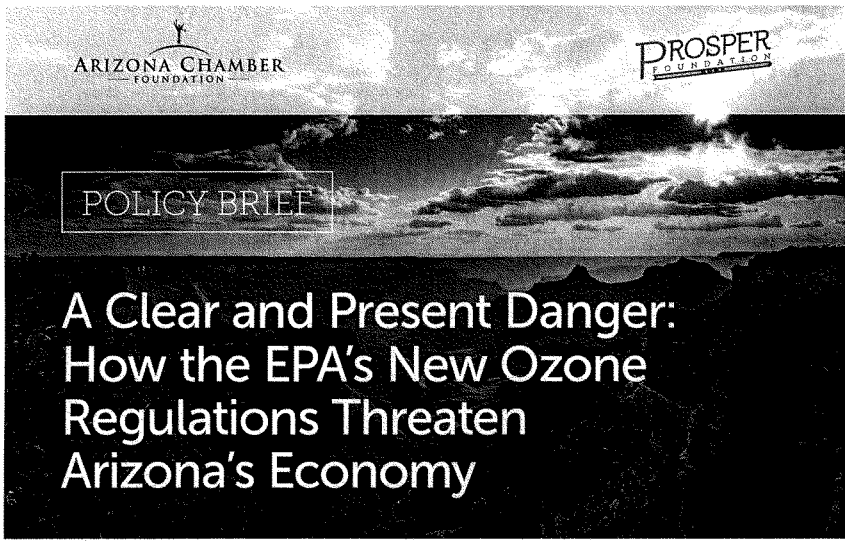
Simply put, Arizona cannot implement a 70 ppb standard. Nine out of the ten counties in Arizona in which ozone is measured are already out of attainment. The penalties for nonattainment have drastic economic consequences: existing Arizona businesses and companies interested in expanding in the state will be unable to secure necessary permits and face limitations or outright bans on construction, and our state's federal highway dollars could be compromised. And these consequences are already coming to fruition, with companies choosing to locate elsewhere due to uncertainties surrounding permitting.

With regard to the specific pieces of legislation before this committee:

The Arizona Chamber is appreciative of the work being done on this issue by Senators Hatch and McCaskill in S. 2072, which gives states an opportunity to submit to the EPA an "early action compact" to address state-specific issues with implementation. Offering another option as to how the states manage their air quality. However, on the issue of ozone, federal regulators must still recognize the unique characteristics of the various regions when setting a national standard.

With respect to S. 2882, The Ozone Standards Implementation Act of 2016, we agree that delaying the implementation of the 70 ppb standard is necessary, at the very least. We also appreciate the excellent work of Arizona's two senators, Messrs. McCain and Flake, on this issue.

The issue for Arizona and other Western states is not feasibility of implementation; it is impossibility.



Introduction

In October 2015, the Environmental Protection Agency ("EPA") lowered the national standard for ground-level ozone to 70 parts per billion (ppb). Arizona's unique location in the southwest region of the United States makes achieving the lower standards unrealistic. Since 2008, when the EPA set the standard at 75 ppb, Arizona and other states across the country have been working diligently to reduce their emissions to meet that standard. Although Arizona was making great strides toward achieving attainment of 75 ppb, its climate and geographic location will make it nearly impossible for Arizona to meet the new lower standard despite best efforts by Arizona industry and regulators. The consequences of nonattainment could be dramatic for Arizona: existing Arizona businesses and companies interested in expanding in the state will be unable to secure necessary permits and face limitations or outright bans on construction, and Arizona's federal highway dollars will be compromised.

The EPA's move to lower the standard now is premature and unnecessary. States across the country, including Arizona, have only just begun to see the impacts of the control measures they implemented after the 2008 standard was promulgated. Furthermore, scientists from the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) have found that, while "North American emissions contribute to global ozone levels, [there is no] evidence that these local emissions are driving the increasing trend in ozone above western North America."[1] While the western United States reduced its production of ozone by 21 percent between 2005 and 2010, the region's air quality did not enjoy the expected improvement in response.[2] That is because domestic reductions are being offset by increases in ozone originating in Asia and elsewhere.[3]

Given this disturbing international trend and other local factors that make attainment costly and difficult, lowering the standard from 75 ppb to 70 ppb is not substantiated by the required scientific data to support such a move. Protecting our air is of utmost importance to all of us lucky enough to call Arizona home—dare say even more so—than it is to federal regulators in Washington. But Arizona and its businesses are already making great strides in protecting air quality and ensuring Arizonans enjoy healthy air. The EPA has acted far outside its mandate, setting a new standard that is unjustified by science and impossible to meet without severe economic consequences.

I. The Clean Air Act and the National Ambient Air Quality Standards

The Clean Air Act (CAA), originally passed by Congress in 1970, is the federal law that regulates air quality. The CAA was intended to protect public health by regulating emissions of common air pollutants from both mobile and stationary sources (i.e. vehicles and industry), which at that time were unregulated. To that end, the CAA authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) for a variety of air pollutants, including ground-level ozone.[4]

But the EPA's mandate to regulate in this area is not unlimited. Rather, pursuant to the CAA, the EPA may only regulate emissions to the extent that public health is protected "with an adequate margin of safety."[5]

Since the EPA set the first NAAQS at 80 ppb in 1971,[6] emissions across the country have been reduced significantly.[7] Ozone levels have declined by 33% since 1980,[8] as man-made sources of ozone have fallen in North America and Europe as a result of air-quality legislation.[9] Given the great strides toward attainment and the reductions we have already seen, the health impact of further reductions may be inconsequential at best while the costs associated with such reductions will be exponential.

The EPA has acknowledged the incremental nature of further reductions, stating that while there is "no bright-line rule delineating the set of conditions or scales [within the range proposed] at which known or anticipated effects become adverse to public welfare," its position is nevertheless that the lower the standard, the better.[10]

Scientists involved in setting the new regulation looked at health impacts from ozone levels ranging from 60 to 72 ppb using various studies, most notably one from 2009 examining just 31 people exercising with varying levels of ozone exposure over a 6-hour period.[11] The EPA's policy assessment of the new standard makes clear that, based on this research, respiratory symptoms were seen at concentrations as low as 72 ppb, but that numerous exposure uncertainties existed with respect to the relative weight given to different risk estimates at lower levels.[12]

The EPA Administrator ultimately determined that within the probabilistic range of impact, lowering the standard to 72 ppb was supportable, but stated that she had "decreasing confidence that adverse effects will occur following exposures to [ozone] concentrations below 72 ppb."[13] Nevertheless, the EPA set the new standard at 70 ppb anyway, despite the cost and consequences to states trying to come into attainment.[14] Indeed, the EPA has acknowledged that, according to its own modeling, there are areas in the Intermountain Western U.S.[15] in which "substantial background contributions . . . [already] approach or exceed the [75 ppb] NAAQS."[16] Furthermore, a 70 ppb standard

was explicitly rejected by the EPA Administrator in a 1997 review of the then-current NAAQS precisely because it was too close to peak background concentrations.[17] Lowering the standard to 70 ppb now only makes sense in a world in which an emissions target of zero is the goal and the cost of further reduction is of no consequence. Even the EPA, however, acknowledges that the CAA does not require a zero-risk level.[18]

II. Understanding Ozone

At the stratospheric level, ozone is a good thing—it protects us from the sun's harmful U.V. rays. In contrast, ground-level ozone—the primary component of smog—may affect air quality. 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.[19] However, some studies also indicate that ozone alone—while a risk factor—may not cause significant demonstrable health issues for most populations. Rather, it is the interaction with other elements that presents possible negative health effects to the human body.[20] In addition, ozone "is a natural constituent of the atmosphere and the lung is equipped with [defense] mechanisms" to deal with it.[21] The task for scientists and regulators is to determine, with regard to ozone specifically, how it interacts with other pollutants, how it presents itself in various geographic areas, and how any specific population may or may not be impacted.

Ground-level ozone is formed when nitrogen oxides (NOx) and volatile organic compounds (VOCs)—also referred to as ozone precursors—react in the presence of sunlight and other weather conditions.[22] The ways in which these reactions occur is highly complex and remain only partially understood.[23]

The NOx and VOCs in our environment are both naturally occurring ("biogenic") as well as the result of man-made ("anthropogenic") pollution. For example, nitrogen oxides come from agricultural sources like synthetic fertilizer and livestock manure, and fossil fuel combustion from mobile sources (e.g. cars) and stationary sources (e.g. coal-fired power plants).[24] Nitrogen oxides also come from natural sources like lightning and biological decay in our soil and oceans.[25] Similarly, VOCs come from man-made sources like solvents (paint, adhesives, wood strippers, and cleansers) and various processes like dry cleaning and oil production and refining.[26] Naturally-occurring VOCs primarily come from plant life; tropical forests are estimated to produce approximately half of all global biogenic VOC emissions.[27]

III. If Ground-Level Ozone is Bad, Why isn't the EPA's Lower Standard Good?

A large percentage of ozone precursors are naturally occurring. In addition, ozone is often transported hundreds of miles from its point of origin. Thus, for many states, especially those of the Intermountain Western U.S., the ozone found within their borders is largely not within their control. So even though ground-level ozone may, in large quantities, have adverse health effects, it is unrealistic to expect that states can continue to reduce or even eliminate ground-level ozone.

That is especially true in Arizona, where the primary sources of ground-level ozone precursors are cars and plants.[28] In Maricopa County, a mere 1% of VOC emissions come from point source major emitters (i.e. industrial, manufacturing and electrical power generating facilities); in contrast, 43% of Maricopa County's VOC emissions come from biogenic sources (i.e. natural vegetation).[29] Coupled with unusually high levels of background ozone and Arizona's dry and sunny desert climate, Arizona is at a unique disadvantage when it comes to complying with the EPA's new standard for ground-level ozone.

First, as a border state and a gateway to Southern California, Arizona's federal, state and local highways are heavily traveled by those passing through and residing within the state. Arizona's primary sources of nitrogen oxide emissions are on-road and non-road mobile sources (primarily cars, but also airplanes, construction equipment, and lawn equipment).[30] As Arizona's Department of Environmental Quality ("ADEQ") has pointed out, "[l]ocally implemented pollution controls are unlikely to be effective at reducing ambient ozone levels across [Arizona] because ozone is a regional problem and caused primarily by cars."[31] And because vehicle emissions are regulated at the federal level, they are wholly outside Arizona's control; Arizona's most effective strategy for reducing its ozone is therefore entirely in the hands of federal regulators responsible for vehicle emission standards.[32] It is also important to note that Arizona has a high proportion of older—and therefore dirtier—vehicles as compared to the rest of the country,[33] because our great weather allows cars to remain in operable condition for a very long time.

Arizona's primary source of VOCs is biogenic emissions, which are emissions from natural sources such as vegetation, soil and lightning. Arizona has the largest ponderosa pine forest in the United States, but no one would seriously argue that Arizona should reduce its VOC emissions by cutting down trees. Thus, Arizona has no meaningful way of reducing its two biggest sources of ozone precursors—cars and plants.

> Arizona's unique geography contributes to its high levels of ozone and will make it essentially impossible to comply with the EPA's new standard without dire effects.

Second, Arizona has extremely high levels of background ozone. "Background ozone" refers to ozone that results from naturally-occurring emissions such as wildfires, lightning or the natural "off-gasing" of plants. It also includes emissions from man-made sources outside the borders of the United States (also referred to as international transport).[34] Background ozone is incredibly hard to measure, and requires complicated and expensive photochemical modeling. Even if proven, the EPA does not permit exclusions for background. Rather, states whose ozone levels are above the federal standard—regardless of the source—are deemed "nonattainment areas," which has significant consequences for the receipt of necessary permitting and federal highway dollars.[35]

Arizona's ozone is comprised significantly of transport from Mexico and California (California's ozone has been shown to include ozone from as far away as Asia). Thus, even if Arizona's Department of Environmental Quality can prove—at great cost—that Arizona would be in attainment "but for" the internationally transported ozone precursors originating in Mexico or Asia, it would still be put into nonattainment status. And while the EPA may include international transport in the definition of background ozone, it does not consider emissions purportedly generated by man-made sources within the U.S. as background regardless of where they were generated. In other words, it doesn't matter if emissions measured in one state are generated in another state (referred to as interstate transport), even though they are outside the control of the impacted jurisdiction.[36] That means Arizona gets no benefit from proving

to the EPA that it would be in attainment "but for" ozone originating in California.

Finally, Arizona's unique geography contributes to its high levels of ozone and will make it essentially impossible to comply with the EPA's new standard without dire effects. Arizona's mountainous terrain, with its alternating valleys and high altitudes, lends itself to an accumulation of ozone.[37] Coupled with Arizona's hot, dry, sunny climate and propensity for wildfires and lightning, Arizona is a textbook environment for ground-level ozone.

IV. What About the EPA's "Tools" for Dealing with Background Ozone?

Federal regulators maintain that states have "tools" at their disposal for addressing background ozone. But because of the make-up of Arizona's ozone, the so-called "tools" made available by the EPA are inadequate to enable Arizona to meet the new standard.

Rural Transport.

The Clean Air Act allows the EPA to determine that a rural area that is not in compliance with the federal standard can be treated as a "rural transport area" (RTA), thereby providing certain relief mechanisms for that designated area. However, to qualify as an RTA, the state must show that the rural area does not contain major emission sources and is not included within nor is adjacent to a highly populated urban area.[38] This is not helpful for a large western state like Arizona, where huge rural areas—some of which are tens of thousands of acres and larger than entire states on the eastern seaboard—are all adjacent to areas that contain urban population centers. Furthermore, because RTAs are technically designated as nonattainment areas, they must meet the EPA's requirements for nonattainment areas, including developing a baseline emissions inventory, implementing a new source review program, submitting major source emission statements, and preparing transportation and general conformity demonstrations—all costly and technical requirements. The only relief an RTA receives is that it is not subject to the more stringent requirements of a higher-classified nonattainment area. Regardless, of all the rural areas in Arizona that will be unable to comply with the 2015 ozone standard, there are likely none that would be able to seek an RTA designation.

International Transport

The Clean Air Act allows the EPA to approve a state's ozone attainment plan—a required part of meeting the federal ozone standard—if the state can demonstrate that ozone originating in another country is a significant impediment to its ability to meet the federal standard and that it has taken "appropriate local measures" toward attainment.[39] But this provision does not exclude international transport from the state's ozone levels, nor does it prevent areas from within the state from being placed in nonattainment status; to the contrary, an international transport designation puts the area into marginal nonattainment status and requires the area to implement marginal nonattainment programs.[40] Furthermore, because of the nature of ozone, proving international transport is time-consuming and expensive. For example, El Paso, Texas spent 10 years and undoubtedly an obscene amount of money to prove that a portion of its ozone came from Juarez, Mexico.[41] To date, it is the only city that has been successful in doing so. The CAA's international transport provision is therefore not helpful to Arizona, which borders on and gets significant ozone from Mexico and, increasingly, from Asia.

Exceptional Events

An "exceptional event" is an event—natural or caused by human activity—that affects air quality, is unlikely to recur at a particular location, and cannot be reasonably controlled or prevented.[42]

The Clean Air Act allows the EPA to exclude ozone caused by exceptional events if a state can prove—through an expensive, technical, and time-consuming process—that it meets the exceptional events criteria.[43] Given the cost of the demonstration and the frequency of exceptional events like wildfires and lightning in Arizona, this provision is too onerous to be a tool of any significance. According to ADEQ, the cost of a typical exceptional events demonstration for particulate matter (i.e. dust) is around $50,000 per event; a demonstration for ozone would be significantly higher due to the complicated modeling such a demonstration would require.[44]

As of October 2015, Wyoming is the only state that had been granted an "exceptional event clearance by EPA due to high background ozone levels"[45] for stratospheric intrusion—a demonstration that can take anywhere from four to eight months to produce.[46] Wyoming's Department of Environment Quality estimates that an exceptional events demonstration for an ozone exceedance caused by wildfire would require 15 months and $150,000 to produce.[47] Even if a state succeeds in proving an exceptional event, the remedy is merely the exclusion of data affected by the event, which does not assure that the state will avoid nonattainment.

V. Punishing Arizona for Ozone It Can't Control

The EPA's new ozone rule could penalize nine out of the 10 counties in Arizona in which ADEQ or other government entities measure ozone levels.[48] That is because although the Clean Air Act technically does not require states to reduce emissions from background sources that are not in their control, the EPA does not consider ozone from man-made pollution generated within the U.S. the type of "background" for which states are not held accountable.[49] In other words, the EPA does not allow states to "discount" for ozone transported into their borders from a neighboring state.[50] This is particularly problematic for Arizona, where neighboring California contributes non-negligible amounts of ozone for which Arizona is ultimately held responsible. As a result, parts of Arizona will be out of compliance due to uncontrollable ozone, yet Arizona must still act to reduce its own ozone emissions to bring its total amount to a level within the federal standard.

For example, La Paz County, Arizona already has a projected three-year concentration of 70 ppb for 2013-2015; 52.68 ppb of that is represented by background.[51] La Paz County is home to just 20,000 people and the size of the state of Connecticut; with no local industry, La Paz County has no local mechanisms for reduction or control.[52]

Likewise, Yuma County's ozone level is hovering around 76 ppb;[53] industrial sources account for only about five percent of that.[54] With a relatively small population and small manufacturing base, the majority of Yuma County's ozone is transport originating in California and Mexico.[55] As Misael Cabrera, Director of Arizona's Department of Environmental Quality, recently testified before Congress, "No matter how many local emissions reductions are achieved, Yuma County simply will not be able to achieve compliance with the new [70 ppb] standard."[56]

Other states of the Intermountain Western U.S. are in similar situations. For example, Colorado's Department of Public Health and Environment noted the effect of transport on Colorado's ozone levels, pointing out that rural monitoring in Colorado demonstrates that "ozone can [] regularly exceed existing standards due to emissions transported into Colorado from upwind sources." EPA's own figures show a contribution to Colorado's background levels of anywhere between three and seven ppb from interstate transport.[57]

VI. What Offsets?

Once an area is designated nonattainment, the CAA mandates that there can be no net increase in emissions from new or modified existing sources. That means emissions offsets must be obtained prior to the construction or expansion of any major source in a nonattainment area.

For an area that is already in nonattainment status, any offset must provide a net air quality benefit. It must also be:

> **Real:** the offset must be based on actual emissions reductions;
> **Permanent:** the offset must be assured for the life of the corresponding emission increase;
> **Surplus:** the emission reduction must not have been mandated by any other local, state or federal requirement; and
> **Quantifiable:** the offset must be capable of reliable and replicable measurement.[58]

In other words, in order to get credit for an offset, it must be in the same location and represent the same type of emission (NOx or VOC) and source (mobile or stationary) for which it is being credited, and the company using the offset must show, to the EPA's satisfaction, that the offset is no longer emitting. In addition, the offset must already be in the existing emissions inventory and must equal or exceed the amount of emission increases at the new or modified source.

In a state like Arizona, where available offsets are incredibly limited or nonexistent,[59] this is an extremely limiting control mechanism. And in counties facing nonattainment under the new standard in which there are essentially no local offsets—like La Paz and Yuma Counties—it's not even a control mechanism.

Arizona is not alone. Like Arizona, Nevada's large rural areas are in nonattainment due to transport and have few available local offsets. As such, the lower standard "will result in the effective foreclosure of new industrial growth in [Nevada's] rural ozone non-attainment areas . . . which is likely to have devastating consequences on these rural communities since they may already be struggling economically."[60]

Given the grim economic development consequences, ADEQ, the Governor's Office, and key stakeholders are working together on a task force to come up with creative and innovative ways to generate offsets that will foster, not inhibit, economic growth. The reality, though, is that the dearth of available offsets in Arizona renders even the most creative offset incentive of limited utility.

VII. Federal Overreach Costs Arizona

Unilaterally lowering the standard for ground-level ozone from 75 ppb to 70 ppb, despite evidence that 70 ppb is not an attainable standard in the Intermountain Western U.S., represents a problematic example of federal overreach. Rather than taking a critical view toward the actual sources of air quality issues in particular areas and what can be done to alleviate pollution from primary emissions sources, the federal government has used its rulemaking power to take a broad swipe to the entire country, disparately impacting the Intermountain Western U.S. and creating an environment of winners and losers from a national economic impact viewpoint. Arizona and other states of the Intermountain Western U.S. will experience a significant negative economic impact

should this rule be implemented as planned without the support and consequences of good technical, scientific, location- and population-specific models developed with data. It is the federal government's responsibility to establish what is necessary to support and implement the rule, not the states' responsibility to lessen the impact.

The costs to Arizona of this overreach are significant and will reach across the state, impacting our economic development outlook for years to come. The cost and feasibility of compliance will simply prove too great for many businesses, forcing them to shut down, relocate operations, or forgo growth and expansion. This says nothing of the businesses that will simply choose not to come to Arizona due to the uncertainty of obtaining necessary permits to operate, an unfortunate consequence that has already come to fruition.

VIII. Challenging the EPA's Overreach: Arizona Takes the Lead

Precisely for the reasons outlined here, in November 2015 Arizona—now joined by nine other states[61]—filed a lawsuit asking a federal court to review the EPA's new standard. Led by Arizona Attorney General Mark Brnovich, Arizona's lawsuit charges that, in setting the new standard for ground-level ozone at 70 ppb, the EPA abused its rulemaking authority and acted outside its CAA mandate.

Arizona's lawsuit, which is currently before a federal appeals court in Washington, D.C., raises the question of whether the EPA violated the Clean Air Act and federal requirements for rulemaking when it set the NAAQS at a level at or below background "such that attainment may not be achieved through practicable controls [and] can be justified by illusory promises of future waivers under the exceptional event, international transport, or rural transport programs."[62] Rather, the lawsuit argues that the CAA requires the EPA to set NAAQS at levels that are actually attainable. The lawsuit also questions whether the EPA had sufficient new evidence to warrant lowering the standard at all.[63]

Explaining Arizona's motivation for filing the lawsuit, Attorney General Brnovich explained: "We all want clean air, however, reducing the ozone standards to 70 ppb will be nearly impossible for Arizona to attain. . . . The financial stakes for [Arizona] are enormous if we are unable to comply."[64]

Conclusion

States across the country are just now starting to approach attainment of the 2008 standard of 75 ppb, but the EPA continues to move the goal post by mandating further reductions for ground-level ozone even though the benefit of such reductions is unsupported by the science. There comes a point of diminishing returns by continuing to mandate ever-lower levels, even as current standards are barely achievable and the proven costs of attainment are so high.

The EPA's new ozone standard of 70 ppb will be virtually impossible for Arizona to meet due to Arizona's high levels of background, limited local

sources, and unique geography. What's worse, the EPA has acted well outside its mandate in lowering the standard, which goes beyond an "adequate margin of safety."

The Clean Air Act needs to be updated to take our modern reality into consideration. As such, the CAA should be amended to allow states to discount for interstate and international transport, and it should require the EPA to consider cost and feasibility when setting NAAQS. In addition, Congress should reduce or even eliminate funding for this program until such time as the 2015 standard is rolled back or reexamined.

Implementation of the current rule in Arizona is not reasonable, based in sound science or achievable. As such, at the very least, implementation of the rule should be set aside in Arizona and other states similarly situated, and those states should be given the opportunity to work meaningfully with the federal government to obtain a realistic plan other than what the current rule requires.

End Notes

1. "Study Links Springtime Ozone Increases Above Western North America to Emissions From Abroad," University of Colorado Boulder, Jan. 20, 2010.

2. "Nature, Chinese Pollution Offset U.S. West Ozone Gains," Jet Propulsion Laboratory, Aug. 10, 2015.

3. "Study Links Springtime Ozone Increases Above Western North America to Emissions From Abroad," *supra* note 1.

4. Ozone is found in Earth's stratosphere, where it protects us from ultraviolet radiation; in Earth's troposphere, where it acts as a greenhouse gas; and at ground level, where it is a component of smog. Ground-level ozone is produced when nitrogen oxides react with sunlight and volatile organic compounds. Sources of nitrogen oxides and volatile organic compounds are both man-made and naturally occurring. *See* "NASA: Background Ozone a Major Issue in U.S. West," Jet Propulsion Laboratory, California Institute of Technology, Sept. 29, 2015.

5. 42 U.S.C. Sec. 7409. When setting NAAQS, the EPA's mandate "is to identify the maximum airborne concentration of a pollutant that the public health can tolerate, decrease the concentration to provide an 'adequate' margin of safety, and set the standard at that level." *Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 465 (2001).

6. Table of Historical National Ambient Air Quality Standards, Environmental Protection Agency, https://www.epa.gov/ozone-pollution/table-historical-ozone-national-ambient-air-quality-standards-naaqs.

7. According to the EPA, aggregate national emissions of the six common air pollutants regulated by the CAA, including ozone, dropped an average of 69 percent from 1970 to 2014. "Progress Cleaning the Air and Improving People's Health," Environmental Protection Agency, https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health#pollution.

8. Daren Bakst, "What the EPA Isn't Telling You About Its New Ozone Standards," *The Daily Signal*, Oct. 1, 2015.

9. Ruth M. Doherty, "Ozone Pollution From Near and Far," *Nature Geoscience*, Aug. 10, 2015.

10. ADEQ Comments on Proposed Rule, March 17, 2015; National Ambient Air Quality Standards for Ozone, Proposed Rules, 79 Fed. Reg. 75234, 75330 (Dec. 17, 2014).

11. See National Ambient Air Quality Standards for Ozone; Final Rule, 80 Fed. Reg. 65292, 65303 (Oct. 26, 2015); E.S. Schelegle, et al., "6.6-hour inhalation of ozone concentrations from 60 to 87 parts per billion in healthy humans," Am. J. Respir. Crit. Care Med. 2009 Aug 1;180(3):265-72 (May 15, 2009).

12. 80 Fed. Reg. at 65318-21.

13. *Id.* at 65323-6, 65353.

14. See Responses to Significant Comments on the 2014 Proposed Rule on the National Ambient Air Quality Standards for Ozone, 79 Fed. Reg. 75234 (Dec. 17, 2014).

15. "Intermountain Western U.S." refers to the states of Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming, as well as the high-elevation portions of eastern California. *See* U.S. Environmental Protection Agency, "Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone – White Paper for Discussion," at pg. 3 n. 10 (2015).

16. 80 Fed. Reg. at 65300.

17. *Id.* at 65297.

18. *Id.* at 65295.

19. Ozone Basics, Environmental Protection Agency, https://www.epa.gov/ozone-pollution/ozone-basics#effects.

20. World Health Organization, Health Aspects of Air Pollution – Answers to Follow-up Questions from CAFE, p. 16. (2004), http://apps.who.int/iris/bitstream/10665/107556/1/E82790.pdf.

21. World Health Organization, Air Quality Guidelines: Global Update 2005, p. 322 (2005), http://www.euro.who.int/__data/assets/pdf_file/0015/78638/E90038.pdf?ua=1.

22. "NASA: Background Ozone a Major Issue in U.S. West," *supra* note 4; *see also* 80 Fed. Reg. at 65299.

23. *See* 80 Fed. Reg. at 65300.

24. Overview of Greenhouse Gases, Environmental Protection Agency, https://www3.epa.gov/climatechange/ghgemissions/gases/n2o.html; "NASA: Background Ozone a Major Issue in U.S. West," *supra* note 4.

25. Overview of Greenhouse Gases, *supra* note 24.

26. Volatile Organic Compounds' Impact on Indoor Air Quality, Environmental Protection Agency, https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality.

27. Laura Naranjo, "Volatile Trees: Forests fill the air with more than just a fresh scent," *EarthData*, Nov. 20, 2011, https://earthdata.nasa.gov/user-resources/sensing-our-planet/volatile-trees.

28. Arizona Department of Environmental Quality PowerPoint Presentation, AMC Environmental Issues Breakfast, April 12, 2016.

29. *Id.*

30. *Id.*

31. Arizona Department of Environmental Quality, Briefing Paper – EPA's New, Lower Ozone Standard, Oct. 2, 2015.

32. *Id.*

33. Brandon Loomis, "Arizona officials: Sun, old cars will make new EPA ozone limit difficult to meet," *Arizona Republic*, Oct. 2, 2015, *available at* http://www.azcentral.com/story/news/arizona/politics/2015/10/02/arizona-sun-old-cars-make-new-epa-ozone-limit-difficult/73221680/; *see also* Janet Pelley, "Consumers Hold Onto Cars Longer, Making Exhaust Dirtier," *Scientific American*, Dec. 12, 2014, *available at* http://www.scientificamerican.com/article/consumers-hold-onto-cars-longer-making-exhaust-dirtier/.

34. James E. McCarthy & Richard K. Lattanzio, Ozone Air Quality Standards: EPA's 2015 Revision at 18, *Congressional Research Service*, Jan. 25, 2016.

35. *Id.* at 5.

36. U.S. Environmental Protection Agency, "Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone – White Paper for Discussion," at pg. 2 (2015).

37. A Natural Disadvantage: Punishing Arizona for Ozone Levels Beyond Its Control at 4.0, The Center for Regulatory Solutions, Small Business Entrepreneurship Council, 2016, http://centerforregulatorysolutions.org/wp-content/uploads/2016/02/A-Natural-Disadvantage.pdf.

38. The National Ambient Air Quality Standards, Tools for Addressing Background Ozone at 3, Environmental Protection Agency, https://www.epa.gov/sites/production/files/2015-10/documents/20151001_background_ozone.pdf; *see also* Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28.

39. The National Ambient Air Quality Standards, Tools for Addressing Background Ozone, *supra* note 38, at 3.

40. Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28.

41. 69 Fed. Reg. 32450 (June 10, 2004).

42. The National Ambient Air Quality Standards, *supra* note 38, at 2.

43. *Id.* at 3. The EPA has indicated that it is undertaking a review of the exceptional events designation process and expects to take final action to issue guidance and simplify the rule some time in 2016. It is unclear at this point what that guidance might look like and whether it will in fact be forthcoming this year.

44. ADEQ Comments on Proposed Rule, *supra* note 10, at 7.

45. "NASA: Background Ozone a Major Issue in U.S. West," *supra* note 4.

46. State Environmental Agency Perspectives on Background Ozone & Regulatory Relief at 11, Results of a Survey by the Association of Air Pollution Control Agencies, June 2015.

47. *Id.*

48. Arizona Department of Environmental Quality, Briefing Paper, *supra* note 31.

49. "NASA: Background Ozone a Major Issue in U.S. West," *supra* note 4.

50. The Clean Air Act has a "good neighbor" provision that purports to require states to prohibit emissions that will significantly contribute to a downwind state's nonattainment. *See* "Interstate Air Pollution Transport," Clean Air Markets, Environmental Protection Agency, https://www.epa.gov/airmarkets/interstate-air-pollution-transport. But the provision does not enable a downwind state to discount or exclude interstate transport from its levels. Because of this, and because there is no mechanism for enforcing the provision, it is of limited utility. For example Arizona receives significant interstate transport from California, and the CAA's "good neighbor" provision technically requires California to control it. But California is currently so behind in meeting the NAAQS that it is not even counted in EPA's latest studies.

51. Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28; Letter from Eric C. Massey, Director of Air Quality, Arizona Department of Environmental Quality, to Environmental Protection Agency, March 17, 2015.

52. Arizona Department of Environmental Quality, Briefing Paper, *supra* note 31.

53. Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28 .

54. William V. Theobald, "AZ to Congress: We Can't Comply with the Ozone Rule," *Arizona Republic*, April 15, 2016, *available* at http://www.azcentral.com/story/news/politics/arizona/2016/04/14/az-congress-we-cant-comply-epa-ozone-rule/83041208/; Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28.

55. Testimony of Misael Cabrera, Director, Arizona Department of Environmental Quality, Before the Subcommittee on Energy and Power, House Committee on Energy and Commerce, April 14, 2016; A Natural Disadvantage, *supra* note 37.

56. Testimony of Misael Cabrera, *supra* note 55.

57. Letter from William C. Allison V, Director, Air Pollution Control Division, Colorado Department of Public Health and Environment, to U.S. Environmental Protection Agency, March 17, 2015, *available at* https://www.colorado.gov/pacific/sites/default/files/AP-PO-ColoradoCommentsOzoneNAAQS.pdf.

58. 42 U.S.C. Sec. 7503; 40 C.F.R. 51.165(a)(3).

59. See Arizona Department of Environmental Quality PowerPoint Presentation, *supra* note 28.

60. State Environmental Agency Perspectives on Background Ozone & Regulatory Relief, *supra* note 46, at 12.

61. At the time of filing, Arizona was joined by Arkansas, New Mexico, North Dakota and Oklahoma. Since then, Kentucky, Utah, Louisiana, Texas and Wisconsin have all been granted permission to join.

62. *State of Arizona v. EPA*, No. 15-1392, Petitioners' Non-Binding Statement of Issues (Nov. 30, 2015, D.C. Cir.).

63. *Id.*

64. Press Release: Arizona Files Lawsuit Along with Four Other States Challenging EPA's New Ozone Standards Rule, Arizona Attorney General, Oct. 29, 2015.

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Glenn Hamer is the President and CEO of the Arizona Chamber of Commerce and Industry. His tenure has coincided with the organization's development into one of the most respected pro-business public policy entities in the state. Glenn has led numerous successful efforts to enhance Arizona's economic competitiveness and its legal, labor, education and regulatory environments.

Glenn currently represents the Arizona Chamber on the U.S. Chamber of Commerce Public Affairs Committee and Committee of 100, and is a member of the board for Black Chamber of Arizona, the Tucson Hispanic Chamber of Commerce, the Arizona Council on Economic Education, Gov. Doug Ducey's Water Augmentation Council and the Governor's Workforce Advisory Council. He is also Vice Chair of the Arizona Charter Schools Association.

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 5-year timeline as opposed to, say, a 10-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.

OPENING STATEMENT OF HON. JEFF FLAKE, U.S. 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 imple-

mentation 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.

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:]

June 7, 2016

Dear Senator/Representative,

On behalf of our millions of members, the undersigned 118 organizations urge you to oppose the "Ozone Standards Implementation Act" (H.R. 4775, S. 2882). The innocuous-sounding name is misleading: this legislation would actually systematically weaken the Clean Air Act without a single improvement, undermine Americans' 46-year right to healthy air based on medical science, and delay life-saving health standards already years overdue.

This bill's vision of "Ozone Standards Implementation" eliminates health benefits and the right to truly safe air that Americans enjoy under today's law. First, the legislation would delay for ten years the right to safer air quality, and even the simple right to know if the air is safe to breathe. Corporations applying for air pollution permits would be free to ignore new ground-level ozone (aka smog) health standards during these additional ten years. For the first time the largest sources of air pollution would be allowed to exceed health standards. The bill would also outright excuse the parts of the country suffering the worst smog pollution from having backup plans if they do not reduce pollution. The most polluted parts of the country should not stop doing everything they can to protect their citizens' health and environment by cleaning up smog pollution.

This bill is not content to merely weaken and delay reductions in smog pollution. It also strikes at our core right to clean air based on health and medical science. The medically-based health standards that the law has been founded on for 46 years instead could become a political football weakened by polluter compliance costs. This could well result in communities being exposed to unhealthy levels of smog and soot and sulfur dioxide and even toxic lead pollution. The bill would also double the law's five-year review periods for recognizing the latest science and updating health standards, which are already frequently years late; this means in practice that unhealthy air would persist for longer than ten years.

The legislation also weakens implementation of current clean air health standards. The bill expands exemptions for "exceptional events" that are not counted towards compliance with health standards for air quality, even when air pollution levels are unsafe. This will mean more unsafe air more often, with no responsibility to clean it up. Requirements meant to ensure progress toward reducing smog and soot pollution would shift from focusing on public health and achievability to economic costs. Despite the bland name "Ozone Standards Implementation Act," this bill represents an extreme attack on the most fundamental safeguards and rights in the Clean Air Act.

Since 1970, the Federal Clean Air Act has been organized around one governing principle—that the EPA must set health standards based on medical science for dangerous air pollution, including smog, soot and lead, that protect all Americans, with "an adequate margin of safety" for vulnerable populations like children, the elderly and asthmatics. This legislation eviscerates that principle and protection. We urge you to oppose H.R. 4775 and S. 2882, to protect our families and Americans' rights to clean air.

Sincerely,

350KC
350 Loudoun
Alaska Community Action on Toxics
Alton Area Cluster UCM (United Congregations of Metro-East)
Brentwood House

California Latino Business Institute
Center for Biological Diversity
Chesapeake Physicians for Social Responsibility
Chicago Physicians for Social Responsibility
Citizens for Clean Air
Clean Air Watch
Clean Water Action
Cleveland Environmental Action Network
Climate Action Alliance of the Valley
Connecticut League of Conservation Voters
Conservation Voters for Idaho
Conservation Voters of South Carolina
Dakota Resource Council
Earth Day Network
Earthjustice
Earthworks
Environment Iowa
Environment America
Environment Arizona
Environment California
Environment Colorado
Environment Connecticut
Environment Florida
Environment Georgia
Environment Illinois
Environment Maine
Environment Maryland
Environment Massachusetts
Environment Michigan
Environment Minnesota
Environment Missouri
Environment Montana
Environment Nevada
Environment New Hampshire
Environment New Jersey
Environment New Mexico
Environment North Carolina
Environment Ohio
Environment Oregon
Environment Rhode Island
Environment Texas
Environment Virginia
Environment Washington
Environmental Defense Action Fund
Environmental Entrepreneurs
Environmental Law & Policy Center
Ethical Society of St. Louis
Faith Alliance for Climate Solutions
Florida Conservation Voters
Fort Collins Sustainability Group
GreenLatinos
Health Care Without Harm
Iowa Interfaith Power & Light
Jean-Michel Cousteau's Ocean Futures Society
KyotoUSA
Labadie Environmental Organization (LEO)
Latino Donor Collaborative
League of Conservation Voters
League of Women Voters
Maine Conservation Voters
Maryland League of Conservation Voters
Michigan League of Conservation Voters
Moms Clean Air Force
Montana Conservation Voters Education Fund
Montana Environmental Information Center
National Parks Conservation Association
Natural Resources Defense Council
NC League of Conservation Voters
Nevada Conservation League
New Mexico Environmental Law Center
New York League of Conservation Voters
Northern Plains Resource Council
OEC Action Fund
Ohio Organizing Collaborative, Communities United for Responsible Energy
Oregon League of Conservation Voters
Partnership for Policy Integrity
PennEnvironment
People Demanding Action, Tucson Chapter
Physicians for Social Responsibility
Physicians for Social Responsibility, Maine Chapter
Physicians for Social Responsibility, Los Angeles Chapter
Physicians for Social Responsibility, Arizona Chapter
Physicians for Social Responsibility, SF Bay Area Chapter
Physicians for Social Responsibility, Tennessee Chapter
Physicians for Social Responsibility, Wisconsin Chapter
Powder River Basin Resource Council
Public Citizen
Public Citizen's Texas Office
RVA Interfaith Climate Justice Team

Safe Climate Campaign
San Juan Citizens Alliance
Sierra Club
Southern Environmental Law Center
Sustainable Energy & Economic Development (SEED) Coalition
Texas Campaign for the Environment
Texas Environmental Justice Advocacy Services
Texas League of Conservation Voters
The Environmental Justice Center at Chestnut Hills United Church
Trust for America's Health
Union of Concerned Scientists
Utah Physicians for a Healthy Environment
Valley Watch
Virginia Organizing
Virginia Interfaith Power & Light
Voces Verdes
Voices for Progress
Washington Conservation Voters
Western Colorado Congress
Western Organization of Resource Councils
Wisconsin Environmental Health Network
Wisconsin League of Conservation Voters
Wisconsin Environment
Wyoming Outdoor Council

Center for Biological Diversity * Clean Water Action * Earthjustice * Environment America
Environmental Law & Policy Center * League of Conservation Voters
Natural Resources Defense Council *Public Citizen * Sierra Club
Southern Environmental Law Center * Voices for Progress * WE ACT for Environmental Justice

June 22, 2016

Dear Senator,

On behalf of our millions of members, the undersigned organizations urge you to oppose S. 2072. This bill weakens the federal Clean Air Act and forces millions of Americans to suffer unsafe levels of smog air pollution far longer than today's law allows. The legislation adopts an irresponsible amnesty period by overthrowing the current, well-defined and proven system to delivering timelier, healthy air quality for Americans. S. 2072 substitutes a vaguely-written and open-ended "voluntary early action compact plan" that pushes off clean-up deadlines by 10, 15 or even more years. The bill even takes away from Americans their right under today's law to know whether the air where they live is safe to breathe. This is merely another attempt to delay and weaken public health protections for those most vulnerable to smog: children and young adults, seniors, people with breathing ailments like asthma and COPD, and low income families.

S. 2072 allows and incentivizes significant delay in even the simple right to know if the air is safe to breathe. Under this new system, government officials in areas with pollution data showing unsafe air would be able to avoid Clean Air Act requirements to clean up air pollution—and even escape telling people living in their communities that smog levels are unsafe—for at least 10 years after approval of voluntary plans. Despite a misleading title, these voluntary plans do not require safer air "earlier" than current law; to the contrary, S. 2072 institutes multi-years delays that allow unsafe air long past existing deadlines.

Moreover, if an area's voluntary plan fails to achieve safe air at the end of a 10- or 15-year period, so long as the plan "is being implemented"—even if unsuccessfully—the legislation *still* limits EPA from telling the public the air is unsafe, and continues the amnesty from mandatory, effective cleanup measures.

The bill is even worse when it comes to the treatment of smog problems during the winter. Voluntary plans that give areas 10 years to clean up their air would become voluntary plans with a "minimum" duration of 10 years. This means voluntary plans for winter ozone could be indefinite in length and *never* deliver healthy air to Americans in those communities. Areas of the country facing wintertime air pollution spikes due to increased oil and gas drilling, for example, could be forced to suffer unsafe air far longer than the rest of the nation.

S. 2072 takes a discredited approach and codifies it into something far worse: the bill allows *late* adoption of cleanup measures; greatly delayed achievement of healthy air—not early at all, but well past legal deadlines rather than before them; amnesty from effective Clean Air Act requirements for areas with the worst smog across the country; no ongoing progress reviews; and new opportunities for

gamesmanship with plan approvals. Calling the bill's approach "early action" is erroneous and deceptive. As long as government officials institute a set of ill-defined and voluntary "milestones," no matter how unsuccessfully, Americans in those communities would be forced to experience unsafe smog levels for 10 or 15 years or even longer, compared to today's better law. This would make a mockery of health protections reflecting the latest medical science and the Clean Air Act's promise of safe air for all Americans. We urge you to protect all Americans from unsafe smog, especially those most vulnerable to smog pollution, and to oppose S. 2072.

Sincerely,

Center for Biological Diversity
Clean Water Action
Earthjustice
Environment America
Environmental Law & Policy Center
League of Conservation Voters
Natural Resources Defense Council
Public Citizen
Sierra Club
Southern Environmental Law Center
Voices for Progress
WE ACT for Environmental Justice

July 5, 2016

EPA Technical Assistance
on S.2072

Comparison of EPA's EAC Program with Senate Bill 2072

While EPA's EAC program provided deferrals of designations of up to 3 years for areas with lower levels of ozone pollution if they adopted plans and implemented control requirements earlier than required by the Clean Air Act (CAA), the proposed bill would allow any area to defer designations up to 10 years for simply adopting plans without requiring implementation of any control requirements to limit pollution as required by the CAA.

- The S. 2072 bill is in conflict with the CAA and differs substantially from EPA's EAC program. Specifically, the bill:
  - Only requires early plan adoption, but not early implementation of controls. EPA's EAC program required local controls to be implemented within 1 year after an EAC plan approval (early implementation).
  - Provides areas up to 10 years from the date of plan approval to attain the ozone NAAQS (or be designated nonattainment), which is much longer than the 3 year nonattainment designation "deferral" period under EPA's EAC program.
  - Does not include provisions for reporting on progress and enforcing approved measures and milestones.
  - Allows any state/area, even those currently with significant, long-standing ozone problems such as Los Angeles, to opt out of the Clean Air Act requirements and circumvent all nonattainment area requirements for at least a decade. EPA's EAC program only allowed deferrals of the designation for a new NAAQS for prospective marginal areas (i.e., those areas with the lowest level of nonattainment) that were also already meeting the then-current ozone NAAQS.
  - Does not amend the CAA and appears to create a direct conflict with CAA requirements regarding deadlines for designating areas under the new NAAQS, as well as timing and requirements that would apply to areas that would otherwise have been designated nonattainment.

Delayed Health Protections

- Language in the Senate Bill could result in delayed reduction of pollutants. If progress towards attaining the NAAQS is delayed in areas that are violating the standards, people living in these areas will be breathing unhealthy levels of ozone for years to come. This will delay health benefits worth billions of dollars for millions of Americans, including the most vulnerable - children, older adults, and people with asthma.
- Ozone pollution causes real and serious health and environmental impacts. This fact is supported by thousands of peer reviewed research studies, EPA scientists, and the Agency's independent Science Advisory Board, the National Academies of Science, and numerous public health organizations.
- Ozone exposure causes a range of respiratory effects that can lead to increased medication use, doctor and emergency room visits, missed work and school days, hospital admissions and has been linked to premature death from respiratory and cardiovascular causes. These health impacts impose significant costs on American families and workers, and can adversely affect their daily lives. One of the important purposes of designating an area nonattainment is to inform the public about their air quality status, and give them an opportunity to take actions to reduce emissions on an individual basis.

EPA's Early Action Compact (EAC) Program (2002-08)

- EPA initiated the EAC program for ozone in 2002 in an effort to provide cleaner air sooner than might have occurred by otherwise following the timelines of the Clean Air Act (CAA). On April 15, 2004, EPA designated areas for the 1997 8-hour ozone standard. At that time, EPA deferred the effective date of nonattainment designations for areas that were participating in EPA's EAC program, as long as they continued to meet compact milestones towards clean air.

- The EAC program had the following key features:
  - **Criteria:** Only areas meeting the earlier ozone NAAQS were allowed to participate, because these were considered areas with a proven record of environmental progress.
  - **Early Plan Submission:** EAC areas were required to submit plans for meeting the ozone standards in 2004, rather than waiting until 2007 – the deadline for other similar areas not meeting the 1997 ozone standards.
  - **Earlier Quantifiable Reductions:** Local controls were to be implemented by the 2005 ozone season (or no later than December 31, 2005). This deadline was more than a year earlier than would have otherwise been required by the CAA.
    - EAC areas were also required to meet several milestones to be eligible for a series of three nonattainment designation deferrals. Once an area received a deferral, it had to meet all of their subsequent plan milestones to qualify for a continuation of the deferral.
  - **Meet standards earlier:** Controls were implemented in 2005, and states with EAC areas had to also model the results to show each area would meet the health standards no later than December 31, 2007. This was equivalent to the Marginal area nonattainment deadline for the 1997 8-hour ozone NAAQS, the earliest possible attainment deadline.
    - In areas that did not meet EAC deadlines, the nonattainment designation would become effective on April 15, 2008.
  - **Accountability and transparency:** States with EAC areas were required to submit reports every six months to describe progress toward completion of milestones.

- Subsequent to the EAC program, EPA developed the "Ozone Advance Program," which is still in place. This program, consistent with the Clean Air Act, serves to provide state and local areas with tools and resources to take steps to improve air quality and potentially avoid a nonattainment designation or have the ability to seek redesignation earlier. The Ozone Advance Program is a collaborative effort between EPA, states, tribes, and local governments.
  - The program encourages expeditious emission reductions in ozone attainment areas to help these areas continue to meet the NAAQS.
  - 47 areas participate in the Advance Program, 30 in Ozone Advance, 9 in PM Advance, and 8 area participate in both Ozone and PM Advance.

[The prepared statement of Senator Boxer was not received at time of print.]

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 in 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 two-fer in that sort of issue: the emissions blow downwind plus those trucks drive downwind. So you are getting actually a two-fer 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 5 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. OK, 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 2 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 9 out of the 10 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. OK.

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 consid-

ered 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 7 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 8 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 1-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, second, 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 2-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 Toward 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.]

[Additional material submitted for the record follows:]

Examining Pathways to Compliance for the National Ambient Air Quality Standards for Ground-level Ozone: Legislative hearing on S. 2882 and 2072

Clean Air and Nuclear Safety Subcommittee Hearing

June 22, 2016

I thank Senator Capito for holding this hearing on such an important topic. We are here today to talk about the National Ambient Air Quality Standard (NAAQS) setting process for ground-level ozone and commonsense reforms that are long overdue.

Counties across the country are still working to comply with the 2008 standard, yet EPA has charged ahead with a new standard that unnecessarily complicates those efforts. Last year, we held two similar hearings assessing the impacts of a lowered standard and three proposed legislative solutions. We also heard directly from EPA who continues to try and downplay the programs problems and associated, negative impacts.

The witnesses we have here today are county, regional and state experts who help implement new standards and have experience with flaws in the current process that hinder their ability to attain it. I think we should listen to them.

They are not seeking to undermine the process. Rather, they wish to improve the process by insuring sufficient time, flexibility and balance. Accordingly, the legislation we are considering today, Senator Capito's S. 2882 and Senator Hatch's S. 2072 offer reasonable solutions to persistent problems of the NAAQS program.

EPA rarely meets the five-year statutory deadline for conducting a NAAQS review. In fact, of the 34 completed reviews to date, EPA has only completed 3 in the allotted five years. S. 2882 would change the mandatory review period to every 10-years giving the agency and states additional time to assess a new standard and ensure compliance with the existing.

Implementation guidance is often issued years after a new standard is set. For example, the guidance for implementing the 2008 standard was issued in March 2015, almost seven years after the rule was finalized and just a few months before the agency issued an entirely new ozone standard. According to a recent survey of 44 state agencies by the Association of Air Pollution Control Agencies (AAPCA), roughly three quarters of the states expressed concerns about the need for timely implementation rules. S. 2882 simply requires EPA issue implementation guidance alongside new standards to ensure efficiency in the process and provide clarity to responsible parties.

EPA has also failed to adequately assess background ozone levels, which is increasingly important as the agency continues to lower the standard. EPA did not even seek to fully understand the impact of background ozone on compliance until after the agency finalized the new standard. I've said this many times before - U.S. cities should not be penalized for failing to reduce emissions they cannot control and the agency should have a complete understanding of this before setting a new standard. Further, the agency's methods to address uncontrollable emissions, primarily its exceptional events policy, have already proven to be ineffective. S. 2882 requires EPA submit a report to Congress on foreign emissions and their impact on compliance.

When it comes to health, EPA refuses to take a holistic look. Lost jobs are a health risk and one that EPA would rather ignore. Yet, under the Clean Air Act section 109, EPA's scientific

advisory committee is required to provide advice about the adverse effects of implementing new air quality standards. Despite this, EPA has never considered such an analysis and a 2015 GAO report confirms this. Just last week at another EPW subcommittee hearing, a GAO official further confirmed EPA has done nothing to address their persistent oversight. S. 2882 will ensure these considerations occur.

I've been working to improve the NAAQS process since 1997 when I held my first hearing as chairman of the Clean Air Subcommittee. The problems we are discussing today are very much the same as those expressed in 1997. We are still in a situation where states will make tremendous progress and significant investment cleaning up its air only to be met with a new standard based on questionable assumptions and the prospect of nonattainment. Nonattainment is a designation all counties would like to avoid as it results in lost investment and reduced economic expansion due to increased regulatory burdens, stiff federal penalties, lost highway dollars, restrictions on infrastructure investment and increased costs to businesses.

Senator Hatch's bill, S. 2072, would give entities that face the possibility of nonattainment the option to avoid it, so long as proactive air improvement measures are put in place and associated milestones are met. The Early Action Compact program proved highly successful and effective in the past and could be a welcomed alternative for many impacted entities today.

Both of the bills we are reviewing today are bipartisan and have received broad reaching support from over 200 entities that represent diverse sectors across the economy. They are commonsense proposals reflective of the notion that when it comes to addressing ozone and the NAAQS process, EPA's goal should be cleaner air, not bureaucratic expansion.

I thank the witnesses for being here look forward to their testimony.

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