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Mr. Michael Carter, Assistant Division Chief, Mobile Source Control Division (MSCD)
Mr. Ian Cecere, Attorney, Legal Office
Ms. Heather Choi, Air Pollution Specialist, Climate Action and Research Planning Section, RD
Mr. Bart Croes, Division Chief, RD
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Ms. Linda Smith, Branch Chief, Health and Exposure Assessment Branch, RD
Mr. Alex Wang, Senior Attorney, Legal Office

HAAGEN-SMIT LEGACY AWARD WINNERS:

Mr. David Hawkins
Ms. Gina McCarthy
HAAGEN-SMIT LEGACY AWARD WINNERS:
Dr. Mario Molina
Governor Arnold Schwarzenegger
Congressman Henry Waxman

ALSO PRESENT:
Mr. Tim Blubaugh, Truck & Engines Manufacturers Association
Ms. Eileen Boken, Coalition for San Francisco Neighborhood
Mr. John Caldwell, California Electric Transportation Coalition
Mr. Steven Douglas, Alliance of Automobile Manufacturers
Mr. Sean Edgar, CleanFleets.net
Mr. Michael Geller, Manufacturers of Emission Controls Association
Ms. Alice Henderson, Environmental Defense Fund
Ms. Bonnie Holmes-Gen, American Lung Association in California
Ms. Kate Kanabay, Autocar Truck
Mr. Brian Kolodji, California Engineering Services
Mr. Bill Magavern, Coalition for Clean Air
Mr. Paul Miller, Northeast States for Coordinated Air Use Management
Ms. Urvi Nagrani, Motiv Power Systems
Mr. Ryan Schuchard, CALSTART
APPEARANCES CONTINUED

ALSO PRESENT:

Mr. William Simmons

Ms. Kristen Taddionio, Institute for Governance and Sustainable Development

Mr. Michael Tunnell, American Trucking Association
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CHAIR NICHOLS: Good morning, ladies and gentlemen. The February 8th, 2018 public meeting will come to order.

The sound system is not working yet.

No, it's not.

I know we need some more sound. Sound.

There, sound.

(Laughter.)

CHAIR NICHOLS: Good morning, everybody. It's a beautiful day. I'm going to be calling this meeting to order. We normally begin our Board meeting after we get everybody assembled by standing and saying the Pledge of Allegiance. So if you would please join me in that.

(Thereupon the Pledge of Allegiance was Recited in unison.)

CHAIR NICHOLS: Madam Clerk, would you please call the roll.

BOARD CLERK McREYNOLDS: Dr. Balmes?
BOARD MEMBER BALMES: Here.
BOARD CLERK McREYNOLDS: Mr. De La Torre?
Mr. Eisenhut?
BOARD MEMBER EISENHUT: Here.
BOARD CLERK McREYNOLDS: Senator Florez?
BOARD MEMBER FLOREZ: Here.
BOARD CLERK McREYNOLDS: Assembly Member Garcia?
Supervisor Gioia?
Senator Lara?
Ms. Mitchell?
BOARD MEMBER MITCHELL: Here.
BOARD CLERK McREYNOLDS: Mrs. Riordan?
BOARD MEMBER RIORDAN: Here.
BOARD CLERK McREYNOLDS: Supervisor Roberts?
BOARD MEMBER ROBERTS: Here.
BOARD CLERK McREYNOLDS: Supervisor Serna?
BOARD MEMBER SERNA: Here.
BOARD CLERK McREYNOLDS: Dr. Sherriffs?
BOARD MEMBER SHERRIFFS: Here.
BOARD CLERK McREYNOLDS: Professor Sperling?
BOARD MEMBER SPERLING: Here.
BOARD CLERK McREYNOLDS: Ms. Takvorian?
BOARD MEMBER TAKVORIAN: Here.
BOARD CLERK McREYNOLDS: Vice Chair Berg?
VICE CHAIR BERG: Here.
BOARD CLERK McREYNOLDS: Chair Nichols?
CHAIR NICHOLS: Here.
BOARD CLERK McREYNOLDS: Madam Chair, we have a quorum.
CHAIR NICHOLS: Thank you very much.
Just a couple of mandatory announcements before
we get started. For safety reasons, I would ask you to
note the emergency exits at the rear of the room. In the
event of a fire alarm, we're required to evacuate the room
immediately and go down the stairs and out of the building
until we hear the all-clear signal. We assemble in the
park across the street. We ask anybody who wants to
testify to fill out a request to speak form. The card,
you're available in the lobby or at the Clerk's desk
here. And we ask that you please return them to the Clerk
before the start of the item, so we can figure out how
much time we're going to need to accommodate all of the
witnesses. We will be imposing a three-minute time limit
on speakers in the normal course of events.

I want to though before we move directly into our
regular agenda for this morning, which is a great agenda
anyway, but I'd like to share a couple of observations
with you.

Today, is February 8th. February 8th 1968,
exactly 50 years ago, the Air Resources Board met for the
first time in the midst of many more newsworthy events.
The Tet Offensive was going on, there was rising
opposition to the war in Vietnam, student protests were
going on at Berkeley. I was actually there at the time.
(Laughter.)

CHAIR NICHOLS: There was a violent police
response. The Mullford-Carrel Act, which had been signed by Governor Reagan on August 30th of 1967 was a pioneering effort, three years before the federal Clean Air Act, to regulate air pollution using technology-forcing standards.

Smog, in those days, hid the mountains that framed the Los Angeles Basin most of the time. It was also a health hazard. The air was a hazy acid yellow, and it literally hurt to breathe. L.A.'s bad air made the cover of Time magazine that year.

The new Board combined the former Motor Vehicle Pollution Control Board, and the Department of Health's Bureau of Air Sanitation. In 1968, there were 53 employees. Some of them worked in Berkeley where the Health Department was headquartered that was -- others were in Los Angeles, where the original vehicle laboratory was located, and a handful of staff were here in Sacramento where the new headquarters was -- as it was established as it happened during that very first Board meeting.

The office moved from one location to another over the years. At one point, it was in a former furniture showroom at K and 13th where the convention center is now, and the Board never had a hearing room of its own.

That first meeting was held in Assembly room 127.
at the Department of Agriculture Building on N Street across from the Capitol. It's still there. Records indicated that about 40 people attended with 13 of the original 14 Board members present.

A lot has happened over the ensuing five decades since that first meeting. And as we'll be seeing in a few moments, we have slashed smog-forming pollution and toxic find particle pollution. Cars are more than 99 percent cleaner than cars were when we began in the 1970s, and certainly cleaner than in the 1960s.

Modern diesel trucks are more than 90 percent cleaner than the older dirtier models with no emissions controls like they used to have. And yet, I find it strange that we're sill at a point where the issues that we're grappling with today, con -- that resonate today are the same issues that we were dealing with during that first meeting 50 years ago.

The first issue before the new Board was setting tough new vehicle standards that cars would have to meet. Those early standards focused on hydrocarbons that is unburned gasoline - we now call them VOCs - that escaped out the tailpipe. And even though it was 50 years ago, it's also interesting to note that the representatives of General Motors who testified at that meeting said that the automobile industry could not possibly meet those -- that
absolute tailpipe limit of 180 parts per million of hydrocarbon for every vehicle that they produced. He claimed that it was simply beyond the industry's technological capability.

Of course, by the end of the next decade, thanks to technological breakthroughs, and manufacturing breakthroughs, but we particularly have to take note of the three-way catalytic converter and other improvements, cars were meeting and beating much tougher emissions standards. Today, the limit of permitted hydrocarbons is well under 1/100 of that earlier so-called impossible to meet standard.

The next big struggle was over an issue that sounds even more familiar, the need for a waiver of federal preemption for the California standards. This related to the National Air Quality Act that had just been signed into law by President Johnson in November 1967.

There was a lot of discussion at that time about California's role and whether California ought to be allowed to set standards that were stricter than the proposed federal standards.

In 1968, I'm happy to report that all factions in California politics supported California's need to set its own standards. More than 10 witnesses had testified about that issue in January of 1968 before a hearing of the
federal Department of Health, Education and Welfare meeting in San Francisco just three weeks before the Board's first meeting, and the meeting that we celebrate today, two years before EPA had even been created.

Those who spoke up for California included the State's senior Senator George Murphy. Murphy, a Republican, was a former actor, dancer, and President of the Screen Actors Guild setting the stage for at least two other actors to enter and play a significant role in California politics.

He served a single term in the U.S. Senate. And in that hearing in San Francisco, he declared that the other 49 states would actually benefit by California's ability to set its own standards, because, and I quote, "California has passed the point in its history when it can allow unrestrained fouling of its air. We cannot go backwards", end of quote.

Also, president on this -- present on this occasion was Spencer Williams, State Health and Welfare Administrator representing Governor Ronald Reagan. He noted that neither the current or the proposed federal standards were adequate to meet the compelling and extraordinary conditions of pollution in California.

He quote says, "California still requires a regulatory program of its own to deal with the critical
conditions of the state". And this was and remained the official position of the Reagan Administration. Governor Reagan himself, one month before the Board's first meeting, specifically called on the advances in science and technology that he thought should be brought to bear on pressing environmental problems.

He said, "Many of the techniques which have been developed for living in space have immediate applications for a better life on earth. We must apply that research for the benefit of our people. I have already charged the reconstituted Boards on Air Resources and Water Quality to pursue this goal".

Well, Governor Reagan, we've come a long way. But despite major advances in automotive technology and the near vanishing of smog emergencies, we're still facing those same two fundamental issues, California's ability to set its own standards, and the need for even stricter limits on pollution from motor vehicles.

Later today, the Board will consider how California will deal with standards for trucks and trailers, if, as seems likely, the federal government withdraws or weakens those provisions.

The current administrator of the U.S. EPA told Congress recently that he is still considering whether California should have the ability to set its own
standards. But while some issues never seem to die, we can take pride in a 50-year legacy of commitment to protect public health through science, research, a deep understanding of automobile technology, and an unwavering commitment by dozens of Board members over the decades to pass necessary, sensible, appropriate, and feasible regulations.

So I just want to take this opportunity in opening the meeting to extend our thanks to the many alumni, some of whom are with us today, and who helped bring us to the point where we are today, and to thank all of you here present for being with us on this important occasion.

And now, it's time to begin our business of the day, and proceed with the agenda before us.

Mr. Corey.

EXECUTIVE OFFICER COREY: The first agenda item is a consent.

CHAIR NICHOLS: Yes. The only item on the consent calendar is item number 18-1-1, proposed amendments to the area designations for State ambient air quality standards.

I have to ask the clerk if anyone has signed to up to testify on this item?

BOARD CLERK McREYNOLDS: No.
CHAIR NICHOLS: So we did receive some comments during the public comment period, and those have been considered, and they have been determined to be non-substantive. And so we're going to proceed with this item as a consent item.

Is there any Board members who wants to see this removed from the consent calendar?

Seeing none.

Then I will close the record on this item, and ask if the Board members have had a chance to review the item?

BOARD MEMBER RIORDAN: I have, Madam Chairman, and I would like to move Resolution 18-1.

CHAIR NICHOLS: Thank you.

Do I have a second?

VICE CHAIR BERG: Second.

BOARD MEMBER Balmes: Second

CHAIR NICHOLS: Great.

All right. I think we can just do this by a voice vote then.

Would all in favor please say aye?

(Ayes.)

CHAIR NICHOLS: Opposed?

Any abstentions?

Okay. Great. Thank you.
CHAIR NICHOLS: Moving to item number 2, which is an informational presentation on the improvements in air quality and public health that have taken place over the 50 years since CARB was first established by the legislature in 1968. So this is a little historical review of what got us here.

So, Mr. Corey.

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair. And as you noted, since the Board first met in 1968, California has made remarkable progress in improving air quality. California was once notorious for having some of the worst air quality in the world while much work remains in front of us.

California enjoys better air quality than ever before. Our programs stand as a model for the rest of the world for improving air quality and protecting the health of our citizens.

Our programs have achieved health benefits valued at many times their costs, and have launched industries that employ thousands of Californians today.

In today's presentation, staff will present an overview of the progress in improving air quality and public health over the last five decades.

And with that, I'll ask Jeff Austin of the Research Division to give the staff presentation.
Jeff.

(Thereupon an overhead presentation was
Presented as follows.)

AIR POLLUTION SPECIALIST AUSTIN: Good morning,
Chairman Nichols, members of the Board.

CHAIR NICHOLS: Good morning.

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AIR POLLUTION SPECIALIST AUSTIN: When the Board
first met on February 8th 1968, it faced a formidable
challenge. Residents of Los Angeles breathed some of the
dirtiest air anywhere in the world. California was
notorious for air pollution. In 1967, the polluted skies
above Los Angeles made the cover of Time Magazine.

Five decades later, Californians enjoy better air
quality than ever before, and consequently live longer and
enjoy better health throughout their lives. While better
air quality doesn't come for free, California's
demonstrated that we can achieve clean air at a modest
cost, far outweighed by the value of the benefits.

Air quality regulations have spurred new green
industries and created thousands of jobs. And in the
Board's five decades of existence, California's economy
has grown to become larger than all but five nations. Our
regulations have been widely adopted by other states and
countries, a testament to the success of California's
program.

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AIR POLLUTION SPECIALIST AUSTIN: Today, it's hard to imagine how bad air quality was in Los Angeles in the 1960s. The word "smog", a combination of smoke and fog, was coined to describe the thick choking brew of chemicals that blanketed the city for months of the year.

Powerful irritant substances, like ozone, nitrogen dioxide, and peroxyacetyl nitrate made eyes water and lungs burn, a serious threat to public health and quality of life.

At times, the smog was so thick, that it created hazardous driving conditions. Ozone levels in Los Angeles in the 1960s were some of the highest ever recorded anywhere in the world.

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AIR POLLUTION SPECIALIST AUSTIN: Nothing illustrates the improvements in air quality over the last 50 years better than this chart, which shows the trend in ozone concentrations for Los Angeles in relation to the current National Ambient Air Quality Standards, or NAAQS. The standard has been revised several times and become progressively more health protective based on better science.

Progress in reducing ozone levels was gradual
until 1980, when fleet turnover began to replace older dirtier vehicles with newer cleaner ones with three-way catalytic converters. Other regulations, like cleaner burning gasoline, focused on fuel formulation reducing the smog-forming potential of exhaust while also reducing levels of toxic substances like benzene.

Controls on power plants and boilers have reduced smog-forming oxides of nitrogen emissions while rules on consumer products, paints, and solvents have limited volatile organic compounds. The Advanced Clean Car regulation is the latest of a series of technology-forcing standards aimed at limiting passenger vehicle emissions and reducing smog.

Thanks to control measures, peak ozone levels in Los Angeles today are roughly one-third of their levels in 1970. These reductions were achieved despite a three-fold increase in the number of passenger cars on the road in California.

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AIR POLLUTION SPECIALIST AUSTIN: While Los Angeles has always had the highest ozone levels in California, and it's seemed the most dramatic improvement, other regions of the state have also seen significant progress towards healthy air.

Of the 10 areas designated nonattainment for the
national one-hour standard of 120 parts per billion in
1990, nine meet the standard today, a clear demonstration
of the effectiveness of the Clean Air Act and California's
air quality program.

Since then, the science has improved and the
standard has been tightened to 70 parts per billion for
the 81-hour average ozone concentration as shown here.

Local air pollution control districts have played
a major part in reducing ozone concentrations, especially
in reducing emissions from industrial facilities.

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AIR POLLUTION SPECIALIST AUSTIN: Because of the
reduction in ozone levels, California experiences around
500 fewer deaths per year, but peak levels in Los Angeles
and other regions of the state still exceed the national
and California standards, and CARB and other agencies will
continue to work towards reducing ozone levels.

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AIR POLLUTION SPECIALIST AUSTIN: The Board
established a three-stage alert system to warn residents
when smog levels were high enough to trigger harmful
symptoms. Thanks to the effectiveness of California's air
quality programs, ozone alerts are a thing of the past.
Los Angeles hasn't experienced an ozone alert since the
early 2000s.
AIR POLLUTION SPECIALIST AUSTIN: In the 1990s, health studies identified fine particles as the biggest contributor to illness and premature death from air pollution exposure in the United States.

Fine particles come from many sources, including industrial processes, waste burning, vehicle exhaust, and chemical processes in the atmosphere. Entering the body through the lungs they cause damage that accumulates over time and leads to increased risk of heart and circulatory problems, like heart attack and stroke.

Because of their high potential for causing a life-threatening illness, fine particles are a serious concern throughout California. And Los Angeles and the San Joaquin Valley experience some of the highest levels in the United States.

As a measure of fine particle concentrations, here we show PM2.5, particles smaller than 2.5 microns in diameter. After an initial decline in the 1960s from waste burning bans and declining industrial pollution, concentrations in Los Angeles remained steady until the 1990s. The Board and local districts passed many regulations in the 1980s and 1990s, controlling emissions from trucks, off-road equipment, industrial processes, agricultural and residential burning and dust.
By the early 1990s, these regulations caused a steady decline in concentrations. Cleaner diesel fuel and tighter engine emission standards brought emissions down further. In 2000, the Board adopted the diesel risk reduction plan whose centerpiece was the Truck and Bus Regulation bringing substantial reductions.

Today, fine particle concentrations in Los Angeles are roughly one-third of where they stood in 1968, hovering around the national standard.

Over the same period, the number of trucks on the road in California climbed by over a factor of three.

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AIR POLLUTION SPECIALIST AUSTIN: The drop in PM2.5 concentrations seen in Los Angeles is mirrored in other regions of the State. Because of declining PM2.5 concentrations, roughly 29,000 fewer premature deaths occur in California each year.

--o0o--

AIR POLLUTION SPECIALIST AUSTIN: Declining lead levels are one of the biggest success stories in air pollution controls in the United States. Until the 1990s, lead was added to gasoline to improve its combustion properties in vehicle engines. But lead is a potent neurotoxin. It harms people of all ages, but children are particularly susceptible, because their brains are still
growing, and exposure to lead causes irreversible damage. Recognizing the serious health risks posed by lead exposure, in 1973, the U.S. EPA required gradual phase-out of lead in gasoline. The Air Resources Board followed suit in 1976 with a phase-out requirement followed by a complete ban on lead in gasoline in 1992. As a result of these measures, lead levels are a tiny fraction of what they were in 1970, and hundreds of thousands of children are no longer exposed to toxic lead from car exhaust.

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AIR POLLUTION SPECIALIST AUSTIN: Black carbon, a constituent of soot from vehicle exhaust, wood burning, and industrial processes is both a health concern and a short-lived climate pollutant. Black carbon concentrations have declined continuously since the late 1960s, initially because of bans on waste burning, a shift to cleaner fuels for power generation, and other measures intended to reduce the health risks from fine particles. Recent efforts have targeted black carbon for reduction because of its contribution to climate change. According to a study lead by Dr. Veerabhadran of UC San Diego, if California's efforts in reducing black carbon can be replicated globally, we can slow down global warming in the coming decades by about 15 percent, in
addition to protecting people's lives.

--o0o--

AIR POLLUTION SPECIALIST AUSTIN: Health risks from toxic air contaminants have declined steeply because of CARB regulations. Diesel particulate matter is the single largest contributor to cancer risk from air pollution. In 1998, the Board identified it as a toxic air contaminant. And since then, many regulations have focused specifically on reducing emissions from diesel engines. The impact of these regulations and regulations that took effect prior to that in the 1980s and 1990s has been to reduce the statewide cancer risk from diesel exhaust to roughly one-fourth of peak values around 1980.

CARB has tracked concentrations of other toxic air contaminants since 1989. Thanks to control measures on gasoline formulation, consumer products, solvents, and other sources, the combined cancer risk from the six largest contributors, besides diesel particulate, has fallen to a small fraction of 1990 levels.

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AIR POLLUTION SPECIALIST AUSTIN: Concentrations of criteria pollutants, carbon monoxide, nitrogen dioxide, and sulfur dioxide in Los Angeles have decreased by 80 to 90 percent between 1972 and 2015. All major air basins have been in compliance with the national air quality standard...
standards for more than a decade now.

Over the last 50 years, regulations like Advanced Clean Cars have lead to improved engine design. Advanced after treatment, such as the three-way catalyst have reduced emissions still further. Regulations like cleaner diesel fuel, and ocean-going vessel rules have led to cleaner fuels.

Industrial source controls and switching from fuel oil to natural gas for electrical generation and industrial boilers have also contributed significantly to reducing air pollution in California.

All this took place against a backdrop of rapid population growth, even greater growth in the number of vehicles and trip miles and dramatic expansion of California's economy.

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AIR POLLUTION SPECIALIST AUSTIN: Environmental justice, or EJ, emerged as a key concern as community groups and academic researchers brought to public attention that the benefits of control programs were not shared equally by all Californians. Oxides of nitrogen are a marker for traffic pollution.

These two charts show the trends in oxides of nitrogen concentrations for different groups of Californians. The chart on the left shows the trend for
different races and ethnicities.

In 1970, prior to effective emission controls, concentrations were similar for whites and people of color. Over time, oxides of nitrogen concentrations fell as newer cleaner cars replaced older dirtier ones, but white Californians enjoyed those benefits sooner than people of color as shown by the arrows.

By 2010, the gap had narrowed considerably, but not disappeared. The chart on the right shows the trend for people below poverty level versus people above poverty level. Here, again more affluent citizens enjoyed the benefits of air quality improvements sooner, but the gap is narrowing. Note that the gap between racial and ethnic groups is larger than the gap between rich and poor, which suggests that differences in exposure between racial and ethnic groups is not entirely explained by differences in income.

Although disparities in air pollution exposure are shrinking, a gap still remains for some pollutants, and data for toxic air contaminants are sparse. We need to continue to work with community groups, researchers, air districts, and businesses to close gaps and ensure that all Californians share the benefits of air pollution controls equally.

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AIR POLLUTION SPECIALIST AUSTIN: The economic benefits of air pollution controls over the last five decades have been substantial. Taking the economic valuation of health benefits into account, each dollar spent on air pollution control in California has resulted in $38 in benefits.

These benefits include fewer premature deaths, fewer hospitalizations, greater worker and agricultural productivity and improved visibility. The economic value of the health benefits alone exceeds $250 billion. Direct air pollution control costs are less than one percent of the gross State product, and may in the short run have different impacts on jobs in different sectors.

However, air pollution controls created market opportunities that led to the creation of an estimated 42,000 jobs and revenue of $8 billion in the air pollution control industry alone. The net effect of air quality regulations has been to shift jobs to green industries.

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AIR POLLUTION SPECIALIST AUSTIN: California's regulations have had an impact around the world in addition to the benefits at home, as other nations have adopted California's standards. Lead-free gasoline, three-way catalytic converters, diesel particulate filters, stringent controls for NOx, ozone, and PM2.5, and
low sulfur fuels are now standard in many countries.

Michael Walsh has estimated that 98 percent of vehicles driven in the world today incorporate new engine standards first demonstrated in California.

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AIR POLLUTION SPECIALIST AUSTIN: Comparing California's air quality with other nations shows how people around the world have benefited and can achieve huge benefits in the future by adopting strategies and control technologies pioneered in California.

Mexico City, which like Los Angeles, has a serious ozone problem, has been successful in improving air quality thanks in part to adopting control technologies first used in California.

Beijing and New Delhi experience some of the highest fine particle concentrations in the world. Regulators in Beijing are working closely Air Resources Board staff to develop strategies for reducing PM2.5 levels there.

And we're engaged in discussions with official from New Delhi about how to address their severe PM2.5 problem.

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AIR POLLUTION SPECIALIST AUSTIN: Here's one example of how California's leadership has created
benefits that spread worldwide. This map shows a timeline of nations introducing three-way catalytic converters, which were first incorporated into vehicles by manufactures in order to meet strict California emission standards. To date, over 50 nations have adopted new vehicle emission standards effectively requiring three-way catalytic converters.

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AIR POLLUTION SPECIALIST AUSTIN: Thanks to the efforts of the California Air Resources Board, local air pollution control districts, and the U.S. EPA over the last 50 years, Californians enjoy much cleaner air than in 1968 than when the Board first met. Concentrations of harmful pollutants have decreased 75 to 99 percent in communities despite the population doubling and vehicle use growing to three times 1960 levels -- 60s levels.

There are 29,500 premature deaths annually from ozone and PM2.5 exposure than there would be without air pollution controls. The economic value of the health benefits of air pollution controls exceeds $250 billion. While environmental justice communities initially lagged behind, the gap is narrowing. All this has been achieved while keeping costs down to less than one percent of the gross State product and creating 42,000 jobs and $8 billion in revenue in the air pollution control industry.
AIR POLLUTION SPECIALIST AUSTIN: While we can take pride in our success, much work remains to be done to improve California's air quality and counter the threat of climate change. Millions of Californians still live in areas that exceed the national air quality standards. Meeting the national ozone standard in the South Coast and the national PM2.5 standard in the San Joaquin Valley pose special challenges. And the State Implementation Plan will be a major focus.

The scoping plan will continue to guide our efforts to reduce greenhouse gases. Established by Assembly Bill 617, the Community Air Protection Program will focus on reducing exposure in communities most affected by air pollution. As we look to the future. The California Air Resources Board is committed to leading the world in devising science-based strategies for reducing air pollution, while making sure that all Californians share the benefits equally.

This concludes our presentation. We'll be happy to answer any questions you may have.

CHAIR NICHOLS: Thank you.

Board members, any questions or comments at this particular juncture?
I think we can all take satisfaction in that, but obviously as do others.

Yes, Supervisor Roberts.

BOARD MEMBER ROBERTS: Yeah, Madam Chairwoman, Could I make a comment?

CHAIR NICHOLS: Please do.

BOARD MEMBER ROBERTS: First of all, the staff did a great job on that analysis. And it really gives some perspective. I mean, a lot has been accomplished in 50 years. This week we had a demonstration project that we kicked off in San Diego called Rebate Now, where we're going to be able to lineup potential EV buyers ahead of time with whatever rebates they're entitled to, so when they go into a dealership, they're not going to get turned away because they went thinking they're going to get a rebate and they're not going to get it. So it's going to be a test program, and I think it's going to be very successful.

When we were doing the press conference, I had to smile, because we were doing it in front of the automotive museum, which seemed entirely appropriate. But as I looked and the cameras were lined up on the speakers' podium, directly behind the speakers was a mural that was done as part of the original World's Fair to build that building in San Diego, and we've just reconstructed those.
And there are four panels on the mural. And the one that lined up perfectly with the speakers was a panel that showed the San Diego of that era with all of the smoke -- all the smokestacks and all this black smoke coming out. And we had had a discussion about whether we should maybe doctor that up and not do it like the original.

(Laughter.)

BOARD MEMBER ROBERTS: And I thought, well, let's keep it, because it shows the progress. And I thought it really -- that and the background, and what we were doing there on that day was pretty fantastic.

I think we all have a lot of memories for me, some of the special meetings that have occurred here and the changes that we've made, and things like declaring diesel a toxic and things like that; things where we had to shift gears because maybe the program wasn't working out as we had hoped. And I think we all remember Los Angeles in the 60s and 70s.

For me, I had -- security Pacific was a client of mine. And when I'd go for their meetings, I mean, you couldn't -- you're there in this beautiful high raise that should have had a beautiful view and you couldn't see across the street, and it was really bad to say the least.

But I've also had a strong interest for a couple
of reasons, one of which I'd had asthma, and it's been an
important part of this -- the work of this board to see
how do we get at least the triggers that cause that in
many of our youngsters and oldsters, how do we make
improvement. And as you saw from the charts, incredible,
incredible improvement.

I have one slide if the staff can get it up that
shows you that in San Diego we've been doing our part.
And you can see here how did population has increased
somewhat, the vehicle miles traveled has increased
significantly, and the ozone dropped dramatically.

And I just -- I had them go back to 1994, because
in 1994, I was involved with an election. And I was told
we could never make this happen unless we virtually
stopped people from driving cars and stopped the growth of
San Diego. That was the only way we could cure this
problem. And I'm pleased to show you we did neither.

(Laughter.)

BOARD MEMBER ROBERTS: And it just so happens the
guy that was making those statements was engaged in a
little political election for the board of supervisors.
He was a professor at UC California. And --

(Laughter.)

BOARD MEMBER ROBERTS: I should exempt present
company from those comments.
(Laughter.)

BOARD MEMBER ROBERTS: But he's -- he's gone on, and today he's an advisor to the President in financial affairs, so he couldn't be wronger.

(Laughter.)

BOARD MEMBER ROBERTS: It shows you how things turn out.

(Laughter.)

BOARD MEMBER ROBERTS: But the good news is what's happened in our community. And it reflects what's -- the charts that we've seen. We all should be proud.

CHAIR NICHOLS: We should. I should comment that although I had never heard that particular story before, I'm well aware of the fact that you, Supervisor Roberts, over a period of years, have endured quite a bit of public comment on behalf of your local newspaper. And I think all of the Board members who represent local government on this Board have a particularly difficult and important task, because you have to represent your community here and the best interests of the community, while at the same time also having to look over your shoulder at what's going on back home.

And the ability to, you know, balance sometimes the -- I'm not just going to call them special interests,
they're real interests that, you know, people are dealing with, at the local level, and also operate on behalf of the health of the people of the State of California as a whole is a really -- I think it's a very important and perhaps under appreciated task. So I want to thank you bringing that to our attention.

MR. SIMMONS: And, Mary, I'd like to remind everybody that vapor recovery at service stations started where?

San Diego.

(Laughter.)

CHAIR NICHOLS: You know, this is a former Executive Officer of the Air Resources Board, so I won't gavel you out of order.

(Laughter.)

CHAIR NICHOLS: Thank you for the reminder.

BOARD MEMBER ROBERTS: Mary, I'd -- I'd also like to just recognize. We have so many former members, Board members, and Chairs and other things here today. And I think we all have stood on their work in a very, very big way.

CHAIR NICHOLS: Absolutely.

BOARD MEMBER ROBERTS: And I'd like to --

CHAIR NICHOLS: Thank you. Thank you.

BOARD MEMBER ROBERTS: You know and the
organizations. We couldn't have done this without the many organizations.

CHAIR NICHOLS: Dr. Balmes.

BOARD MEMBER BALMES: Just briefly. So I moved to Southern California to Los Angeles in 1982. And though I don't remember the 60s and 70s, it was bad enough in the early 80s. I'm a jogger, and I used to regularly get that substernal burn that was described correctly by Jeff. It actually motivated me to get involved in doing air pollution research.

I'd been an occupational health guy up until that point. And when I moved to San Francisco, UCSF is when I started doing air pollution research. I moved up there for that purpose. And it was also CARB funding that allowed me to do this, to pursue that career pathway. So I just want to acknowledge that CARB has been very important in providing research money to many UC investigators, Cal State investigators, and other folks around the country. And, you know, Jeff sort of mentioned that, but we should hold our head up high in terms of the way we've contributed to the research on air pollution, health effects, and other aspects of atmospheric chemistry and air pollution control technology.

We've leveraged a relatively small pot of money compared to what is available at the federal level for
very good research. So I just wanted to highlight that as well.

CHAIR NICHOLS: Thank you. We'll be recognizing some of that great research in a little bit, so thank you.

Anybody else want to share anything at this particular moment?

Ms. Berg.

VICE CHAIR BERG: I would just like to also thank staff. We have just an amazing set of professionals that really do all the work that allows us here at the Board to bring these policies and discuss them and to work with various stakeholders. And so without our staff, it really wouldn't be possible. I know several of you are in the audience today, and I think it would be wonderful to just have all staff stand up right now that's in the audience, so we can say thank you, plus all of former

CHAIR NICHOLS: A good day for it, with the alumni too.

VICE CHAIR BERG: Yes, all of our alumni as well.

(Applause.)

VICE CHAIR BERG: Bob Sawyer, you should have stood as well. So we want to acknowledge you and Mr. Boyd. Oh, and Alan Lloyd. Really without you, this would not be possible.

And so please look at today as just a special
part that you have brought to this state and we thank you
very much for that.

CHAIR NICHOLS: Okay. Yes.

Dr. Sherriffs.

BOARD MEMBER SHERRIFFS: Sorry. Yeah, just a
reminder of the -- you know, how has this happened,
because it has -- it's been so many parts, and it's
really, I think, the collaboration, the transparency, the
involvement of science, of industry, of agriculture in the
process to achieve these things.

You know, so many really to recognize in this
achievement, because it's not just ARB, but it's the
legislature, it's the public support for this. It's the
districts and their contributions. And sometimes yes, as
has been mentioned, the reluctance of the auto industry as
one example, but that indeed, at the end of the day, folks
have stepped up and we've achieved so much.

I just want to, wearing my doctor hat, reminding
us all why we are doing this, because we're a public
health agency and health. And I appreciate the highlights
about health.

And I just want to put a little twist on a couple
of the statistics to I hope help people understand and
take pride, and realize the importance of getting lead out
of gasoline.
Okay. Who here has a child or grandchild that they would not immediately enroll in an educational program that would raise IQ by three to four points?

(Laughter.)

BOARD MEMBER SHERIFFS: Dah. Well, that's what happened when we got lead out of gasoline. A measurable change in IQ. This is astonishing. This is really astonishing.

You know, you mentioned the 29,000 lives per year change by not having this. Well, for those of us living in the Central Valley, and I'm sure South Coast, even Bay Area, you know, what does that mean? Well, if you spent your life with 1970s style air, you would shorten your life expectancy by two years. Who here thinks that's a good deal?

No, think of what we would pay, what we would do to extend our lives by two years. An that's -- that's the kind of accomplishment and what it should mean to every citizen of California and the world what's possible.

Thank you.

CHAIR NICHOLS: Thank you. That's a terrific reminder of the need to translate these statistics into terms that affect real people. I'd like to now call on the one member of the public who actually signed up for this one. When I heard we had public comment, of course,
my immediate reaction was, oh, my gosh, somebody is going
to come in and say wait a minute it's all a fraud, it
didn't really happen.

(Laughter.)

CHAIR NICHOLS: I would wake up from this dream
of -- I'm happy to say that that's not true. I'd like to
call on Eileen Boken, who has submitted a letter also to
the Board. She's says she's neutral on this item.

MS. BOKEN: Not true.

Okay. Eileen Boken. I'm here representing the
Coalition for San Francisco Neighborhoods, CSFN. CSFN has
submitted a certificate of recognition for CARB's 50th
anniversary. The following thoughts however are my own.

I would like to begin by recognizing Chair
Nichols. She was recognized in 2013 by Time Magazine as
one of the 100 most influential people in the world.
Former U.S. EPA administrator Lisa Jackson wrote, and I
quote, these excerpts:

"If, as Supreme Court Justice Louis Brandeis
claims, 'States are the laboratories of democracy, then
Mary Nichols is the Thomas Edison of environmentalism".

(Laughter.)

MS. BOKEN: "Head of the California Air Resources
Board, CARB, she has been a fierce champion of
cutting-edge technology that is changing her State, a
nation, and the world. In her decades of service, she has
seen changes pushed in California and D.C. boosting fuel
economy, cutting acid rain, and greenhouse gases become
global standards. 'It is in the spirit of Californians',
she says, 'with their openness to new things and their
love of the planet that makes it all possible'.

Amen, sister. End quote.

(Laughter.)

MS. BOKEN: Besides Chair Nichols, I would like
to recognize the entire Board. The Board has not only the
vision but also the tenacity to implement that vision. It
has made the lives of 39 million people better. Thank you
for everything you've done, and continue to do.

Also, special thanks to the Bay Area Air Quality
Management District and John Gioia. You are on the front
line of some of the toughest environmental challenges in
the Bay Area -- in the San Francisco Bay Area.

In closing, about the Age of Aquarius, did we
ever get that one wrong.

(Laughter.)

CHAIR NICHOLS: Thank you.

(Applause.)

CHAIR NICHOLS: Thank you. Thank you so much.

On that wonderful not, I'm going to move us to
the next agenda item, which is the presentation of the
Haagen-Smit awards.

(Thereupon an overhead presentation was presented as follows.)

CHAIR NICHOLS: Since 2001, the Board has annually bestowed the distinguished Haagen-Smit Clean Air Awards to extraordinary individuals in recognition of significant career accomplishments in air quality and climate change.

To commemorate five decades of progress towards clean air, and in conjunction with the Board's 50th anniversary, it's a privilege to present today these Haagen-Smit 50th Anniversary Legacy Awards.

As we've all just heard, air quality in California has come a long way. Over the last 50 years, many major milestones have been realized ranging from the Clean Air Act to groundbreaking California and federal efforts, to tackle climate change, to the scientific breakthroughs that support these policy efforts.

And each of this year's winner's career accomplishments are emblematic of the progress we've achieved. Although this year's awards focus on the particular winners contributions in that -- in a particular decade, their legacies actually span career-long achievements.

It is somewhat of an artificial construct that we
came up with, I have to admit, but it seemed like a good way to recognize five really critical people.

And certainly all of their achievements are much greater than any one individual contribution of like the -- as was the spirit of our namesake, Dr. Haagen-Smit.

The awards are named for Arie Haagen-Smit, because of his important contributions to air pollution science, and also the significance of his career as CARB's first Chair.

Arie Haagen-Smit, a native of the Netherlands, was a biochemistry professor at Caltech in Pasadena for 16 years studying natural products like rubber and pineapples. In 1948, he embarked on air pollution research, when he was asked by the County of Los Angeles to investigate exactly what was in that stuff that we now call smog.

It was his research which found that most of California's smog resulted from photochemistry, when exhaust from motor vehicles and industrial facilities react with sunlight to create ozone. This breakthrough provided the scientific foundation for the development of California's and the nation's air pollution control programs.

Leaving his plant studies behind, he continued working in the field of air pollution research and
control, and took on the smog problem in Los Angeles head on. He became CARB's first Chairman in 1968. And in 1973, in recognition of his contributions, he received the National Medal of Science, this country's highest scientific honor.

He passed away in 1977, but his legacy lives on as does his name in the naming of our laboratory in El Monte. Over the last 17 years, 54 people have received this award for their contributions to clean air. And I am very pleased to be able to continue in that great tradition.

So, Mr. Corey, do you want to get this started?

EXECUTIVE OFFICER COREY: Yes. Yes. Thanks, Chair Nichols.

(Laughter.)

EXECUTIVE OFFICER COREY: Each of the winners will be introduced by a Board member. After their introduction, the winner will come to the podium to say a few words. I'll hand them their ward and take a quick photo. We'll also take a group photo with the Board at the end of the presentations.

The first recipient, is David Hawkins for his leadership on national science-based clean air policies. He'll be introduced by Board Member Barbara Riordan.

BOARD MEMBER RIORDAN: Our first decade of work
as the California Air Resources Board couldn't have been as successful without the hard work of David Hawkins advocating for a national program to protect American citizens from air pollution.

Today, we recognize David Hawkins for his leadership in the development, advocacy, and implementation of sustainable and science based clean air policies, notably, the Clean Air Act, which improved the quality of life and has prevented more than one million premature deaths over the past several decades.

Mr. Hawkins, was one of the Natural Resources Defense Council's first staff members in 1971, and has been with the organization ever since, minus four years during the Carter administration where we served in the U.S. Environmental Protection Agency.

At U.S. EPA, Mr. Hawkins was responsible for initiating major new programs under the 1977 Clean Air Act amendments. Upon his return to NRDC, he continued shaping the Clean Air Act into the legislation that it is today, one of the most effective laws in U.S. history for protecting public health.

With expertise in advanced coal technologies and carbon dioxide Capture and storage, Mr. Hawkins has worked with Congress, the Executive Branch, and the business community to design policies that will slow, stop, and
reduce the emissions of global warming pollution. When
the opponents argued that the environmental protection was
too expensive, and the obstacles insurmountable, Mr.
Hawkins worked with industry and the government to
identify steps we can take. And he argued that the
immensity of challenge is a reason to act now, not to
wait.

When opponents argued that action for clean air
was too extreme, Mr. Hawkins stood up against the
relaxation of air quality standards and inaction stating
that what was extreme is how long the public is being
asked to wait for clean air.

His legacy of advocating for health protective
air quality policy will have a positive effect on
Americans' health for years to come.

The California Air Resources Board is honored to
bestow David Hawkins with a Haagen-Smit Legacy Award. And
I would like to ask Mr. Hawkins now to step forward to say
a few words and receive his award from Richard Corey.

(Applause.)

MR. HAWKINS: Thank you so very much for this
event today. Fifty years ago in 1968, I was teaching math
in New York City. I had two years of law school under my
belt, and no idea what I wanted to do with the rest of my
life.
And then I heard about a brave man in California who was working to clean up the air in Los Angeles. And I read up on this brave man and I followed his work. And a year later, I knew what I wanted to do with the rest of my life.

In 1970, I filed my first anti-air pollution lawsuit a few months after graduating from law school. The next big event was that I was lucky enough to meet two people who are here today, Mary Nichols and Mike Walsh. And then a couple years later, I was lucky enough to meet another mentor who is here today, Henry Waxman.

It's been one of the great joys of my life to work with these good friends and fine people, and witness all that they've accomplished in the last 50 years.

You know, history books are full of stories of great military victories, but the battle against clean air has delivered one of the great victories of our democracy. Thanks to all of your work, we've prevented hundreds of thousands of premature deaths, and we've given the gift of a healthier life to millions of more people. This is a wonderful thing that you've accomplished.

I'm grateful for the chance to have worked on this cause, and I'm hard at work on the current chapter, which is pressing for a serious program to address the scourge of climate disruption.
It's an honor to have worked with so many committed people on this effort, and to receive this award today. And I'm thinking that all of this group needs perhaps a punchier name to attract even more recruits to this ongoing battle. So, in closing, let me say that I am proud to be an active member of Dr. Arie's Healthy Hearts Club Band.

(Laughter.)

MR. HAWKINS: Thank you.

(Applause.)

EXECUTIVE OFFICER COREY: The next recipient is Congressman Henry Waxman for his leadership and many, many legislative achievements on environmental issues. He'll be introduced by Board Member Hector De La Torre.

BOARD MEMBER DE LA TORRE: Thank you, Richard.

The Honorable Henry Waxman is being recognized for his environmental leadership while serving 20 terms in the U.S. House of Representatives. Henry is a lifelong pathfinder, going all the way back to Fremont High School in South L.A., and has been interested in smoke just like his fellow pathfinder Dr. Dre.

(Laughter.)

BOARD MEMBER DE LA TORRE: You can see the details of his accomplishments in the program, but he was and absolute master of what I call the righteous fight.

His routes in the California environment run deep. His uncle served on the Los Angeles County Smoke and Fumes Board in the 1940s. While in Congress, he was one of the primary authors of the 1990 Clean Air Act amendments, only the second ever reauthorization of that landmark federal law.

Ten years in the making, he first had to beat back a bill proposed by President Reagan, and supported by many fellow Democrats in the early 1980s.

After that, he and like-minded colleagues, needed to strengthen the proposal to address urban smog, toxic air pollution, acid rain, and the depletion of strategic -- stratospheric ozone layer, which paved the way for regulation of greenhouse gas emissions. This version passed in 1990 by an overwhelming bipartisan margin -- that really happened.

(Laughter.)

BOARD MEMBER DE LA TORRE: -- which was signed by a Republican President George H.W. Bush. That really happened.

(Laughter.)

BOARD MEMBER DE LA TORRE: This is how stuff happened a mere 28 years ago. I reached out to some of
Henry's former colleagues to get their perspective because they worked with him day to day. And from Rick Lehman of Fresno, a colleague in Congress in the 80s and 90s, quote, "Henry was an unusual politician in that he always used facts and not power as his principal weapon. And now one knew the facts better than Henry. He tackled the most powerful special interests in America: big pharma, big tobacco, fossil fuel oligarchs, and unmasked the hypocrisy in his adversaries by simply telling the truth. In winning passage of the Clean Air Act, he not only tackled a multitude of the most powerful industries in America, but he had to overcome the opposition of powerful individuals in his own party, including the chairman of the policy committee on which he served as a subcommittee chairman, old bull John Dingell from General Motors -- er Michigan".

(Laughter.)

BOARD MEMBER DE LA TORRE: "He was fearless. Every American can thank Henry Waxman every time they take a breath", closed quote.

Subsequently, he introduced the first bill in Congress to stabilize the climate in 1992. Later, he put together the American Clean Energy and Security Act of 2009, also known as the Waxman-Markey Bill. The Waxman-Markey Bill did not become law, but it served as a
catalyst for the Obama Administration to pursue greenhouse
gas reductions.

During this time, I was asked by a mid-western
Governor if I could help him connect with Henry, so that
he could lobby him on the Waxman-Markey Bill. The -- what
was fascinating about that whole process and conversation,
and Henry will remember their subsequent meetings -- and I
don't want to characterize that -- was the reverential way
in which this Governor asked to speak to Henry.

It was an understanding of what a powerful
legislator for Henry was. It was almost fear --

(Laughter.)

BOARD MEMBER DE LA TORRE: -- that this Governor
of a State had of Henry, of wanting to kind of take him
on. He was not in favor of the Waxman-Markey Bill, by the
way.

(Laughter.)

BOARD MEMBER DE LA TORRE: So I -- it was a
really telling moment to me about what Henry did in
Washington, and what it meant.

His pursuit of climate solutions led to the
creation in 2013 of the Safe Climate Caucus in the House,
and the Bicameral Task Force on Climate with the Senate.
Today, there are more than 50 Congressional members in the
bipartisan Climate Change Caucus.
From Alan Lowenthal of Long Beach, a colleague in Congress in his last term, quote, "He was a force that never stopped educating our caucus and Congress on climate change. He was committed to breaking through the denial that surrounded climate change at the time".

Well, not really at the time.

When he created the Safe Climate Caucus to get Congress to act on climate change, Henry led the fight with a strategy of having members speak out to multiply our voices and build momentum. And Alan shared what one liberal and one conservative said about Henry, Ralph Nader said, "Henry Waxman is the only argument against term limits". And Senator Alan Simpson said, "Henry Waxman is tougher than a boiled owl".

(Laughter.)

BOARD MEMBER DE LA TORRE: Alan closed by saying what an honor it has been to follow Henry in the fight for climate as Chair of the bipartisan Safe Climate Caucus.

And we cannot forget that he impacted California in myriad other ways throughout his tenure. For example, as a legislator, I reached out to him regarding the Schwarzenegger Administration short-changing California's federal Medicaid waiver worth billions of dollars. And Henry gave me insights on other states more robust requests that I was able to use to call them out and
insist on a stronger request from Washington. Later in wanting to create a first-ever oversight committee in the State Assembly, I reached out to Henry for his experience as Chair of the House Committee on Oversight and Government Reform. In fact, the California Assemblies Committee on Accountability and Administrative Review fairly plagiarized the bylaws of Henry's committee.

The California Air Resources Board is honored to bestow representative Henry Waxman with a Haagen-Smit Legacy Award, and I am proud to invite Henry, an OG pathfinder, up to share his thoughts with us on his day.

(Applause.)

CONGRESSMAN WAXMAN: Thank you very much, Hector De La Torre for that very kind introduction. We've known each other for many decades when you were in the State Assembly. We worked together on health issues, and we've also shared the passion among these -- about these environmental issues as well.

Around this time of year, a lot of people get very interested about awards.

(Laughter.)

CONGRESSMAN WAXMAN: Some think that the Academy Awards are the things to watch. Now, I will never get an Academy Award, but Arnold will probably get one in addition to the award we're receiving today at some point
in his career, but I was interested in this award.

And I'm so pleased to receive the award, on behalf of the California Air Resources Board, about efforts to help people avoid all the illnesses, diseases, and shortened life because of air pollution, and to save our planet, the only atmosphere we share in the world from the consequences of carbon emissions.

Now, CARB is an interesting acronym for this California Air Resources Board. But did you know there are a lot of people who are trying to get others to follow a low carb diet.

(Laughter.)

CONGRESSMAN WAXMAN: I find that astonishing.

We live in a time when a lot of people throw up their hands about government. They think government can't do anything. They're so disappointed, for a lot of good reasons. And right now, it seems worse than any of us have ever known before.

But I would ask people to take a look at another point of view. I think there are some things that government can and must do to help the American people. And the best example is protecting us from environmental dangers.

When I went to the Congress, I started working on the Clean Air Act immediately, mainly because it was a
health issue. I was chairman within a term or two of the Health and Environment Subcommittee, Environmental Issues Related to Health. It wasn't till many years after that that I learned that my uncle had been involved in this fight.

I was born in L.A., lived my whole life in L.A. My uncle Al Waxman was nominated and served on the first committee set up to fight air pollution. It was the L.A. County Board of Supervisors, Commission Against Smoke and Fumes. And he went on that commission and he said, you know a lot of the problems is not just the incinerators, which they closed down, but it's a lot of the industry pollution from the automobile and some of the stationary sources. Although, I don't think he new the word "stationary sources".

(Laughter.)

CONGRESSMAN WAXMAN: And so as a consequence, he was thrown off that committee.

(Laughter.)

CONGRESSMAN WAXMAN: Well, I found that out and was very proud of that heritage in the family. But I'm very proud of the fact that when I was in Congress arguing for a stronger clean air law, for efforts to deal with the acid rain problem, to do something about the upper ozone layer and its deterioration and the consequence of that,
or to take on acid rain pollution through the first
Cap-and-Trade Program that we've ever had, which succeeded
so well, or the fight to reduce the carbon emissions that
are causing greenhouse gases and all of its consequences,
the full extent we don't yet know, but we're starting to
experience day after day, I had the opportunity to say to
my colleagues, I know the industry people say you can't do
this. It will cost jobs. It will hurt the economy. We
just can't possibly do. We can't achieve it. It's
impossible.

But then I was able to turn around to them and
say, you know what, in California they're already meeting
those standards. The auto industry has reduced its
pollution, because of California's advanced activities to
reduce green -- reduce the emissions from the mobile
source pollutions. And over and over again, I could cite
California. Hey, we didn't know the term, but "Yes We
Can" attitude toward reducing air pollution.

I'm pleased to have been in this fight with you.
No one stands out more in my mind than Mary Nichols. I
had the pleasure and honor of presenting her an award in
Washington. And I cited all the things that she had done
in her career here in California. And a lot of people
forgot she was involved in these issues at the federal
level.
So, Mary, any board that you chair that's accomplished as much as this Board and you have done, I am proud to know all of you, and to be honored by you. And I proudly accept, until I get an academy award --

(Laughter.)

CONGRESSMAN WAXMAN: -- the Haagen-Smit Legacy Award.

Thank you so much.

(Applause.)

EXECUTIVE OFFICER COREY: The next recipient is Professor Mario Molina for his influential scientific breakthroughs on climate pollutants. He'll be introduced by Board Member Diane Takvorian.

BOARD MEMBER TAKVORIAN: Thank you, Richard.

Dr. Mario Molina is being recognized today for his groundbreaking research on atmospheric science. In 1974, along with Dr. Sherwood Rowland, he predicted that widely used industrial gases, known as chlorofluorocarbons, or CFCs, could weaken the ozone layer that protects us from deadly ultraviolet rays. Since CFCs are non-toxic, non-flammable, and really stable, nobody thought twice about using them, that is until Dr. Molina dug into the long-term fate of CFCs as a way to learn atmospheric chemistry.

Over time, his research team identified the
details of how CFCs led to the creation of the ozone hole. For his work, he was co-awarded the Nobel Prize in chemistry in 1995. He donated two-thirds of his share of the prize money to set up fellowships to help scientists from developing countries conduct research in environmental sciences.

Thank you very much for that.

Dr. Molina's work has also focused on the science and policy of climate change and air quality problems in urban and regional areas. He has called attention to how air pollution remains a serious health problem in the rapidly growing cities of most of developing countries.

Through Centro Mario Molina in Mexico City, he works to find practical, realistic, and in-depth solutions to climate change, air quality, and sustainable development. He aims for the Center to be a bridge between the developed and developing nations. The world of atmospheric chemistry and science policy have benefited immensely from his research and insights, his unselfish dedication to the greater public good, and his energy and resolve to push the limits of our collective work to ensure a more livable global environment.

Dr. Molina's scientific and outreach leadership were instrumental for the first international treaty to resolve a manmade global environmental problem.
effectively. The California Air Resources Board is
honored to bestow Dr. Mario Molina with a Haagen-Smith
Legacy Award.

(Spoke in Spanish.)

BOARD MEMBER TAKVORIAN: And please, if you will,
come forward to say a few words and receive your award
from Richard Corey. Thank you so much.

(Applause.)

DR. MOLINA: Thank you very, very much. I’m
indeed deeply honored with this recognition. To me, the
name Arie Haagen-Smit means a lot. Let me sort of tell
you how this came about. It was 50 years ago -- and by
the way congratulations for this 50th anniversary.

But it was precisely 50 years ago that I came to
California after starting in Mexico. I spent a few years
in Europe. But I came to get my Ph.D. at UC Berkeley.
And that’s a decision I’ve never regretted. It was
probably the best decision I ever took, because I -- it
was fascinating times.

First of all, I learned a lot of science. But
see, it was also the student movement time. I remember
the Blue Meanies, the police in V formation, with the
students -- anyhow, I did learn a lot, besides science
itself. But at that time, I was interested in very
fundamental science, how chemical reactions take place,
and so on, not particularly so in the environment.

But shortly thereafter, decided to -- I decided to keep working with my colleague, Sherry Rowland, at the University of California at Irvine. And there we both decided -- he was also fundamental chemist. We both decided we wanted to do something for society. We wanted to learn something more practical, and we got into atmospheric chemistry.

And so we just chose a problem, what would happen to these compounds -- these chemical compounds, the CFCs that were floating around that indeed replaced the poisonous compounds like sulfur dioxide, that -- it was using at home refrigerators.

And it was quite interesting. We had to learn about the atmosphere, and that's when, of course, we realize that there was a problem with the ozone layer. And ozone, of course, nearby Los Angeles I became aware that it was very important for air pollution as well. And that's where, of course, Arie Haagen-Smit's name came forward.

But I was very proud of being chemist.

Fortunately, the scientific community shares a value, which is we want the benefit of mankind. Science itself doesn't tell us what to do, whether it's good or bad. And as an example, it was another well known scientist, his
was Thomas Midgley. He happened to be the one that discovered the CFCs. And they were indeed miracle chemicals. They did a lot of good for society for a while.

He had another discovery. He actually didn't discover the original chemicals, but we was very instrumental with tetraethyllead. So he also pushed lead as a very important chemical for society.

And interestingly, he passed away never realizing that his two big findings, miracle chemicals were banned later on by society.

(Laughter.)

DR. MOLINA: But anyhow, I pursued my interest and with Sherry Rowland, of course, we decided to communicate all these findings to society and we're very successful. With the help, of course, of the scientific community, and many other friends, we managed to get the Montreal Protocol to work, which is the one international agreement that is successful. It has succeeded. It represents the idea that if we all work together, we can all do it. It works. We can do it.

We have a very big challenge now with climate change, but with air quality. I'll just mention briefly that after working and spending many years, subsequently after being in California, spend some years as a professor
at MIT and started to work besides -- also later on air quality as well.

And so we had the opportunity to deal with air quality Mexico City. I remember because it was supposed to be the mostly disciplinary study and the number of faculty we got together and decided to tackle. And we learned from Los Angeles, of course, from Arie Haagen-Smit. And so we were able to copy many of the very interesting and very important success stories that happened earlier in Los Angeles, about a decade or two later.

Mexico City was, at some point, named the most polluted city in the planet. Twenty million people in a valley surrounded by mountains. So it's a very big challenge. It was indeed very polluted, but in, again, about a decade or so pollution came sharply down. So it's much better now, but we are now working very hard.

We want to get the small particles also controlled, also the tail[phonetic]has been largely controlled. Although we still have a problem. So we have a lot of work to do, and we're still learning from what California has done. Okay. There are many more measures that we need to take.

But let me just finish by making one more statement about climate change. I worked a lot with
climate change, particularly I was very proud of the sort of things we did in PCAST, the President's Council of Advisors in Science and Technology with President Obama. We essentially managed working with him to get the Paris Accord to work after so many years of fighting.

And so it is -- it shows us that if we all work together, things can work. We are, as you all know, in particularly difficult times now. What's the image in this planet that the United States has after being a leader in all these issues. Well, that's where I bring California up again.

California has shown us it can be done. Look, it's the fifth or sixth largest economy in the planet. The economy is still thriving, and the emissions are not increasing. They're going down.

California is showing us it can be done. We just have to work all together, and we can work for this planet.

Thank for your attention.

(Applause.)

EXECUTIVE OFFICER COREY: Now, Governor Arnold Schwarzenegger for his leadership on climate and environmental policies. He'll introduced by Chair Nichols.

CHAIR NICHOLS: Thank you, Mr. Corey.
And I'm sorry for my voice, which has partially disappeared here today. But I am deeply honored and pleased to recognize my former boss a man who actually needs no introduction, but may not have been awarded in this particular category before.

(Laughter.)

CHAIR NICHOLS: I think this might be his first nomination at least for an air quality award. We are honoring Governor Schwarzenegger for his environmental legacy as Governor of California. He, of course, is also known as a champion athlete, and a world famous actor, successful politician, engaged activist. His career has truly been multi-faceted, and defies categorization, as well as expectations.

The same can be said of his environmental accomplishments. In 2006, he signed Assembly Bill 32, California's Global Warming Solutions Act, which was even more groundbreaking than we realized at the time. It put California at the forefront of climate change mitigation, and gave CARB the responsibility to find causes and solutions to one of the most important issues of our time.

Governor Schwarzenegger also shepherded California's pioneering motor vehicle emissions standards through the federal approval process in difficult circumstances, paving the way for substantial reductions
of both climate changing emissions and the adverse health impacts of vehicle emissions. And he was never afraid to take on the opposition regardless of their party or their size.

While Governor Schwarzenegger's policy achievements are impressive, his approach to environmental leadership is also, I think, equally worthy of recognition, for the fact is that he brought a global vision, as well as a respect for science, and openness to innovation, talent for post-partisan collaborative partnership in the service of enlightened policy making. And these have been an inspiration to many.

The California Air Resources Board -- he's also a car collector by the way, and that's also very in keeping, I think, with California and our love of automobiles. So we are honored, Governor Schwarzenegger to have you with us today to receive the Haagen-Smith Legacy Award. And I hope you'll come forward and say a few words about your legacy for all of us.

(Applause.)

GOVERNOR SCHWARZENEGGER: Thank you very much, Mary, for the wonderful introduction. It's exactly the way I wrote it.

(Laughter.)

GOVERNOR SCHWARZENEGGER: Thank you.
This is really fantastic. And first, I want to say congratulations to all of the recipients that are here today, that have received this great award. So congratulations to all of you. Give them a big hand for their great work that they have done.

(Applause.)

GOVERNOR SCHWARZENEGGER: I love this award, because -- obviously, I've gotten many awards, but this one is very meaningful, and I think you've pointed it out, because it comes, first of all, from you, it comes from the Air Resources Board, it has the name Haagen-Smit.

(Laughter.)

GOVERNOR SCHWARZENEGGER: I mean, that's like what a genius he was. I mean, to be one of the first, if not the first, to really talk about smog, and what is smog all about and how deadly it can be.

And he was one of the greatest scientists - really breakthrough stuff. And so he's one of those great immigrants that has contributed a lot to this country and to the world. And on top of it, I just thank the world of it that Ronald Reagan was smart enough to appoint him, not to look at party -- we don't even know what party affiliation he had, but to just appoint the top person in the world to the position of leading the Air Resources Board. So, to me, that is also a great part of the story.
If you think about it, it was 50 years ago -- now, this year we are celebrating the 50th anniversary of the Air Resources Board. So 50 years ago, Governor Ronald Reagan appointed him to be the Chair of the Air Resources Board. I mean, Haagen-Smit was the man.

Now, 50 years later, you have Trump appointing Pruitt to the EPA.

What happened?

(Laughter.)

GOVERNOR SCHWARZENEGGER: What happened?

This is so sad. But this is why I'm so proud of this award, because this man was a brilliant, brilliant man. And I just want to say also that the Air Resources Board has done such an extraordinary job in this last 50 years is really unbelievable.

And, of course, I want to say thank you very much to you, Mary, for doing such an extraordinary job. Because we have done really great work when I was Governor. And with the help, of course, of Senator Pavley, who is here today with us, my partner, who was really the genius behind all of this, and wrote the bills, knew all the details. What a great partner she was. We traveled to Washington. We lobbied together, and all this. It was really great, where Democrats and Republicans truly worked together to solve those problems.
And it was really great to work with her and to come up with great ideas. For instance, the hydrogen highway, or to make a commitment to have 50 percent of renewables rather than just 15 percent, or to go and reduce greenhouse gases by 25 percent by the year 2020, and 85 percent by the year 2050, and the Green Building Initiative, and the list goes on and on and on.

But I have to say that the smartest and the best decision that I've made when it comes to the environment was to appoint you, and Sandra Berg to be Chairing this Committee.

(Applause.)

GOVERNOR SCHWARZENEGGER: Because when this position became available, I had to look for the best person in the world. And I looked, and I looked, and there it was right in front of me, the person that was really an expert in cap and trade. You did actually when they made the agreement under the Bush Administration about acid rain, you were the one on the -- during the Clinton Administration that came in and actually did it, successfully did it.

And this is why I said that is the person that we need here to Chair this committee. And so -- and you came out here. You accepted the job. So thank you very much, because without you, none of this would have happened
because we, governors and legislators, we come and go, and we come and go, and we come and go.

(Laughter.)

GOVERNOR SCHWARZENEGGER: But you are dug in here like Alabama tick.

(Laughter.)

GOVERNOR SCHWARZENEGGER: And you do the follow-through, because it's one thing to talk about, and to pass laws, but it's a whole different thing to then actually make the action happen and to turn it into reality. And this is what you and the entire Board does. So I want to congratulate all of you for the great work that you have done. So big hands to all of them for the great work that you have Accomplished.

(Applause.)

GOVERNOR SCHWARZENEGGER: And we all know that it was not easy. We all have gone through the battles. I mean, we have seen the moments when the naysayers came out and said this -- when you pass those environmental laws, it will send California right down with the economy. Jobs would be lost, and the whole State would go in the ocean.

And how wrong they were. We even had the federal government fighting us on every step of the way, but we recognize that never, ever to say no, and to back off. We pushed, and we pushed. It even went to the Supreme Court
and we won in the Supreme Court, that the Supreme Court
decided that, yes, greenhouse gases is a pollutant, and
yes, we can regulate our own air.

So this we fought and fought. I remember the
days, and you remember when all the car manufacturers came
to my office and they said we are going to bury you.
We're going to spend millions and millions of dollars
against you and try to scare me.

(Laughter.)

GOVERNOR SCHWARZENEGGER: So told them, I said
we're going to terminate you.

(Laughter.)

GOVERNOR SCHWARZENEGGER: And they backed off,
and now we have nationally the emissions standard, which
was really fantastic. So this the kind of work we have
done here. So I just want to say that I'm proud of the
work that we've done. We didn't do it just for ourself,
but we did it also as inspiration to the -- for the rest
of the world, because now other states are inspired here
in the United States, and the whole world is inspired by
the great work that has been done. So thank you very much
for the great work that you've done, and thank you for
this great award.

Thank you.

(Applause.)
CHAIR NICHOLS: Those of you in the front should turn around and look to the back, because we've been joined by quite a few of our staff here who wanted to be here for this part of the program. So there's some vacant seats, but thank you all for coming.

And finally, Gina McCarthy for her dedication to a suite of national and international environmental policies. She'll be introduced by Board Member Dan Sperling.

BOARD MEMBER SPERLING: Until recently, our work here in California has received strong support from our federal counterparts at the U.S. EPA. Major progress was made on a number -- of range of environmental issues, most importantly climate change. It was made possible by Gina McCarthy.

Today, we recognize Ms. McCarthy for her leadership on a broad range of climate policies, while serving as administrator of the U.S. Environmental Protection Agency from 2013 to 2017. Her tenure as U.S. EPA administrator heralded a paradigm shift in national environmental policy.

Expressly linking climate change with global public health, she leaves a long-standing legacy for the nation and the world. Gina McCarthy worked with the United Nations, with the World Health Organization, and a
variety of other international groups on pollution and climate efforts, and represented the U.S. on global initiatives to reduce high risk sources of pollution.

Her experience prepared her well to become a Professor of Practice of Public Health at Harvard University and Director of Harvard's Center for Health and the Global Environment. In these roles, she will lead initiatives in climate -- climate science, health and sustainability.

Many of us were honored to hear Gina's insights at the recent celebration of CARB's 50th anniversary at UC Davis, where she displayed her wit, her wisdom, and I searched for a good word, but her spunk.

(Laughter.)

BOARD MEMBER SPERLING: Mary, who knows her better than me, said that's exactly the right word.

The California Air Resources Board is honored to bestow Gina McCarthy with a Haagen-Smit Legacy Award.

Gina couldn't be here today, but she recorded a video for us to share.

Please play the video.

MS. McCARTHY(via video): Hi. Listen, I'm sorry that I couldn't be with you. I really want to thank the Board for this tremendous honor. I know that Haagen-Smit was just a role model for all of us who understand how
important it is to understand the science. He taught us
connections that existed, and we found ways to solve
those, so that we'd protect public health and our precious
natural resources. So this honor really has left me
speechless, except as all you know, I'm never speechless.

So it's wonderful to share this honor with such
tremendous leaders, my colleagues that I have known for
years that are really my role models and my heroes. So I
want to congratulate them. But I also want to recognize
that in today when we're challenged at the federal level
without the kind of leadership that we need, it's
important for us to do two things.

One is to recommit to the science, to make sure
that we follow Haagen-Smit's excellent model on how we
tackle our problems, we face them, we recognize the
science, we make those technical corrections, and we solve
our problems as we always do in the United States.

So let's celebrate our successes. Let's
recommit. Let's challenge our ourselves, not just to
solve the problems of the 20th century, but to make sure
we set a future for our children that is going to be as
healthy and clean and bright and safe as we all want it to
be.

So again, thank you for this tremendous honor.
Congratulations to my hero honorees. I wish I could be
there, but I will be with you in spirit.

    Thanks so much.

    (Applause.)

CHAIR NICHOLS:  Okay. Thanks to all. We now have -- let's see -- well, there's many pictures, but what are we doing a picture of -- yes, yes, yes, I know, but I have some other things to do first.

    Sorry.

    (Laughter.)

CHAIR NICHOLS:  Before we move on to having a picture, we have a couple of additional statements here. We have -- one of the things that's changed about the Board over the course of 50 years, it contracted, and then it expanded again. And it expanded in large part because our mandate expanded with AB 32, and then SB 32, and the scope of responsibility. I think the legislature realized that they couldn't just delegate it to an agency and walk away, that they really wanted to have a stronger role in seeing that implementation was happening the way that they hoped it would.

    And so, in very recent years, we have actually acquired not only additional appointees, who serve as regular Board members, but we also have two additional ex officio Board members representing the Senate and the Assembly. And we are very pleased that they have been
active Board members. They have contributed to our deliberations over the years, as well as serving a liaison function between the Board and the legislature.

And today, both of them have asked to be with us specifically in order to present resolutions from their respective Houses.

So I will start, I think this is the right way to do it, with Senator Lara.

SENATOR LARA: Thank you. Good morning. It's great to be here with you all today as we celebrate true visionaries and vanguards in our movement for not only the environment, but environmental justice issues. I think it's not only inspiring for us, as members of the legislature, to see the tremendous work that not only can be done, we can decouple our economy from carbon and still succeed, and be able to now democratize our environmental policies, so that everyone benefits from the work that we're doing in this great building and in our State Capitol.

And moving now towards an era where we utilize the resources to create incentives for business to be our partners continues to make us the leaders worldwide, as we continue to democratize the policies.

And so to see so many folks that have been here before us, and it just reminded me again that we stand on
the shoulders of so many people that have lead the way,
especially in times that, you know, people didn't seem
that it was going to be feasible or even possible to
achieve where we are at today as Californians and as a
State.

And to be part of this august body as we
recognize these tremendous leaders is something that's
very important. I can't help but reflect on the fact that
Assembly Member Hector De La Torre and I come from the
same area, and to see that, you know, we continue to fight
for some of our most environmentally impacted communities
at this level is inspiring to see.

And as we move forward now, and continue to
demonstrate in the legislature that we're going to double
down now more than ever on our efforts to not only
continue to fight for clean air, but that we recognize our
role globally, and the responsibility that globally as
Californians to lead.

And this continued partnership that we have with
the ARB now continues to only strengthen our position
internationally as we continue to fight the good fight.
But I want to personally thank on behalf of the California
State Senate all our honorees today, and particularly our
Vanguard former Governor who continues to lead the way and
demonstrate that immigrants get the job done.
(Laughter.)

SENATOR LARA: And we do it very well, and that we continue to emphasize the importance of fighting for everyone, and ensuring that everyone has an opportunity to succeed, and they succeed if they have clean air, regardless of the zip code where they live. You all have done that great work.

We continue in your spirit. We continue to fight the good fight in the legislature, and on this Board to continue to move the work that you all have done forward. So thank you and congratulations.

(Spoke in Spanish.)

CHAIR NICHOLS: Thank you.

(Applause.)

CHAIR NICHOLS: And now I would also like to introduce our Assembly Member Eduardo Garcia. And he will also make a presentation.

ASSEMBLY MEMBER GARCIA: Thank you, Madam Chair. I will be brief and thank Senator Lara for taking the lead on preparing what will be resolutions in recognition of all of the individuals being recognized today.

Thank you for your role in leading -- in the world, as it relates to the issue of climate change, and today, as we now talk about environmental justice issues in the same communities that Senator Lara mentions that I
too represent. The collective intellect and achievements of the group that is being recognized today shall be and will be credited for extending the life expectancy of millions of people around the world via your leadership on this issue, and we thank you for that.

At the same time, as was mentioned by our Governor Arnold Schwarzenegger, the economics that have always been talked down when it comes to environmental policies, we've proven that to be not true. We've debunked those theories that pushing environmental policies could also mean economic vibrancy for our state, for our country, and certainly throughout the world.

I oftentimes get asked in the Coachella Valley, part of my district, why are you involved on all these issues related to climate change? Why is it that these issues have become a priority for you?

And I have to respond with just pointing to the Salton Sea in my backyard. And a body of water that's drying up due to many reasons, and the public health implications, and the economic implications to that region. And although people in my region may not see that as a climate change issue, when you put it into that perspective, it begins to resonate why it is important for the legislator from the Coachella Imperial valley who represents the border regions be involved on this very
important issue of climate change and environmental justice policies here in the State.

So on behalf of my 79 colleagues in the Assembly, and I include our Republican colleagues, our 79 colleagues and our leader of the House, Speaker Rendon, we want to congratulate you and thank you for your visionary leadership on this issue. And, of course, to the staff of ARB, thank you for your work. And onward with another 50 years of great work here in California, and throughout the country.

Thank you.

(Applause.)

CHAIR NICHOLS: It wouldn't be a birthday without two more things, photos and cake.

(Laughter.)

CHAIR NICHOLS: So we're going to do both. We're going to break now, and the Board will ask our honorees to stay for a few minutes to take some photos. And we invite everyone to go on a break to the Sierra Room, where we have a cake and some other refreshments also. So thank you, and we will be adjourned until 12:30 when we'll come back and resume.

Thank you.

(Off record: 10:46 a.m.)

(Thereupon a lunch break was taken.)
AFTERNOON SESSION

(On record: 12:29 p.m.)

VICE CHAIR BERG: Good afternoon. And welcome back. We're going to reconvene.

I'm going to take over the duties for our Chair Nichols. As we could tell this morning, her voice was a little bit challenged, but her enthusiasm certainly was strong throughout the morning. So it's my pleasure to take over for her this afternoon.

We are going to reverse our order, and going to ask Mr. Corey to make a presentation, based on this morning and how it exciting it was to real relive the first 50 years and really get that energy. We're really looking forward to Richard Corey's report, and his priorities for 2018.

The Board made significant progress in 2017, and once again will be advancing a wide range of initiatives for 2018. He will provide an overview of the major efforts that will occur in 2018, as well as actions that will become before the Board.

Mr. Corey, will you make your presentation.

(Thereupon an overhead presentation was presented as follows.)

EXECUTIVE OFFICER COREY: Yes. Thanks, Vice Chair Berg. Last year, I referred to '17, when I was
talking about 2017, the plans for 2017, as what I really viewed as, at least since I've been at the agency 33 years, our most ambitious year on record.

Strike that now.

(Laughter.)

EXECUTIVE OFFICER COREY: Strike that, because we're going to be talking about 2018, and how significant it is and the great, great opportunities it's going to present.

So with that, to close out the 50th anniversary, CARB's first Board meeting, I'm going to briefly describe the work we'll be doing over the coming year and highlight some of the significant actions this Board will be considering.

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EXECUTIVE OFFICER COREY: So let me start with some of our accomplishments over this last year.

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EXECUTIVE OFFICER COREY: Earlier today, you saw a presentation that looked back at the air quality improvements over the last 50 years. The Board's five decades of stewardship has led to exceptional air quality progress, continuing technological innovation, and environmental leadership both nationally and internationally, and 2017 was no exception.
EXECUTIVE OFFICER COREY: In 2017, you adopted three plans. These plans set the roadmap for efforts over the coming years. Each of these plans drew from a common core of new strategies, proof of the interconnected nature of our public health and climate goals.

In March, the Board adopted the State Implementation Plan strategy, which describes CARB's commitment to achieve the mobile source and consumer products emission reductions needed to meet federal air quality standards over the next 15 years. Also, in March, the Board adopted a plan to reduce short-lived climate pollutants, defining the actions we need to immediately slow global warming by cutting the emissions of these super pollutants.

In December, you adopted the Climate Change Scoping Plan, which lays out a roadmap for California to achieve the 2030 GHG reduction target of 40 percent, 40 percent, below 1990 emission levels.

EXECUTIVE OFFICER COREY: In 2017, the legislature passed two key pieces of legislation that will define our work for the coming decades. AB 398 extends the Cap-and-Trade Program to 2030, and designates it as an important and necessary part of California's post-2020 GHG
reduction efforts.

Also, passed last year was AB 617, one of the most significant air quality bills in the last several decades. It recognizes that while California has seen tremendous improvement in air quality, not all communities have benefited equally from these efforts. CARB's technical, planning, and policy expertise play an important role in the administrations and legislator's drafting of these two bills.

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EXECUTIVE OFFICER COREY: We made further progress to meet health-based air quality standards by adopting 11 ozone and PM2.5 SIPs. The map on the right shows where these SIPs were adopted. The SIPs included strengthened controls for NOx and VOCs, SOx and PM, and a diverse range of stationary and area sources, plus large reductions from upcoming rules for cars, trucks, and freight equipment.

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EXECUTIVE OFFICER COREY: The scoping plan that you approved at the end of the year provided comprehensive strategies to achieve California's 2030 target, and frames the path for a long-term reductions -- long-term reductions to meet the state's 2050 goal.

The Short-Lived Climate Pollutant Plan
outlines ways to reduce emissions of methane, black carbon, and fluorinated gases. To begin implementing the plan, CARB convened a dairy and livestock working group to address technical, market, and regulatory issues needed to reduce methane emissions from dairies.

CARB has also been working with CalRecycle to support their regulatory development to achieve organic waste reduction targets. You also adopted the nation's most stringent oil and gas methane regulation that's expected to achieve more than a 40 percent emission reduction, and result in significant co-benefit reductions in both VOCs and toxics, including benzene.

The State continued to enjoy the benefits of California climate investments in 2017. Since its inception, the legislature has appropriated more than 6.1 billion for the programs. This year that included 250 million to secure early reductions of air pollutants in the state's most burned communities.

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EXECUTIVE OFFICER COREY: To implement AB 617, we created the Office of Community Air Protection and appointed Karen Magliano as the director of the new office. Karen is working closely with Veronica Eady, our newest Assistant Executive Officer to lead the Community Air Protection Program. Staff has expanded outreach and
engagement activities targeting disadvantaged and low-income communities across all programs as well.

CARB staff and local air districts hosted four informational meetings in different parts of the State in fall 2017 providing an opportunity to the public to engage in discussions related to the development and implementation of the Community Air Protection Program.

Staff worked with other State agencies and stakeholders to develop guidance for targeting California climate investments in disadvantaged and low-income communities, and we continue to prioritize clean transportation funds to disadvantaged communities, and low-income communities and households to ensure the cleanest technologies are deployed in the most impacted parts of the State, and to improve access to clean transportation in these communities.

Finally, staff prepared the refinery emergency air monitoring assessment report that provides recommendations for improving emergency and routine air monitoring at California's major refineries.

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EXECUTIVE OFFICER COREY: In December, the Board approved the 660 million funding plan for clean transportation to increase the use of zero and near-zero emission cars, trucks, buses, and freight equipment. The
plan includes a substantial increase in funding for freight projects.

In administering incentive funds, we increased outreach in disadvantaged communities in partnership with community groups, and other State agencies. We launched a new moving California website to highlight funding opportunities for individual, businesses, local government and nonprofit organizations.

2017 was the first full year of implementation of our new Supplemental Environmental Projects Policy designed to better benefit disadvantaged communities. In 2017, we funded more than 15 projects totaling more than $2 million.

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EXECUTIVE OFFICER COREY: Between 2008 and 2017, CARB programs have replaced or upgraded 38,000 trucks, 10,000 transportation refrigeration or transport refrigeration units, 300 marine vessels, 160 locomotives, 128 pieces of cargo handling equipment, and installed shore power for ocean-going vessels at 37 berths.

In 2017, CARB continued extensive enforcement of its diesel programs. Highlights include resolving drayage truck violations at railyards across California, assessing substantial penalties for historical cargo handling equipment violations at ports across the State, and
continue to streamline enforcement of the Truck and Bus Rule.

In response to Governor Brown's July 2015 executive order, on sustainable freight, staff continued to work with government agencies, and interested stakeholders in developing and implementing the Sustainable Freight Action Plan.

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EXECUTIVE OFFICER COREY: And, of course, one of our highlights for the year was a groundbreaking for the new Southern California laboratory. In addition, we selected a design/build contractor and are proceeding with the final design and construction phase of the project. We anticipate move in in early 2021.

And we're proud that the new facility will achieve the highest possible LEED rating, Platinum, and perform as a zero net energy facility. To give you an idea of what the new facility will look like, we have a short video of a 3D fly-through of the new lab.

(Thereupon a video was played.)

EXECUTIVE OFFICER COREY: I can't think of a more fitting year than the 50th anniversary of this organization to have broken ground on this complex that will really serve us and really serve the public of California and beyond with respect to public health.
protection and GHG reductions for many decades to come as a tool for our staff, and many others. We're very, very excited about this.

So back to my core presentation.

EXECUTIVE OFFICER COREY: We've also moved to ensure our policies can properly -- be properly implemented and defended in response to actions taken by the federal administration. Working with the California Attorney General's office, and allies in other states, we filed suit to compel the federal government to implement and enforce existing law, and to resist federal roll backs.

Our efforts are also helping to ensure that our vehicle emission reduction efforts go forward, key ozone standards are implemented, federal methane rules go into force, and that the Clean Power Plan goes forward.

We'll continue to collaborate with our technical partners at U.S. EPA and elsewhere on low NOx heavy-duty technologies. And untimely, we need to -- as we move forward with a federal standard.

We're also laying the technical groundwork now and are moving ahead with a cleaner standard that can be used as a model for action, not just across the country, but outside of that to focus on one of our largest
sources, which is the heavy-duty sector for NOx.

On a separate front, we've also been applying the lessons learned in the Volkswagen case and other investigations to vigorously enforce our regulations, and work with our federal partners to ensure emission reductions in the SIP are met.

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EXECUTIVE OFFICER COREY: The accomplishments I just highlighted are the foundation for our future efforts. Before I walk through the specific Board action items, I'll briefly describe the overarching -- or rather overarching priorities for CARB's work in 2018.

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EXECUTIVE OFFICER COREY: So as I noted when I opened 2018 is going to be a big year as we expand our community focused air protection. AB 617 sets out a very ambitious implementation schedule. CARB must set the overall direction of the program by October 1 of this year. The statewide strategy will establish a strong framework and outline criteria for the development and CARB review of community emission reduction programs.

The air monitoring plan will evaluate the availability and effectiveness of air monitoring methodologies and existing community monitoring networks. Staff released a draft concept paper yesterday for the
statewide strategy and the community selection criteria. We're aiming to release a complete draft in May, and a final draft in late summer for your consideration at the September Board hearing.

We're also coordinating closely with the air districts on the program. They play a key role throughout, but especially in the development of the local community emission reduction programs. We plan to update you on the implementation efforts on AB 617 at next month's Board hearing.

Public engagement is the most important part of the community air quality program. We've just had a kick-off meeting with the public consultation group last week, and we'll be hosting three regional summits later this month. We're also targeting next week for the solicitation of community capacity grants for the five million the legislature appropriated for local community groups to participate in the AB 617 implementation.

We'll also continue to work with the air districts to administer the 250 million the legislature appropriated to support early reductions in impacted communities.

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EXECUTIVE OFFICER COREY: And we're moving quickly on the implementation of the adopted scoping plan.
In 2018, we'll be updating the Cap-and-Trade Program to conform to AB 398, making Low Carbon Fuel Standard the more stringent, working on SB 350 integrated resource plans for the electricity sector, and developing a natural and working lands implementation plan.

In 2017, we linked our Cap-and-Trade Program with Ontario. We're on track to hold our first three-way auction with Ontario and Quebec on February 21st. Low Carbon Fuel Standard remains a key strategy in our portfolio to address GHG emissions and reduce dependency on fossil fuels.

The scoping plan also placed a renewed focus on the critical role natural and working lands play in meeting our long-term climate goals. We'll continue coordinating with the Natural Resources Agency, and the Department of Food and Agriculture on this effort.

We'll also be developing a natural and working lands implementation plan, and will publish a comprehensive inventory by the end of the year.

For the short-lived climate pollutant implementation effort, CARB will continue to work with the Dairy and Livestock Working Group. Staff will also conduct two rulemakings to reduce emissions of HFCs that are also short-lived climate pollutants.

Finally, as we briefed you in December on SB 375,
staff will put forward a new approach that places a
greater emphasis on evaluating the specific land use,
transportation strategies, and investments, as well as
enhanced tracking of implementation measures -- actions by
the MPOs.

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EXECUTIVE OFFICER COREY: In October, we plan to
present to the Board regulatory concepts for light-duty
vehicles and an update on national vehicle regulatory
action by U.S. EPA and the National Highway Traffic Safety
Administration, or NHTSA.

We're ensuring that EV charging infrastructure is
moving forward and have several initiatives planned.
These include implementation of the Volkswagen Zero
Emission Vehicle Investment Plan, a 2018 regulatory item
on EV infrastructure open access requirements, and
partnering with CEC and the PUC to evaluate utility-funded
infrastructure investments.

We're also expanding the outreach and education
for ZEV buyers. We're redesigning our DriveClean consumer
website and supporting the statewide ZEV campaign.
Additionally, we'll continue to ensure real world emission
reductions by pursuing key defeat device cases, including
Fiat Chrysler.

On the low carbon fuel front, we plan to
strengthen the Low Carbon Fuel Standard as I mentioned by
adding a more ambitious program target through 2030, and
adding third-party verification, as well as participation
of renewable jet fuels in the program.

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EXECUTIVE OFFICER COREY: We'll continue our
comprehensive efforts to reduce emissions from the
heavy-duty sector as well. To further reduce the health
impacts from the freight sector, staff will begin
developing regulatory proposals focused on transitioning
freight equipment to zero and near-zero emission
technologies.

Staff is also working to develop a freight
handbook to encourage the use of the cleanest available
engine and equipment technologies at freight facilities.
The handbook will also provide recommendations for the
siting, design, and operation of freight facilities to
minimize or avoid community health impacts.

In coordination with CAPCOA, staff is revising
the risk assessment guidelines document for gasoline
service stations. And in coordination with South Coast --
the South Coast Air District, staff is assessing
opportunities to reduce toxic metals, including the
evaluation of potential amendments to the chrome plating
control measure.
EXECUTIVE OFFICER COREY: Those are the broad themes for the year. Let me now briefly walk through the major regulatory actions that will be coming to the Board later this year.

EXECUTIVE OFFICER COREY: In spring and summer, the Board will consider a number of mobile source regulations. The Replica Car Regulation will allow classic cars to be available for sale, and be as clean as other new cars.

The Clean Cars 4 All Program extends the success of the Scrap and Replace Program to continue to reduce air pollution and helping low-income consumers access clean transportation.

There will be six regulations -- or rather addressing heavy-duty vehicles from inspection program, to clean transit, to zero-emission airport buses. The program will also hear regulations -- or rather the Board will hear regulations on refrigerant and foam HFCs, consumer products, and enhanced vapor recovery for gas stations. The Loa Carbon Fuel Standard amendment and a fuel cell GHG standard are also in store.

EXECUTIVE OFFICER COREY: In the fall and winter,
the Board will consider regulations on EV charging, fuel
tank specifications, off-road recreational vehicle Red
Sticker Program, and zero-emission airport ground support
equipment.

We're also planning heavy-duty regulations,
including on-board diagnostics, and advanced clean trucks.
Staff will propose amendments to gas station overpressure,
mandatory GHG reporting, and cap -- under cap and trade as
well as electrical SF6, sulfur hexafluoride in air cleaner
regulations.

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EXECUTIVE OFFICER COREY: In addition to the
regulatory items, in September, staff will bring the
community air quality program to the Board for your
consideration. The package will include a list of
recommended communities, a statewide strategy that
outlines criteria for local emission reduction programs,
and a statewide plan establishing criteria for air
monitoring.

Next month, staff will present proposed updates
to the SB 375 GHG reduction targets. And mid-year staff
will bring a comprehensive PM2.5 SIP for the San Joaquin
Valley. This plan will address multiple PM2.5 standards
and identify reduction opportunities from stationary and
mobile sources.
In 2018, the Board will consider over $1 billion in incentive investments to deploy clean technologies, reduce emissions in disadvantaged and low-income communities, and increase access to clean transportation for low-income Californians.

The Board will also consider the plan for investing California's share of the national Volkswagen Environmental Mitigation Trust. We'll bring our low-carbon transportation and AQIP funding plan to the Board later this year as well.

Lastly, we'll be taking a longer range approach for our research planning, shifting from an annual plan to a three-year cycle. That will come to you mid-year.

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EXECUTIVE OFFICER COREY: As I wrap-up, CARB has been clearing California skies for 50 years, as was evident in the presentations earlier today. California's long-standing air quality programs and cutting-edge climate change programs have set examples for other states, the federal government, and other nations to follow.

CARB's leadership is even more important now when progress stalls at the federal level. We cannot do this alone. I need to emphasize the important partnerships at all levels of government, local, State, international, the
private sector, and NGO community, and EJ community to help us achieve our goals. These partnerships have been a cornerstone -- a cornerstone to our success.

Here are just a few. We're working with coalitions of partners on climate change as part of the Governor's Under2MOU effort, the Climate and Forests Task Force, as well as the Pacific Coast Collaborative, U.S. Climate Alliance, and Western Climate Initiative. And I'm please to say that we're working even more closely with air districts than ever before on meeting air quality standards and the development of the Community Air Protection Program.

And we're providing technical and coordination support for the global climate action summit that Governor Brown is hosting in San Francisco in September. This conference, formed at the request of the United Nations, will bring together subnational government participants and businesses across the globe to establish greenhouse gas reductions commitments. Our collaboration is just not on policy issues, but basic and applied research as well as the examples show.

We'll also continue to work with our partners to do even more, to build on the success successes to date as we move forward over the next 50 years. We'll continue to demonstrate that clean air, progress climate go hand in
hand with the economic growth.

EXECUTIVE OFFICER COREY: And on a personal note, on behalf of all CARB staff, I want to thank you for your leadership. Your guidance, direction, and engagement in the hearing room and throughout the implementation of our programs is fundamental - fundamental to CARB's success in protecting public health.

A recent example is the role Dr. Balmes is playing by chairing the AB 617 Consultation Group. We're grateful to Dr. Balmes for his insights into the health burdens these communities face, and the impacts of air pollution, and of the development of reduction plans.

The engagement and leadership of this Board covers the full spectrum of issues from freight, trucks, agriculture, environmental justice, incentives, and many more.

In the coming year, I expect our actions will increase and your guidance and direction will continue to be needed as we move forward with our mission.

So thank you. And as always, I and the executive team and CARB's amazing staff, which I'm understating this by saying -- referring to them as an amazing staff, look forward to working with you on the coming year, where we're energized and up to the challenge.
So thank you.

VICE CHAIR BERG: Well, thank you, Richard.

There's no question year after year when we hear this update and especially the things we've done the previous year, and then see what we have on our plate going forward, it's both an exciting time and a time of anxiousness figuring out how we're going to get all of these priorities done.

But at the end of the year, this group never fails, and it is really remarkable everything that has been accomplished for 2017. And I'm sure on behalf of the Board, congratulations. Please thank your staff, because we know there's an army behind you that works very hard and tirelessly and we really do appreciate their passion and commitment.

I'd like to turn to my fellow Board members and see if we have any comments? Any other questions?

Well, I have 30 seconds in which to -- I'd like to just take a moment to thank CAPCOA. CAPCOA sponsored our reception this morning, and that's a wonderful example of not only partnership in the trenches, but when it comes time to celebrate, they're always so very generous. And so we would really like to thank them for that.

And I think with that, Madam Chair, I think we're straight up 1:00 o'clock.
VICE CHAIR BERG: And so we can -- thank you again, Richard. Great, great report.

So we're going to go ahead and tackle our last agenda item, and that is the proposed phase 2 California greenhouse gas emissions standards for medium- and heavy-duty engines and vehicles, and proposed amendments to the Tractor-Trailer Greenhouse Gas Regulation.

As we celebrated with great prior this morning, California has been the leader in reducing greenhouse gas emissions since the passage of Assembly Bill 32, the California Global Warming Act of 2006.

Madam Chair, it seems like that was almost yesterday.

VICE CHAIR BERG: And so -- but great work that's been accomplished since then.

CARB adapt -- actually adopted the Tractor-Trailer Greenhouse Gas Regulation in 2008 as an early action item measure. This rule was the first regulation in the nation to reduce greenhouse gas emissions from heavy-duty vehicles, by improving the aerodynamics performance and reducing the rolling resistance of the tractor-trailers.

Over the last decade, both Governor
Schwarzenegger and Governor Brown reaffirmed California's commitment to reducing greenhouse gases via Executive Orders.

In 2016, the California legislature did the same passing Senate Bill 32, which aims to cut California's greenhouse gas emissions to 40 percent below 1990 levels by 2030.

Since heavy-duty trucks are a significant and fast-growing part of the total greenhouse gas emissions, CARB staff made development of a greenhouse gas standard for these sources a high priority. From 2013 to 2016, CARB staff worked closely with U.S. EPA and the National Highway Traffic Safety Administration, or NHTSA, to develop phase 2 greenhouse gas standards.

Recognizing the benefits of a unified national program, we were pleased to partner with them in those efforts.

CARB submitted extensive formal comments on the federal agency's Notice or Proposed Rulemaking and for the federal phase 2 standards in October of 2015, asking for numerous improvements. In August 2015, Chair Nichols attended a U.S. EPA hearing in Long Beach on the proposed phase 2 standards, and testified on California's need for stronger standards.

The U.S.A. -- U.S. EPA made numerous improvements
to the proposed standards as a result of CARB's comments, and in October 2016, finalized the phase 2 program California could support.

As we look ahead, it's very important that we ensure that the standards continue to be implemented and enforced successfully.

Mr. Corey, would you please introduce this item?

(Thereupon an overhead presentation was presented as follows.)

EXECUTIVE OFFICER COREY: Yes. Thanks, Vice Chair Berg.

The federal phase 2 standards are technology forcing, more ambitious, and longer term than those of phase 1. Staff's proposal substantially harmonizes with the federal phase 2 standards with minor California differences that are necessary to ease enforcement aligned with existing California programs, and provide incentives to bring advanced technologies to market.

We're also addressing U.S. EPA's proposed glider repeal and threats to the trailer portion of the phase 2 standards. This phase 2 proposal includes restrictions on the production of high emitting glider vehicles, which staff believe are crucial for protecting public health and preventing the circumvention of emissions standards.

If the federal glider requirements are repealed,
it will allow unlimited numbers of old, remanufactured engines, with little or no emission controls to be placed in new truck bodies and sold as new trucks. Such uncontrolled glider vehicles can emit up to 40 times the NOx, and up to 450 times - 450 - the particulate matter compared to compliant new trucks. The staff presentation will go into greater detail on the glider issue, and how we intend to address it.

If the federal trailer standards are revoked, CARB staff plan to propose amendments to our existing tractor-trailer GHG regulation to make up for the lost emission reductions. I'll now ask Mitzi Magtoto of the Mobile Source Control Division to begin the staff presentation.

Mitzi.

MSCD AIR RESOURCES ENGINEER MAGTOTO: Thank you, Mr. Corey. Good afternoon, Vice Chair Berg, Chair Nichols and members of the Board.

Today's presentation is about our proposed California phase 2 standards designed to reduce greenhouse gas emissions from heavy-duty on-road vehicles. I will also discuss the proposed amendments to Tractor-Trailer Greenhouse Gas Regulation.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Let's start
with the outline of my presentation. First, I will provide background information on medium- and heavy-duty trucks and the current greenhouse gas standards.

Second, I will give an overview of the federal phase 2 standards as adopted in October 2016. And since this is a day of celebration, staff would like to take a moment to celebrate that achievement.

Staff worked closely with U.S. EPA and industry in the development of the federal phase 2 standards for several years. It was a massive rulemaking, and will substantially improve the fuel economy and reduce greenhouse gas emission from a wide spectrum of heavy-duty vehicles, putting in place the strictest and most comprehensive heavy-duty greenhouse gas standards in the world.

Next, I will present staff's California phase 2 proposal. This proposal would largely align with U.S. EPA's phase 2 rulemaking, and would ensure a single national program for heavy-duty greenhouse gas vehicles and engines. But there are some proposed differences, which include additional reporting and credit generation, which I will also discuss later.

Then, I will talk about recent efforts at the federal level to potentially overturn their already adopted phase 2 trailers and glider requirements, and how
we might respond.

Finally, I will discuss our recommendation.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: So let me start with some background. Addressing medium- and heavy-duty truck emission is essential. Such trucks account for 1/5th of the greenhouse gas emissions from transportation sector nationally, and are the fastest growing segment of the transportation sector in both the U.S. and worldwide.

Similar to their contribution on a national basis, medium- and heavy-duty trucks over 8,500 pounds in California emit about a fifth of the total transportation greenhouse gas emissions. That's why these phase 2 standards are so critical; without controlling this significant source adequately, it will not be possible to meet our ambitious greenhouse gas reduction targets.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: As a background, in 2011, U.S. EPA and National Highway Traffic Safety Administration, or NHTSA, adopted the first national greenhouse gas and fuel economy standards for heavy-duty trucks, the phase 1 standards.

The phase 1 medium- and heavy-duty standards cover three categories: tractors; vocational vehicles,
including utility trucks, box trucks, and garbage trucks; and large pick-ups and vans. In 2013, CARB harmonized with the federal phase 1 greenhouse gas standards for heavy-duty vehicles. This harmonization included making our existing tractor-trailer greenhouse gas regulation consistent with the federal program.

CARB's adoption of the phase 1 gave manufacturers the ability to certify in California and gave CARB the authority to enforce the regulatory requirements.

The phase 1 rule was designed to get off-the-shelf greenhouse gas emission reduction technologies onto 2014 model year and newer trucks. This rule will reduce heavy-duty carbon dioxide emissions in California by about 12 percent in 2030.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: I will now move on to discuss the phase 2 greenhouse gas standards.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Staff worked closely with U.S. EPA and NHTSA over the past several years on the development of the phase 2 greenhouse gas rule. In fact, we met weekly with the federal agency teams for nearly two years. We submitted extensive comments on U.S. EPA's Notice or Proposed Rulemaking, or NPRM, for phase 2.
In response to our input, U.S. EPA strengthened their proposal. The outcome is a phase 2 program that California can support and that will allow manufacturers to continue to build a single fleet of vehicles and engines for the U.S. market.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: In October 2016, the U.S. EPA and NHTSA published a phase 2 rulemaking, and we provided at the time an update to the Board describing the rulemaking.

The phase 2 regulations are technology forcing, while being affordable and flexible, and were supported by engine and vehicle manufacturers, as well as environmental groups.

Nationally, phase 2 will save over 82 billion gallons of fuel, cut carbon dioxide by over one billion metric tons, and save vehicle owners $170 billion in fuel costs. Thus, phase 2 will help stabilize our climate, and reduce our reliance on foreign oil.

The expected payback to truck owners is two years for tractors and trailers, three years for pick-up trucks and vans, and four years for vocational vehicles.

Phase 2 will dramatically improve fuel economy for heavy-duty trucks. As an example, for long-haul tractor-trailers, fuel economy is expected to improve from
about six to about nine miles per gallon. Also, as I'll
discuss at great length later in the presentation, as part
of the phase 2 standard, U.S. EPA closed a loophole that
allowed glider vehicles to circumvent the emission
standards.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: The federal
phase 2 regulations established carbon dioxide standards
building on the phase 1 structure - regulating tractors,
vocational vehicles, and large vans and pickups. Phase 2
also introduces trailer requirements for the first time.
The phase 2 standards are more ambitious than
those of phase 1, requiring more than just off-the-shelf
technologies to comply. The requirements begin with model
year 2018 for trailers, and model year 2021 for engines
and vehicles, and are phased in through the 2027 model
year.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: In 2017,
the U.S. EPA announced plans to revisit two aspects of its
phase 2 regulation to respond to concerns of the trailer
and glider industries. Staff is very concerned with both
of these issues and believe their reasons for revisiting
the requirements are unfounded and arguably illegal.
First, in response to a lawsuit filed by the
Truck Trailer Manufacturers Association, U.S. Court of Appeals has stayed the requirements for trailers.

Second, U.S. EPA has proposed to repeal the glider restrictions contained in the phase 2 rulemaking. As a background, a glider is a new truck chassis with new body parts such as the entire chassis frame and cab with an older refurbished diesel engine. Gliders typically are built with engines with no diesel particulate filter and no NOx after-treatment, and hence have much higher emissions than modern compliant trucks.

U.S. EPA's final phase 2 regulation included limits on the number of high-emitting gliders that could be produced. Those limits took effect beginning on January 1, 2018. But in response to a petition from the largest glider manufacturer, U.S. EPA has now proposed rolling back these Limits.

I will discuss these issues in greater detail later in the presentation.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: The proposed California phase 2 regulation largely harmonizes with the federal phase 2 program in structure, timing and stringency. It also provides CARB with the ability to certify engines and vehicles to the phase 2 standards and to enforce the requirements in California.
There will be some minor differences between California phase 2 and the federal phase 2 rules. These differences are necessary to facilitate enforcement, aligned with existing California programs, and provide additional incentive for manufacturers to bring advanced technologies to the market.

At the same time, we also propose to amend our existing tractor-trailer greenhouse gas rule to provide another pathway for compliance for fleet owners.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Overall, the federal phase 2 program in California plus the California distinctions are expected to result in a reduction of over 200 million metric tons of carbon dioxide equivalent emissions in California from 2019 to 2050.

This is equivalent to saving over 20 billion gallons of diesel fuel in the same time period. The table shown here provides emission benefits in California from the California phase 2 program.

In 2030, the phase 2 program is expected to lower carbon dioxide emissions beyond phase 1 levels by an additional 13 percent. By 2050, those reductions will grow to 24 percent. These percent reduction go a long way towards achieving our greenhouse gas goals set by Assembly
Bill 32 and multiple Governor's Executive Orders.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: I will now move on to discuss California phase 2 differences.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Although staff's proposal is largely aligned with the federal phase 2 regulation, we are proposing a handful of California differences as shown in this slide. I will go into further detail on the more important differences in the next few slides.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: First, I should note that California proposes to verify certification information independent of U.S. EPA, just as what we do for nearly all vehicle emission standards. In order to certify to California's phase 2 regulations, manufacturers would be required to submit certification documents directly to CARB. Staff would independently review these documents before issuing an executive order. CARB certification would be required for trucks sold new in California. Staff's proposal would forego the "deemed to comply" approach used in phase 1 for certifying engine in vehicles to greenhouse gas emission standards.

Industry has raised concerns that this will
require additional review time on the part of CARB, and therefore cause delays in the decertification review and approval process. To address industry concerns, staff is looking for ways to further streamline upfront certification.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: In the federal phase 2 program, manufacturers of motor homes, coach buses, transit buses, school buses, refuse trucks, cement mixers, and emergency vehicles have an option to certify those vehicles with a less stringent process called "custom chassis". Custom chassis standards are significantly less stringent than the primary vocational standards and include a simplified certification process.

Staff is proposing to align with this provision for all the vehicle types I just mentioned, except for transit buses. Less stringent custom chassis standards are not necessary for transit buses, because both battery and fuel-electric buses are commercially available for transit applications. In California, there are already nearly 450 fuel cell and battery-electric buses in operation or on order.

Due to the advanced technology credits in the phase 2 program, a transit bus manufacturer can meet the primary vocational standards by manufacturing relatively
few zero-emission buses, no more than two percent of their
total production.

Staff's proposal would require the manufacturers
of California certified transit buses that certify to the
custom chassis standards to retire extra credits. This
requirement would discourage transit bus manufacturers for
certifying to the less stringent custom chassis standards
and would incentivize the introduction of advanced
zero-emission technology in the transit bus sector.

Staff is proposing one 15-day change to transit
bus custom chassis requirements as suggested by a
California manufacturer of transit buses. The change
would allow transit bus manufacturers to comply with our
phase 2 requirements by producing a certain percentage of
zero-emission buses.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: At
California's urging, U.S. EPA included advance technology
credits in the federal phase 2 program. Federal phase 2
offers credit multipliers for three types of advanced
technologies: plug-in hybrid electric vehicles,
all-electric vehicles, and fuel cell vehicles as shown in
the table.

In addition to these multipliers, we are
proposing to include credits for low global warming
potential refrigerants with a multiplier of 1.8. In our initial proposal, we specified that advanced technology credits could only be granted for actions that go beyond any requirements for manufacturers to produce such vehicles. Staff now believes it is preferable to incorporate this restriction in the context of any future regulatory actions that establish requirements for such vehicles, as part of future advanced clean local truck rulemaking, for example. Hence, we are proposing a 15-day change to that effect.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: In addition to tailpipe carbon dioxide limits, the federal phase 2 standards include limits on refrigerant leakage. These are important, because current refrigerants have extremely high global warming potential, over a thousand times that of carbon dioxide.

Staff's proposal would establish California reporting requirements to make the federal leak limits more enforceable.

Manufacturers would need to submit schematics and spreadsheets with leakage calculation. Staff has worked with affected manufacturers to limit the proposed air-conditioning reporting requirements so that they provide adequate information to CARB, while not presenting
an undue administrative burden on manufacturers.

Without the proposed air-conditioning reporting requirements, the possibility of air-conditioning leakage going unchecked would be greater, and the potential impact of refrigerant leakage on global warming would be increased.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Staff's proposal would require new pickup trucks and vans, class 2B and 3, to have a consumer window label similar to that required for light-duty vehicles that would have to be displayed at the time of sale.

The information on the label may influence consumers to buy more fuel-efficient, lower-emitting vehicles as they would be able to compare vehicle choices based on greenhouse gas and smog ratings.

Staff is proposing a 15-day change to revise the rating from letter ratings, A to J, to letter grade rating A+ to D, and make some other minor clarifications.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: I will now discuss gliders and trailers, the parts of the phase 2 program the new federal administration has proposed changing and our proposed response.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Staff's proposal would require trailer manufacturers to comply with the same requirements as outlined in the federal phase 2 program, except the implementation in California would begin two years later with the 2020 model year.

The proposed amendments would also take into action, the trailer provisions in phase 2, and give trailer fleet owners the option of complying with tractor-trailer greenhouse gas regulation by using a phase 2 certified trailer or a trailer retrofitted with phase 2 compliant aerodynamic technologies and tires.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: After U.S. EPA finalized their phase 2 rule, the Truck Trailer Manufacturers Association filed a petition with the U.S. Court of Appeals requesting the rescission of the federal phase 2 trailer standards. As I previously mentioned, this has resulted in a stay of those standards.

What this means is that trailer manufacturers are currently not required to comply with the federal phase 2 trailer requirements. And the U.S. EPA no longer processing trailer certification applications. However, the federal phase 2 trailer standards have not been rescinded. They remain on the books while U.S. EPA reconsiders them.
If U.S. EPA were to take action to rescind the trailer requirements, they are required to do so in an open and public process, and would issue a Notice of Proposed Rulemaking indicating their intent.

All that being said, the stay of the trailer requirements does not affect California's authority to establish standards for trailers. Staff is recommending the Board adopt the federal phase 2 trailer standards as they existed in October 2016 with minor modification that they will take effecting starting with 2020 model year trailers.

However, in the light of the stay, we are proposing a 15-day change, because California's phase 2 trailer requirements would not become effective until the 2020 model year, staff proposes to establish interim procedures to satisfy our existing tractor-trailer greenhouse gas rule until then.

These procedures would allow CARB to review and approve phase 2 aerodynamic performance and low rolling resistance tire test data not currently being processed by U.S. EPA.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Whether the U.S. EPA rescinds the phase 2 trailer requirements or not, CARB plans on implementing the California phase 2 trailer...
certification requirements and the modified Tractor-Trailer Greenhouse Gas Rule that is provided for your approval today.

If U.S. EPA ends up rescinding the trailer requirements, there will be a loss of benefit in California from uncertified trailers that were sold outside of California and travel within the State. To offset this potential loss in benefits, staff would propose further modifications to our Tractor-Trailer Greenhouse Gas Rule in the 2019 timeframe. This modification would expand the applicability and increase the stringency of the rule.

Owners of trailer fleets that travel in California, regardless of their State or country of origin would be subject to the new requirements.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Moving on to the glider issue. A glider kit is a chassis and cab assembly that is produced by a vehicle manufacturer without a new engine transmission or rear axle. A third party then typically install a used engine, transmission, and/or rear axle to complete assembly of the vehicle.

Glider kits are legitimately used when compliant trucks are damaged, leaving chassis unusable but the engine in tact.
Recently, a sharp increase in the glider sales has occurred from a mere 1,000 vehicles sold nationwide per year in 2010 to more than 10,000 in 2015. It is surely by no means a coincidence that during this same time period glider manufacturers have advertised their glider kits as a way to avoid the use of diesel particulate fillers and NOx control technologies. Some advertisements have even called for dialing back the emissions clock. Thus, it is clear that gliders are increasingly being used as a loophole to avoid purchasing engines that meet current emission standards.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Citing concerns that the increase in glider vehicles production would uncontrolled emissions if left unchecked and could soon double total NOx and diesel PM emissions from heavy-duty trucks, U.S. EPA closed the glider loophole as part of the phase 2 rulemaking. Except for an exemption of up to 300 gliders per year for small businesses that have already been producing gliders, the federal phase 2 rulemaking would require glider engines to be certified to the criteria and greenhouse gas emissions standards corresponding to the model year in which the glider vehicle is assembled.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: To put things in perspective, here is why staff is so concerned about a potential repeal of the glider requirements.

Currently glider vehicles are typically equipped with uncontrolled engines that were produced in the 1990s before after-treatment was required. U.S. EPA recently tested two typical glider vehicles and two common emission-controlled heavy-duty vehicles under the same conditions. Glider NOx levels were four to 40 times higher, and PM levels were 50 to 450 times higher than the emission-controlled vehicles.

CARB's own testing confirms U.S. EPA's results. For glider vehicles measured during our field studies, NOx was four to 10 times higher, and PM was eight to 75 times higher compared to modern heavy-duty vehicles.

The photo shown here depicts a glider we found during one of our road-side campaigns spewing black smoke.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: If glider production continues unabated, U.S. EPA projects that there will likely be more that be 128,000 glider vehicles in 2025 representing about five percent of the nationwide on-road heavy-duty fleet.

U.S. EPA further projects that these gliders would result in 9,000 to 21,000 premature deaths and 40 to
140 billion dollars in economic harm nationwide. Needless to say, the increasing population of glider vehicles with old, high-emitting engines is of great concern. We know gliders are present in California, because we've seen them in our field campaigns and because at least 1,000 of them are registered in California.

On December 4, 2017, U.S. EPA held a public hearing on the proposed repeal of glider requirements. Representing CARB, Deputy Executive Officer Steve Cliff testified at the hearing urging U.S. EPA to uphold their existing glider restriction requirements. State agencies, truck and engine manufacturers, trade association including Truck and Engine Manufacturers Association, environmental organization, truck dealers, and private citizens testified, all opposing U.S. EPA's proposed action to repeal the requirements.

As a follow-up, last month, CARB partnered with stated environmental agencies from Pennsylvania, Vermont, and Washington and submitted detailed comments strongly urging U.S. EPA not to repeal glider requirements.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: Staff recommends that the Board adopt the phase 2 glider kit requirements as they existed in U.S. EPA's final rule, with one additional change that only 2010 and newer model
year engines would be allowed to be used in glider vehicles.

If U.S. EPA proceeds with a proposed repeal of glider requirements, CARB could legally challenge U.S. EPA's action. This legal action could be pursued in partnership with other interested parties, such as other State agencies.

We would also likely increase our enforcement activity to catch non-compliant gliders, and potentially encourage other states to opt in to our in-use programs.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: To wrap up today's presentation, I will discuss staff's recommendation.

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MSCD AIR RESOURCES ENGINEER MAGTOTO: In conclusion, staff recommends that the Board approve the proposed regulatory action along with the proposed 15-day changes provided in the handout. If the Board approves, staff will finalize the rulemaking. After that, to the extent required by the Clean Air Act, CARB will submit waiver requests for the appropriate portions of the rulemaking.

As I've described, the proposed regulations and amendments would reduce greenhouse gas emissions from
medium-duty and heavy-duty trucks as well as trailers, harmonize California requirements with federal requirements, enhance enforcement and implementation of existing regulation set the stage for future actions needed to meet our greenhouse gas reduction goals, begin to address the problem of dirty gliders, and seamlessly allow a tie-in with our existing programs, such as the Tractor-Trailer Greenhouse Gas Rule.

As I conclude my presentation, it is fitting that the Board would consider action on the phase 2 standards as part of the today's 50th anniversary celebration. If adopted, the California phase 2 standards will be an important part of improving heavy-duty truck emissions for decades to come.

VICE CHAIR BERG: Thank you very much for that very inclusive report.

If it's okay with the fellow Board members, we have 15 people signed up to testify. We'll go ahead and hear the testimony and then resume discussion.

Okay. For our audience, those testifying you will see your name right up here to my left. And if you would just come down to the podium, we'll start with Brian from California Engine Services.

MR. KOLODJI: Chair Nichols, Board members, this is -- I really thank God for being here today. It's an
amazing event. And for your -- and also for your
leadership in these -- in this regard.

Regarding this technology, and on the medium- and
heavy-engines, there's got to be a way to -- I'm for
the -- you know, we need to remove the 10 million -- 10
million tons of greenhouse gas that that's producing. And
the way -- if you just leave it in mobile source, as I
think is being concern, and except for there's some leeway
there talking about advanced technology. What we need to
do is make, I'm convinced, electric vehicles out of these
rather than using these greenhouse gas producing engines.
That's the ultimate direction we ought to be going.

And there's a main reason for that is that you
can't really capture that and make it zero percent
emission -- zero percent emission vehicles, okay -- is the
target here. You can't make -- you can't gain total
credit for those 10 million tons that are getting out in
the atmosphere unless you go electric vehicles with these
medium and heavy engines.

What -- why tech -- I have a technology that
requires stationary source removal, and stationary source
removal is not possible unless you go electric vehicles
with these size engines.

So there's -- and there's very little mention in
my opinion in the current rules. You're in the right
direction. It needs to be -- we need to gain access to these 10 million and remove them, but you're not going to get 100 percent removal unless you go electric vehicle. So I did give some handouts to the board members, and --

VICE CHAIR BERG: Yes, we did receive those.

MR. KOLODJI: -- those handouts show an actual pilot plant where we actually make a profit off of greenhouse gas removal now. This is the only technology out there today that actually has negative impact, and removes the greenhouse gas, and you actually make a profit with the removal using -- by making -- by rerouting the greenhouse gas to agricultural sources, it removes -- it reduces the amount of water requirement, and it reduces the amount of greenhouse gas that gets emitted in the atmosphere.

So you can't -- this -- this technology is only good for stationary sources. So if you have these mobile sources, you don't go electric vehicles, then you're going to -- you're going to lose. You can't do that.

So again, I'm a big proponent of the direction of Governor Brown and the CARB and going 100 percent electric vehicles in the state, if we can get them, including for heavy- and medium-sized engines. So that the stationary sources can remove, as a -- you know, power plants can be -- this can be removed a hundred percent.
Thank you very much.

VICE CHAIR BERG: Thank you.

MS. KANABAY: Distinguished, Board members. My name is Kate Kanabay. I'm here today on behalf of Autocar Truck, a small manufacturer of heavy-duty vocational vehicles located in Hagerstown, Indiana, and recently expanded to Birmingham, Alabama. Autocar supports GHG phase 2, and the underlying policy. We appreciate the opportunity to work with CARB staff and to talk with the Board today.

Autocar has been a leader in introducing lower-emission heavy-duty trucks. Today Autocar's natural gas trucks are collecting garbage and recycling on California streets, while running on Cummins near-zero engines, the cleanest gas engine available.

We are requesting two changes to the CARB regulations. EPA is prepared to implement these two changes through technical amendments to their proposed regulations -- to their phase 2 regulations. Unfortunately, as we've discussed with the new administration, we don't know when this will happen. But we've discussed our concerns with your staff, and understand that they'll work with Autocar and with EPA to adopt the changes.

The reason for the changes are two-fold. First,
Autocar is a small business. Small businesses are exempt in phase 1. So as of today, we have zero credits.

Second, phase 2 standards are particularly challenging when your truck rarely goes over 25 miles an hour, and stops hundreds of times in any given shift. Aerodynamics is not a word you can associate with garbage trucks, street sweepers, terminal tractors.

It will be particularly challenging for these types of vehicles to meet the phase 2 standards. And these technical challenges mean that we'll need to use credits in phase 2, while the technologies are coming to market.

EPA and CARB established the credit program for just that reason. Autocar's competitors, large companies with multiple products lines, selling hundreds of thousands of trucks per year, they're well positioned to generate credits with tractors, and use those credits to bring their vocational vehicles into compliance.

But Autocar can't rely on other product lines to generate the needed credits. We sold just over 2,500 trucks last year, and it was a good year.

We discussed this predicament with EPA, and together with EPA, identified two small changes that will fill in the gaps of the credit provisions for small businesses. One, extend our credit life, and two, allow
one more year for small businesses before phase 2 kicks in.

Our written comments provide additional detail. We'd like to thank the Board and staff for their work on behalf of the environment and the people of California, and on United States small business.

Thank you.

VICE CHAIR BERG: Thank you. Kristen.

MS. TADDONIO: Thank you for the opportunity to comment.

Thank you. The Institute for Governance and Sustainable Development and the Natural Resources Defense Council welcome the proposed phase 2 greenhouse gas emissions standard as written by staff.

Medium and heavy-duty trucks already account for nearly a fifth of California's on-road fuel use, as observed multiple times in today's presentation, and associated emissions. And as these trucks and vehicles are the fastest growing segment of the transportation sector, both in the United States and worldwide, we feel that it's important to take steps now to reduce that future emissions growth, and align American markets with global efforts to reduce the cost of these vehicles, both to owners and to the environments.

We find that CARB's rigorous and transparent
analysis is based on reasonable assumptions, and has
clearly shown that these steps are necessary to meet the
mandates of California's rigorous laws.

IGSD and NRDC applaud the inclusion of incentives
for manufacturers to use refrigerants with low global
warming potentials for heavy-duty vehicles. We find that
staff rightly observes that low GWP refrigerants have been
widely used in the light-duty sector, and that
opportunities exist to adopt tease refrigerants in medium-
and heavy-duty vehicles as well.

And CARB, we suggest, will want to work with
industry in the transition of these next generation
refrigerants to simultaneously reduce the mobile air
conditioning, greenhouse gas emissions, and associated
fuel use.

We support the 11 grams per year 1.5 percent leak
rate for all refrigerants regardless of GWP starting after
'21 -- 2021. And we agree with CARB that a low leak rate
for any refrigerant is important for maintaining proper
refrigerant size, which in turn is important to maintain
efficient operation, which benefits both consumers and the
environment.

We also applaud the use of industry standards,
such as SAE J2727 to assure compliance with these leak
rate standards. We think that that's commendable as are
the documentation requirements that are necessary to assure compliance.

Finally, we fully support cooperation of governments and industry in evaluating emerging technology that has a potential to reduce greenhouse gas emissions, in particularly the SL Mag system.

Thank you very much.

VICE CHAIR BERG: Thank you.

MR. GELLER: Good afternoon, Chair Nichols and members of the Board. My name is Michael Geller. I'm the deputy director for the Manufacturers of Emission Controls Association, MECA. MECA represents manufacturers of a variety of technologies that reduce both criteria and greenhouse gas emissions from all mobile sources, including the heavy-duty engines regulated under the proposed phase 2 standards.

We provided detailed written comments, so I'm just going to highlight a few thoughts today. We support this proposal which largely aligns with the federal standards set by EPA and NHTSA, and we thank staff for its diligent work in this area.

We believe an important opportunity exists to continue to reduce GHG emissions from medium- and heavy-duty engines and vehicles by applying the fundamental regulatory structure that has been effective
under phase 1.

The near-term reductions are technically feasible through deployment of readily available technologies. And the outyear requirements will be met with types of technologies demonstrated by the Department of Energy's SuperTruck Program.

MECA members are engaged in commercializing a large portfolio of technologies that will directly or indirectly reduce CO2 emissions. These technologies include, and we've discussed these in length with some of you and members of your staff, the advanced selective catalytic reduction catalyst, passive NOx absorbers and substrates, waste heat recovery, advanced turbochargers and turbo compounding, EGR system components, and other air management technologies, thermal management strategies, including insulated dual wall manifolds and exhaust systems, advanced fuel injection, ignition systems, and increasing amounts of electrified components.

Turbo compounding technologies and advance air management strategies are just beginning to be commercialized in heavy-duty applications. Others, such as rankine cycle systems for waste heat recovery and advances higher pressure injection are in the demonstration stage right now.

In addition, MECA members are transitioning
48-volt hybrid technology from the light-duty sector to heavy-duty vehicles. These technologies, which are just beginning to be commercialized on passenger cars, can be applied to the heavy-duty market and be particularly beneficial to light- and medium-, heavy-duty trucks in stop and go applications.

Some of these innovative electrified propulsion technologies didn't exist for the phase 1 standard program and are often dependent on credits or incentives to accelerate initial market penetration.

So MECA encourages ARB to extend the current advanced technology credits for the hybrid electric vehicles, which may not have plug-in capabilities, but can achieve significant CO2 reductions, such as 48-volt systems in the future past the model year 2020, which is now in the rule.

To conclude, we'd like to thank ARB staff for bringing you this proposal. And MECA congratulates ARB on a great day and 50 years of protecting the health and air quality of Californians, and making and demonstrating for the rest of the country and world. And we look forward to working together at additional opportunities to reduce GHG and NOx emissions from heavy-duty vehicles and engines to continue to help California attain its air quality goals. Thank you.
VICE CHAIR BERG: Thank you very much, Michael.

Good afternoon.

MR. SCHUCHARD: Good afternoon, Chair Nichols and members of the Board. Ryan Schuchard with CalStart. Really appreciate this agency's work to fiercely defend Californians against the ills of medium- and heavy-duty pollution, and to do so while making the State the hotbed of innovation for technology.

And we also really appreciate the hard work the agency has done to work with the federal government to align the standards with phase 2, something that we've worked very hard with. I had come to offer our qualified support, but in hearing the presentation I can remove the qualification. We were concerned about the advanced technology multiplier issue. I've got several bullets to share on why we think that's important, but I think that's been duly resolved from what I can tell.

So happy to take that up if we need to, but in the meantime I applaud staff for taking that forward and thank you again for your support.

VICE CHAIR BERG: Thank you very much, Ryan.

So while Tim is coming down, if you're the next person, if you could kind of make your way down and be ready to speak next, we'd really appreciate.

MR. BLUBAUGH: Good afternoon. My name is Tim
Blubaugh. I'm with the Truck and Engine Manufacturers Association, or EMA.

I would first like to wish ARB a happy anniversary. I thought I might also point out that EMA is celebrating its 50th anniversary this year.

(Laughter.)

VICE CHAIR BERG: Well, happy anniversary to you too.

MR. BLUBAUGH: Thank you. And I don't know if being born in 1968 makes us -- makes us your twin brother from another mother or your twin sister from another mister.

(Laughter.)

MR. BLUBAUGH: But what I do know is that we have, over the last 50 years, EMA and ARB have successfully reduced emissions from heavy-duty vehicles and engines.

ARB is proposing today to adopt rules that align with the second phase of EPA's -- of EPA's historic heavy-duty greenhouse gas emission -- Greenhouse Gas Vehicle Emission Program. As with ARB's adoption of the EPA's initial rules in 2013, we are in strong support.

As the primary manufacturers of medium- and heavy-duty engines and vehicles in the United States, EMA members provided tremendous technical input to EPA in
developing the phase 2 rules, based on our experience implementing the successful phase 1 rules.

EPA members strongly support a uniform nationwide heavy-duty greenhouse gas program. It is important to note that we not only supported the EPA's phase 2 greenhouse gas rule, but we also opposed reopening it.

Aligning standards across the United States is the only practical and effective way for manufacturers to reduce greenhouse gas emissions and to meet the needs of the nation's trucking industry. ARB committed to building on the successful foundation of the first phase of the greenhouse gas program by maintaining a nationwide standard with phase 2. We appreciate ARB's efforts to follow through on that commitment.

We have noted to your staff and in our written comments a few instances where ARB proposed greenhouse gas requirements deviate from the national program. Over the past year, we have worked constructively with your staff, and the staff has worked very hard to minimize those differences.

In some cases, the proposed rules still deviate from the federal rules in ways that, while not optimal, we are nonetheless willing to accept. However, there remain a few aspects of ARB's proposed rules that unnecessarily diverge from the federal rule and thus are inconsistent
with our mutually agreed principal of a uniform nationwide program.

We are hopeful that those remaining issues can be addressed with the 15-day notice. Unlike the existing first phase of the greenhouse gas program, ARB proposes to independently verify all phase 2 certification information. While under phase 1, ARB certification staff can interrogate any aspect of a manufacturer's certification submission to EPA, California's proposed phase 2 rule would require manufacturers to separately submit all certification documentation up front.

We have strongly recommended that ARB staff maintain the phase 1 approach and pick and -- where they can pick and choose, which aspects to interrogate.

Nevertheless, in light of the proposed separate certification, we stand ready to work with ARB staff to streamline the certification process in a manner that reflects our mutual commitment to a practical and implementable nationwide program.

VICE CHAIR BERG: Thank you very much.

MR. BLUBAUGH: Thank you.

VICE CHAIR BERG: And happy anniversary to you as well.

MR. BLUBAUGH: Thank you.

MR. MILLER: Good afternoon. My name is Paul
Miller. I'm deputy director of the Northeast States for Coordinated Air Use Management. We're the regional association of State Air Agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

I'm speaking today in strong support of staff's proposal, but also more broadly in support of California's long-standing statutory authority and in commendation of ARB's long-standing environmental leadership. Our states, and indeed the entire nation, have long benefited from California's unstinting commitment to cleaner air and lower greenhouse gas emissions.

The citizen in our states continue to be exposed to unacceptably high levels of air pollution, much of it caused by highway vehicles. In addition, many of our states face binding requirements to reduce greenhouse gas emissions dramatically by mid-century, requirements that cannot be met without deep greenhouse gas reductions from the transportation sector.

However, because our states are preempted under the Clean Air Act from writing our own emissions standards for new cars and trucks, we rely on California to develop regulations that maximize environmental benefits while ensuring continued economic growth.

As California's long-term growing economy
demonstrates, smart environmental regulation that prioritizes public health can absolutely go hand in hand with a healthy and expanding economy.

California's leadership has not only led to improved air quality and public health outcomes in the states that have adopted California's rules, it has repeatedly over decades established the basis for increasingly effective federal regulations by demonstrating and technical feasibility, and by creating, in combination with the other states adopting California's program, enough of a market pool to establish economies of scale for developers of advanced vehicle technologies.

We also commend ARB for its common sense approach to closing the so-called glider loophole for rebuilt diesel trucks. Like ARB, we have strongly opposed the effort to reopen this loophole and the federal rule, given the substantial increase in NOx and particulate matter emissions to occur under EPA's abdication of its mission to protect public health and the environment. It is simply unavoidable that states will look to other available means to limit or mitigate the resulting damage.

As you know, seven of our eight states for years have been partners with ARB in regulating light-duty vehicles with great success. Several of our states were sued by the automakers after first adopting California's
light-duty vehicle program, and successfully fought for their adopted programs in court.

Many of our states and others have also seen fit to adopt California's rules for heavy-duty engines in the past, when it appeared the federal government might shirk its responsibility at that time.

In fact, at no time have the federal vehicle requirements be strengthened without California first paving the way. If history is to repeat itself now, it is our intent that we will once again work with our states, other section 177 states, and California to continue our shared strong tradition in promoting, adopting, and defending clean vehicle programs.

I will close just quickly congratulating you for 50. NESCAUM is actually 51 years old.

(Laughter.)

MR. MILLER: I think we both predate the existence of the U.S. EPA, and I think that's a strong indicator of State leadership in addressing our shared air quality problems. And I think we're going to need that leadership in the future.

Thank you.

VICE CHAIR BERG: Well, on behalf of the Board, we'd really like to thank you for your partnership and standing with us. And it is a very valued partnership,
and thank you very much for coming and testifying.

MS. HOLMES-GEN: Good afternoon, Chairman Nichols and Board members. Bonnie Holmes-Gen with the American Lung Association in California. And happy anniversary. I want to also congratulate you on behalf of the American Lung Association and our network of health advocates in California and across the country. We depend on your leadership. We depend on the work you do to reduce lung disease, to prevent lung illness and to reduce all the hospitalizations and premature deaths, and the health costs that are a huge burden in California and across the country.

We are proud of our state's history and really proud to be a part of it. We support the adoption, of course, today of this phase 2 greenhouse gas rule as another step forward for clean air, and climate, and public health. And we specifically want to mention that glider loophole that was mentioned, that we support ARB's proposal to align this phase 2 rule with U.S. EPA's previously adopted 2016 regulation of glider kits. And this closing of the glider kit loophole is an important public health benefit, because these vehicles can produce as much as 450 times the particle pollution of certified advanced modern engines.

And I wanted to note that in January this year, a
dozen leading public health organizations across the country submitted comments -- including the American Lung Association, submitted comments urging the U.S. EPA to retain this existing federal glider truck rule on the basis of the lethal public health outcomes of allowing these dangerous older engines to operate.

So thank you for closing that loophole in this proposed regulation. Finally, of course, we continue to support as much action as possible to step up electrification in the medium- and heavy-duty sector and transition to battery electric and fuel cell. So we support the incentives and regulatory requirements that are going to move us further along the road to zero emission.

Thank you for your hard work and we support adoption of the rule.

Thank you.

VICE CHAIR BERG: Thank you, Bonnie.

Good afternoon.

MS. HENDERSON: Good afternoon, Chair Nichols and members of the board. My name is Alice Henderson. I speak on behalf of the Environmental Defense Fund. EDF fully supports ARB's proposal to adopt the phase 2 standards. Through its protective automotive standards, California has provided a half century of clean
air leadership as we've been noting throughout the afternoon. This leadership has provided far-reaching benefits across the state and the nation and it's critical that California continue that leadership.

We wanted to express our particular support on three particular areas. First, we support ARB's proposal to independently verify certification information submitted by manufacturers opting not to include a deem-to-comply provision. Omitting these provisions will preserve ARB's ability to implement the standards which is crucial given current questions about the U.S. EPA's willingness and ability to do so at the federal level, for example, given potential budget constraints that the agency faces.

Second, we support ARB's proposal to adopt the emission requirements for glider vehicles. As has been mentioned by numerous parties today, glider vehicles are significantly more polluting than modern heavy-duty trucks, because they use old engines that lack modern pollution controls.

Regardless of whether the U.S. EPA moves forward with its proposal to repeal these provisions from the federal standards, ARB can and should exercise its authority to protect its citizens from the dangerous pollution from these vehicles.
Lastly, we strongly support ARB's proposal to adopt the federal phase 2 trailer standards. Low-cost measures applicable to trailers can provide up to one-third of the overall GHG emissions reductions from tractor-trailers, garnering much needed reductions in fuel consumption and emissions from the fleet.

These standards will help to ensure a continued decline in greenhouse gas emissions from Heavy-duty trucks. As the federal trailer standards are currently stayed, and under reconsideration by EPA and NHTSA, we strongly support ARB's proposal to adopt and implement them here in California.

A robust final phase 2 program that puts heavy-duty trucks and buses on the trajectory toward reductions in net emissions and fuel consumption is imperative for safeguarding public health against dangerous air pollution and climate change.

We support strong standards that will improve our climate security, deliver cleaner air to communities, provide fuel cost savings to fleets and truckers, and save consumers money. And we respectfully urge the Board to adopt these standards which will deliver these benefits.

Thank you.

VICE CHAIR BERG: Thank you.

MR. TUNNELL: Good afternoon. Vice Chair Berg,
Chair Nichols, and members of the Board. Congratulations on your milestone today. It reflects a tremendous amount of time and commitment spent achieving remarkable results, so congratulations.

VICE CHAIR BERG: Thank you.

MR. TUNNELL: My name is Mike Tunnell. I am with the American Trucking Association. The largest national trade association representing the trucking industry.

We submitted joint comments with the California Trucking Association, so hopefully you have them in front of you.

ATA supports today's proposed adoption of the greenhouse gas emission standards and amendments to the Tractor-Trailer Greenhouse Gas Regulation. The ability to purchase new tractors and trailers that meet uniform standards throughout the nation and can operate across all 50 states, including California, is essential to the efficiency of the industry.

We believe the proposed adoption and amendments largely result in a harmonized national approach, which we support. We would ask the Board to incorporate California's share of the NOx reductions, which result from burning less fuel and were quantified in the U.S. EPA rulemaking into the state's air quality plans. This was not reflected in the staff report.
Finally, we have concerns about the impacts of California-only provisions on fleet modernization. The ability to purchase and operate new equipment is a key component in lowering emissions. We are concerned the added cost, not only from this proposal, but from upcoming proposals will serve to discourage new equipment purchases.

We ask the Board to consider how its policies are affecting purchasing patterns in the state. We want to make sure the actions of this Board serve to incentivize fleet modernization rather than inadvertently promoting the purchase and use of older equipment?

Thank you. We appreciate your willingness and your staff's willingness to engage us on these issues.

VICE CHAIR BERG: Thank you, Michael.
BOARD MEMBER SPERLING: Can I ask something?
VICE CHAIR BERG: Oh, yes. Oh, we have a quick question here for you.
BOARD MEMBER SPERLING: What exactly are you talking about? What is it -- right here. What are you concerned about? What rules that are going to slow down fleet modernization relative to the national standards?
MR. TUNNELL: So the greenhouse gas regulations you're adopting today will add about $12,000 to the cost
of a tractor-trailer, and $1,000 to a fit -- 12,000 to a tractor, 1,000 to a 53-foot trailer nationally.

You have provisions in there that have additional costs that will further increase that cost. You have warrantee requirements you'll hear later this year. You'll have onboard diagnostic requirements, which are State only. So your state will have some additional costs on top of the costs that are being added on nationally.

And our concern, there's data out of the Diesel Technology Forum that shows California is 48 -- or 46th ranking in the number of 2011 newer trucks in the fleet. So we're -- our concern is that a lot of these additional costs are in effect deterring the modernization of fleets.

BOARD MEMBER SPERLING: So no -- but you're not referring to anything that is before the Board in this particular action?

MR. TUNNELL: In this particular action, just be aware there are added costs -- California-only costs in this action, in combination with future action, but we do support your adoption today.

BOARD MEMBER SPERLING: Okay. Thank you.

VICE CHAIR BERG: Good afternoon, Steve.

MR. DOUGLAS: Good afternoon, Vice Chair Berg, Chair Nichols. I'm Steve Douglas with the Alliance of Automobile Manufacturers. And the Alliance represents 12
car companies, but today I'm speaking on behalf of four members: FCA, Ford, General Motors, and Mercedes-Benz that produce heavy-duty vehicles.

First, I wanted to congratulate you on the 50 year anniversary. Fifty years seems like such a long period of time. And then I realized as I was walking over, I've been working with ARB and the staff for almost half of that history.

So either maybe 50 years is not really that long, or maybe it's just so much fun, it goes by fast.

(Laughter.)

MR. DOUGLAS: On this specific issue, I first wanted to thank the ARB staff for their hard work on it throughout this effort. And actually for the full 23 years I've been working ARB staff, they are always transparent, they're open, they're available for meetings to discuss, debate any issues in their regulation. And we sincerely appreciate that. They don't always agree. We don't always agree, but they always gives us a fair hearing and that's what we ask for.

On the issues today, first, on the glider issue, we fully support the ARB's staff position on that. We've registered our opposition to EPA's proposed reg changes on that, and we'll work with ARB staff on the future.

And then for the other regulations, while we
recommend including a deem-to-provide -- a deem-to-comply provision, and some other minor technical changes, we fully support the ARB staff proposed changes to this regulation, and we'd recommend that the Board approve those.

And thank you for your time.

VICE CHAIR BERG: Thank you.

MR. CALDWELL: Madam Chair, members, I'm John Caldwell. I represent the California Electric Transportation Coalition. CalETC supports CARB's efforts to ensure strong California phase 2 GHG emission standards, and tractor-trailer GHG regulations, and to harmonize the standards with the federal phase 2 standards.

These standards will be important to reach our air quality and climate goals, and to ensure zero-emission vehicles succeed in every segment of the transportation sector.

Related to zero-emission vehicle success, we have submitted a letter recommending a few changes to the staff proposal. Specifically, we recommend the standards retain the existing credit multiplier for plug-in electric and fuel cell vehicles, regardless of whether a zero-emission technology is mandated for another car regulation.

We also have concerns with the certification
language that currently applies to zero-emission electric vehicles. And in our letter, we recommend two clarifying additions to this section.

Given how challenging transitioning the heavy-duty vehicle market to zero-emission technologies will be, and the inherent costs associated with the transition, it is imperative that CARB encourage and incentivize advanced technology vehicles. We believe these changes will ensure California continues to lead the transition to zero-emission technologies in all transportation segments.

VICE CHAIR BERG: Thank you.

MR. EDGAR: Good afternoon, Chair Nichols Vice Chair Berg, Board members. Sean Edgar. I'm the Director of CleanFleets.net here in Sacramento and happy anniversary. I consider myself a new kid on the block. This is only my 18th year in dealing with the -- implementing the diesel risk reduction and your staff. And it's been a wild ride the past 18 years.

I've seen a lot activity. Primarily, my activity has been in implementation of the fleet rules, specific to vocational trucks, which I want to spend a minute talking about.

So our group is proud to represent the folks that operate the majority of trash trucks, dump of trucks, and
concrete pumps here in the State of California. So just
to zero in on the issue you heard from Kate Kanabay
relative to small volume severe service vocational truck
manufacturers. There's some accommodation that I think is
needed for those, because this is a team sport.

Ultimately, the fleet owner, who's impacted by
your fleet rules and who's also being provided some
incentives to modernize has got to make decisions. And
having a fair playing field for OEMs to participate in,
where the truck manufacturers are able to continue to
offer products that comply with the phase 2. So the small
volume manufacturers, you heard from them, that some
accommodation would be needed.

And so we'd appreciate you considering those as
you work toward finalizing the package before you,
specifically that Autocar Truck comments that are before
you. Just to zero in on one reason close to home why
that's important. Zero Waste L.A.

So the Zero Waste L.A. recent franchising of
commercial waste in Los Angeles, put out over 400
natural -- new natural trucks, many of those with clean
near zero emission engines in them. And about half of
those trucks happen to be Autocar, half of the trucks were
other folks. But the point is there that the cleanest
technology just to tie it in, Mr. Corey was talking about
your Sustainable Freight Strategy and how important it is that the cleanest available technology for the near future and maybe Tesla other manufacturers two, three, four, five years out may have a severe service truck available, but for the refuse collection companies that still operate about 7,000 diesel vehicles in the State, for over 20,000 diesel dump trucks in the state, for over 400 diesel concrete pumps in the state, if you're going to allow cleanest technology to be built in, in terms of the engine technology, the manufacturing of the base vehicle itself, we know that they're not that amenable to the aerodynamics and other things that are required of the phase 2 regulations.

So once again making accommodation for them will be really important to allow the users of those vehicles who can roll-out some of the cleanest engines to be able to have a vibrant competitive marketplace available to them, regardless of the size of the manufacturer.

So thank you for allowing me to testify today. Available for any questions you may have, and thank you for continuing your good work.

VICE CHAIR BERG: Thank you.

MR. MAGAVERN: Good afternoon. Bill Magavern with the Coalition for Clean Air. Congratulations on a half century of cleaning up the air and saving lives.
We've been with you for almost all that time. The Coalition for Clean Air was founded in 1971 in response to that same Southern California smog crisis that was described so vividly this morning.

We support the proposal in front of you now. In fact, I think that for air quality policy, 2018 is going to be the year of the truck, because this is the first one of many measures, both regulatory and incentive measures, that you're going to be facing as the year goes on. There's also a couple bills in the legislature that could help to reduce emissions from trucks. So this is one of the pieces.

I think in terms of the glider loophole, the federal administration's move to reopen the glider loophole is another particularly shameful example of their willingness to put polluter profits ahead of public health. They're essentially wanting to allow taking a dirty old engine and dressing it up on the outside, and then letting it spew particulate matter into the air.

So we very much support your move to prevent that happening at least here in California. We also agree with the trailer provisions to further reduce greenhouse gas emissions from trucks. And finally, we appreciate the incentivizing of zero-emission buses, because there are now so many excellent options in both battery electric and
fuel cell electric buses with zero tailpipe emissions, as Senator Florez recently pointed out in an excellent article that he wrote.

Thank you.

VICE CHAIR BERG: Thank you. And our last speaker.

MS. NAGRANI: Yes, that would be me.

VICE CHAIR BERG: Oh, hi. How are you?

MS. NAGRANI: Is this on?

My name is Urvi Nagrani. And I'm coming Motiv Power Systems. And firstly, congratulations on 50 years of good work. I hope we have another century or more to follow. The proposal in front of you today, I widely agree on, but there are specific provisions that would be problematic as a provider of zero-emission technology. And the key things are that if you look at the phase 2 regulations, it's very unclear what is the process if you want to sell a commercial chassis with a zero-emission powertrain as a brand new vehicle.

And this is something that I've now spent the last six months talking to CARB staff, EPA staff, and being able to get pretty much as many answers as there are people in the room.

This is something that if you want to see a proliferation of zero-emission technologies, needs to be
streamlined, because it is very hard for a small business to not be able to sell because they don't yet have the necessary approvals from the State of California.

At the EPA level, we've been told that the memorandum 1A from 1974, because we are putting a zero-emission powertrain onto an already certified chassis is completely legal, but we're told that might change.

At the same time in the regulations themselves, I am told check out CFR 86, 87, 130 -- 1036, 1037. And there's a lot of circulatory language that doesn't really apply to the emissions needed -- the emission regulations needed for traditional fossil fuel.

So, for example, a zero emission shuttle bus, versus a zero emission school bus, versus a zero-emission drayage track are all going to be zero emissions. They'll all have the same family emission level of zero. Yet, you have to file for every single one of those subcategories if you were to apply phase 2 equally to these vehicles as to their fossil fuel counterparts.

So while a drayage truck that is powered by diesel will have more emissions than a school bus powered biodiesel, they will all still have zero emissions, if you put the same powertrain in.

Right now, there's no clear regulatory pathway. And you're seeing technologies emerge out of the Energy
Commission which are technically viable and have no regulatory framework in which to operation. So I would strongly urge the Board to consider the language that CalETC proposed, because I do think that would create a pathway at least and would enable staff to have a clear guidance to give to the industry.

Furthermore, I think, if they're going to be regulations specifically in the zero-emission powertrain space, there was a back-end change to your email notification system, and the Zero-Emission Powertrain Work Group alerts now go to the diesel group. And so the last work group I found out about it after it had already happened, and was asked why I wasn't there by somebody from the diesel space.

I also found out Proterra wasn't there, BYD wasn't there, the California Electrification Transportation Coalition wasn't there, Sierra Club wasn't there. Lots of people who care a lot about environmental justice and zero-emission solutions didn't show up because of a technical glitch on the back-end of CARB's alert system.

So I think, one, we need to be cognizant of that, and two, we need to ensure that if we are proposing regulations, we are doing so in a timeline that allows everybody to be in the room without any sort of these
back-end problems interrupting the necessary dialogue, because it's very important that we do this right.

VICE CHAIR BERG: Thank you very much.

So first, I would, given that we have concluded the public testimony, I would now like to close the record on this agenda item. However, the record will be reopened with -- when a 15-day notice of public availability is issued.

Written or oral comments received after this hearing date, but before the 15-day notice issue will not be accepted as part of the official record on this agenda item.

When the record is reopened for the 15-day comment period, the public may submit written comments on the proposed changes, which will be considered and responded to in the Final Statement of Reasons for the regulation.

So with that, I'd like to turn to my fellow Board members to see if we have any additional questions of staff?

Professor Sperling, you want to kick us off?

BOARD MEMBER SPERLING: I've got lots of questions --

(Laughter.)

BOARD MEMBER SPERLING: -- and comments.
All right. Do you want me first or last?

VICE CHAIR BERG: No, why don't you go first. I saw you feverishly writing over there, so...

(Laughter.)

BOARD MEMBER SPERLING: You know, a first comment is that these are incredibly important rules. And the truck regulations have lagged both for, you know, criteria pollutants, as well as greenhouse gases, and fuel consumption behind light-duty by decades, but we are catching up.

And there's been reasons for that to happen, but I think it's really -- you know, it's really good to see this progress. Now, having said that, so I have followed this heavy-duty rule. And, you know, I was kind of surprised it came up, because I thought we already approved it a year and a half ago. And I was told, well, that was just an informational briefing.

(Laughter.)

BOARD MEMBER SPERLING: But the first -- you know, so I've followed it, and there's been a lot of studies. There was a reference to a SuperTruck Program. There is reason to think it could be even more aggressive. Now, I'm not advocating that, because this is a big process. But I want to say that there is a lot of potential still for even more improvements in the
efficiency of heavy-duty trucks. And there's a lot of technologies that have been demonstrated.

And as we get -- if we're really concerned about climate change, then we should think that down the road we've got -- you know, we'll be doing even more, and should be doing even more and thinking about that.

Having said that, the glider rule I think that's a no-brainer. It's, you know, embarrassing what's happening in Washington in terms of the -- you know, what's happening there with the glider rule. It was part of the program, so I'm glad we're doing that.

I did have a question. Why are there only three other states that have joined us on the proceeding? I thought there were lots and lots of states that agreed with us on this. So that's my first question to staff.

MOBILE SOURCE CONTROL DIVISION ASSISTANT CHIEF CARTER: I can perhaps answer that. Yes, there were many states that supported what we were doing, but the three states that we mentioned, those are just signatories to the actual letter that we wrote.

BOARD MEMBER SPERLING: So when -- if we pass -- so this is all part of the Section 177 process, or could be, right. So other states could be adopting what we adopted here, is that right?
CARTER: Well, each of the states could do their own thing, yeah, but as long as it applied -- the only -- the 177 states can only do what we do in terms of new vehicles. So they could set the same kinds of restrictions that we have, yes, for new vehicles.

BOARD MEMBER SPERLING: Oh, but not the glider issue and not the trailer issue, is that what you're saying?

MOBILE SOURCE CONTROL DIVISION ASSISTANT CHIEF CARTER: Well, by default, they could. I mean, by default they would if they adopted out a program that gliders would be part of that, because we don't allow that in gliders, or certification for gliders.

BOARD MEMBER SPERLING: I think that was a yes, but...

MOBILE SOURCE CONTROL DIVISION ASSISTANT CHIEF CARTER: Well, yes, sorry.

(Laughter.)

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: Could I just add a little bit? So what we're adopting today would essentially make it illegal to produce gliders in California. But that's more symbolic than anything else, because nobody is making them in California now. And the states that have signed on, that's not where they're being built either.
We weren't able to get Tennessee's support for our letter, and that's where most of the -- most of this is -- is happening. But some choices that states, other than California, have to address this problem, if the federal agencies do go forward with the glider repeal, and there's a lot of gliders being built, other states could consider adopting something like our Truck and Bus Rule that would put restrictions on these vehicles in use.

BOARD MEMBER SPERLING: Okay. Good.

Credit trading -- is credit trading allowed in this program between manufacturers?

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: Yes, it is.

BOARD MEMBER SPERLING: So that would address some of the concerns that were laid out, like hybrid trucks, you know, that are not plug-in but just hybrid. There would be incentives for companies to do that, so that by just selling the credits to the other companies, just like Tesla with the ZEV rule, you know, has -- you know, makes thousands of dollars per vehicle, is that right?

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: It's true, but there -- so we are putting some restrictions on like the 3.5 multiplier for hybrids. And so manufacturers that chose to make hybrids that don't
comply with that wouldn't get those extra credits. So I'm not sure if it would be helpful to tell them well you could buy the credits from another manufacturer.

So I think there's some desire that we not put those additional restrictions on, but we feel they're important.

BOARD MEMBER SPERLING: It's just the opposite, isn't it? If you -- if someone does a very efficient truck, and then they get whatever multipliers might be available for it, and they get those credits that they can sell to other companies, isn't that right?

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: No, that's true too.

BOARD MEMBER SPERLING: Okay.

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: So you can generate more credits that you need yourself and sell them to your friends.

BOARD MEMBER SPERLING: And so what about truck -- what about bus -- electric bus -- like Proterra and BYD, for instance, they can sell -- they can now -- just like Tesla does actually -- you know, the analogy is with the light-duty rules greenhouse gas. So Proterra and BYD could sell credits for their electric buses to any of these other manufacturers, is that right?

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF
HEROY-ROGALSKI: Yes, it is.

BOARD MEMBER SPERLING: Okay. I'm -- these are good answers. I like this.

(Laughter.)

BOARD MEMBER SPERLING: I do want to endorse the -- so I want to make sure there was a provision put in attachment G about if we adopt some kind of electric truck type rule that the credits that the companies can still accrue credits for those electric trucks in this regulation. Because the way the rule was originally written, they would disappear, but the new change, as I understand the attachment G is that if we adopt some kind of ZEV rule for trucks, then those -- those companies making those trucks -- electric trucks can still get those multiplier credits, is that right?

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: What you said is correct. What we've done is essentially put off the decision on how to treat these credits to when those future requirements would be adopted.

So, for example, if the advanced clean local truck rulemaking goes forward, they'll need to work out what they want to do for adjusting phase 2 credits, if anything. Staff's opinion is still that those credits should be adjusted, because if you offer these multipliers
up to 4.5, 5.5, and then manufacturers are required to
to make a lot of zero-emission heavy-duty vehicles, that's a
great thing, but that would essentially mean that they
don't have to do anything else to comply with phase 2.

So a lot of improvements that we're counting on
for things like aero improvements, light-weighting, that
kind of stuff wouldn't need to happen, because they would
meet the entire program just by making the electric
vehicles that we're requiring them to make.

BOARD MEMBER SPERLING: Well, I agree we should
look at those multiplier numbers again, if we do it, but I
don't -- but I disagree in the sense that they should be
taken away. I understand it's a double counting
phenomena, but I think that we've learned that we've got
to do -- if we're really serious about electric trucks,
we've got to really go full bore to make that happen. And
double crediting, I think, is perfectly fine, and even
desirable in this case. We don't want it to be abused.
And so I agree we should look at those numbers, but I
think the concept is sound the way it is now being
revised.

And the last point is just the last speaker
there, I don't know exactly what she was talking about,
but it sounded important.

(Laughter.)
BOARD MEMBER SPERLING: And I was wondering -- so it's something about -- as I understood, it was something about certification for smaller suppliers of zero-emission trucks, and that there's -- it's challenging to get them certified, is that right?

VICE CHAIR BERG: Well, it sounded like -- it actually sounded like there was not a pathway for them --

BOARD MEMBER SPERLING: Or not a pathway.

VICE CHAIR BERG: -- to be able to take existing chassis or approve chassis and put zero emission. So could we address that.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

Yes, I'll cover that. So just for a little background on that, the phase 2 regulation requires all vehicles be certified, including electric vehicles. That wasn't the case before, so that is new for this year. Up until now, we had a path -- a pathway in process for California that we used that was integrated with our incentive programs. And so we had a method to deal with this.

Once the phase 2 regulation comes in effect, of course, we talked about how we've been dealing with EPA. This is an EPA regulation, as well as an ARB regulation, so we have been working with them. And she's right, it's a little frustrating for all of us. We've been working...
for a number of months trying to figure out how to work a
pathway for them.

They're a rather unique business case, because
they're not -- they are a component of supplier, a key
part supplier, but they're not a final vehicle
manufacturer. So if they -- if they were, there is a
pathway. There's a pathway for 98 percent of the people
or 99 percent of the people, but they're unique there, and
we're trying to be supportive.

I will say we do believe we have a pathway now to
help in the interim. But come later this year, we will be
bringing back to the -- we will be bringing to the Board a
Heavy-duty ZEV certification package that is really trying
to tie up all these loose ends, and not trying to figure
out these one at a time, but really address it more
holistically.

BOARD MEMBER SPERLING: So I'll just close by
saying I think this is a great regulation. It's an
important one, and it's important partly because of the
wavering in Washington on this. And it's seen -- there's
been lots of analysis. This has a long history. The
industry supports it, so this is great. It's important
and exciting to see it, and on our 50th anniversary,
better yet.

VICE CHAIR BERG: Thank you. Any other comments
on this side?

Yes. Please Dr. Sherriffs.

BOARD MEMBER SHERRIFFS: I love how interesting garbage has become since I started serving on this Board. The comment from the second testimony in terms of some of the challenges for small businesses and potential aerodynamic requirements for vehicles that never achieve an aerodynamic speed. Help.

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: Okay. Yeah. No, so a good question. And we've had a number of very fruitful and cooperative discussions with Autocar. That's the manufacturer that you heard from. There already are some special provisions in the federal program that we're aligning with that do give additional time to small fleets, and do give them additional abilities to use credits more flexibly than large fleets can.

There's also, as Mitzi described in her presentation, there's also the custom chassis provisions, which are just a much less stringent and simpler certification path that's intended for people like refuse truck manufacturers, that make kind of vehicles that don't fit the sort of long haul kind of big rig that you might be thinking of that are kind of odd vehicles. And maybe smaller manufacturers that don't want to learn all the
intricacies of the GEM model.

So there's a lot of provisions in there that are intended to help folks in their situation. However, we are sensitive to the concerns that they're expressing. And there's definitely some validity that there's some technologies that may be appropriate for a long-haul truck that make no sense at all for a trash truck.

And we do know that what they said about their having reached out to EPA technical staff on these topics is true. That that dialogue is ongoing. We were hesitant to propose provisions here that would be less stringent in the California program than in the federal program. We're trying to align as much as possible and not be less stringent.

And so what we've told them is that we're happy to keep working with them, and working with EPA staff. And if EPA does decide to make some amendments in response to this, that we'll consider aligning at that time.

Does that help a little bit?

BOARD MEMBER SHERIFFS: Yes. And I also heard a request to give an extra year potentially, is that something that fits in with this or...

MSCD MOBILE SOURCE REGULATORY BRANCH CHIEF HEROY-ROGALSKI: They did make that request to EPA. We're -- we don't recommend that the Board adopt that at
this time, particularly before EPA acts on it. We think that the custom chassis requirements and the additional small fleets get one extra year compared to large fleets is sufficient. We think -- we've looked -- we've talked to Autocar and looked in detail at their situation, and they're doing a great job producing CNG refuse trucks, many of which are being used in California, and that's awesome. And they're getting credits for that.

And I think their request is because they realize, wow, it would be really great if we could have some extra time to accumulate some more credits, and that would make compliance easier for them.

So we think this is more of a situation where they would like us to offer some additional flexibility, so they can get more credits, rather than a situation where they -- you know, they can't comply if we don't make a change. So we think the best course of action would be to wait and see what U.S. EPA does and then consider what we want to do after that happens.

BOARD MEMBER SHERIFFS: Thank you.
CHAIR NICHOLS: Ms. Takvorian.
BOARD MEMBER TAKVORIAN: Thank you. I just wanted to add my congratulations and support for the bill. -- no for the bill. Where am I for the rule -- sorry -- and say that I agree particularly with Professor Sperling.
I think this is an important measure and important step that we're taking.

I want to hold my opinion on the credits, and just hope that we are cautious about how those are applied, and hope that they turn out to be a positive thing. So hopefully, we'll hear more about that as we go forward.

And I also wanted to say -- appreciated the section in the Initial Statement of reasons on environmental justice. And I thought that it was good that that was pointed out, and that you made, I think, obvious points in regards to how environmental justice communities are more impacted.

I think you may not have made enough of a point of how the transit buses and their push-forward through this rule will -- and towards electrification will also benefit environmental justice communities more as there's more transit in environmental justice communities than in others.

So not to change anything, but just to say that I think it's another step towards what I hope we're moving towards, which is electrification across the Board for transit and zero-emission buses. But it will have a particularly positive benefit, I think, in those communities that are more impacted. So I just wanted to
thank you for that.

CHAIR NICHOLS: Thank you for your comments.
Any other comments here?
Professor Sperling will wrap it up for us.
(Laughter.)

BOARD MEMBER SPERLING: I'm on it.
No, I just have one -- there was one thought --
one other thing I wanted to ask, and that's the trailer
rule. When that trailer rule was first adopted, I have to
say I was a little skeptical that we were doing such
prescriptive rules, but from what I can tell is it has
been quite successful in the sense that other parties that
are not regulated seem to be embracing it.

Whenever I'm on the east coast, I do surveys of
all the trucks, and it looked to me -- it seems to me my
kind of unscientific study is about 30 percent of the
eligible or, you know, relevant trailers are using --
trailers are using skirts.

But I think given that we're taking another dive
into this, another step, I've never seen anyone analyze is
it really working the way I think it is? If it's such a
good idea, a lot of these companies should be doing it. I
mean, if they're -- you know, we claimed that they were
going to save -- get a return within a year and a half.
And if that's true, you know, any smart company would be
Could we get some kind of -- okay. Not necessarily an analysis. I'm not calling for a research project, but just a survey kind of contact the trailer manufacturers and get a sense of are they really putting trailers -- putting skirts on there. Because if we're real going to go down this path, I think we need to have a little more data, and a little more information to make sure it is as good an idea as it seems to us.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
Yes, of course, we can -- we can bring together some of that information.

BOARD MEMBER SPERLING: Thank you.
BOARD MEMBER RIORDAN: It also might be interesting just to look at who's actually using them. From my perspective, in driving the 5 to Sacramento, it's your long-haul truckers that have got those on, not your short hauls.

And I don't know if there's a difference, you know, just by virtue of the ability to buy them for short haulers, but certainly the long haulers in the big companies are using them. That's for sure.

VICE CHAIR: Okay. Thank you very much for those comments.

I think we've come to a point where we can
address Resolution number 18.2.

Without any further questions, can I call for a motion?

BOARD MEMBER EISENHUT: So moved.

VICE CHAIR BERG: I have a first.

BOARD MEMBER SPERLING: I'll move.

VICE CHAIR BERG: Thank you. I have a second.

BOARD MEMBER BALMES: Second.

VICE CHAIR BERG: Thank you. I think we can do this by voice vote.

All in favor?

(Ayes.)

VICE CHAIR BERG: Any opposed?

Any abstain?

Motion passes.

VICE CHAIR BERG: So we do have one open comment. And I'm so glad they're back. Christopher Brown, if you wouldn't mind coming forward.

We had heard you had left, and I think he has.

Okay. Well, we missed you, Mr. Brown, and we do -- he is the Air Pollution Control Officer for Feather River. We wanted to thank again for CAPCOA's very gracious support of our reception.

So what a fabulous day. I think we are wrapped up for our first Board meeting of the year, and also for
our 50th anniversary. Thank you very, very much for being here, being part of this celebration. Wonderful kick-off to the next 50 years.

Thank you, staff, fellow Board members, and we are adjourned.

(Thereupon the Air Resources Board meeting adjourned at 2:35 p.m.)
CERTIFICATE OF REPORTER

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of February, 2018.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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