A P P E A R A N C E S

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Assembly Member Eduardo Garcia
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Supervisor Ron Roberts
Dr. Alex Sherriffs
Professor Dan Sperling
Ms. Diane Takvorian

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Mr. Richard Corey, Executive Officer
Ms. Edie Chang, Deputy Executive Officer
Mr. Steve Cliff, Deputy Executive Officer
Mr. Kurt Karperos, Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
Ms. La Ronda Bowen, Ombudsman
Ms. Emily Wimberger, Chief Economist
Ms. Veronica Eady, Assistant Executive Officer
APPEARANCES CONTINUED

STAFF:

Ms. Shirin Barfjani, Air Pollution Specialist, Zero Emission Truck and Bus Section, Mobile Source Control Division (MSCD)

Ms. Analisa Bevan, Assistant Division Chief, Emissions Compliance, Automotive Regulations and Science Division (ECARS)

Mr. Tony Brasil, Chief, Transportation and Clean Technology Branch, MSCD

Mr. Pippin Brehler, Senior Attorney, Legal Office

Mr. Mike Carter, Assistant Division Chief, MSCD

Ms. Sara Carter, Staff Air Pollution Specialist, Advance Clean Cars Regulations Section, Advanced Clean Cars Branch, ECARS

Ms. Yachun Chow, Manager, Zero Emission Truck and Bus Section, MSCD

Mr. Joshua Cunningham, Branch Chief, Advanced Clean Cars Branch, ECARS

Ms. Anna Hebert, Division Chief, ECARS

Mr. Jack Kitowski, Division Chief, MSCD

Mr. Mike McCarthy, Chief Technology Officer, ECARS

ALSO PRESENT:

Mr. Alan Abbs, California Air Pollution Control Officers Association

Mr. Eddie Ahn, Brightline Defense

Mr. Don Anair, Union of Concerned Scientists

Mr. Will Barrett, American Lung Association

Mr. Doran Barnes, Foothill Transit
ALSO PRESENT:

Ms. Abhilasha Bhola, Jobs to Move America

Mr. Robert Bienenfeld, American Honda Motor Company, Inc.

Mr. Nico Bouwkamp, California Fuel Cell Partnership

Dr. Rasto Brezny, Manufacturers of Emission Controls Association

Mr. Todd Campbell, Clean Energy

Mr. David Clark, International Brotherhood of Electrical Workers, Loca 100

Mr. Stewart Clark, Washington Air Quality Program

Mr. Derek Cole, International Brotherhood of Electrical Workers, Local 302

Mr. Carlo De La Cruz, Sierra Club, L.A. Bus Coalition

Mr. Steven Douglas, Alliance of Automobile Manufacturers, Inc.

Ms. Kristin, Essner, Orange County Transportation Authority

Ms. Leah Feldon, Oregon Department of Environmental Quality

Ms. Tiffani Fink, Paratransit

Ms. Irene Gutierrez, Natural Resources Defense Council

Ms. Heidi Hales, Vermont Department of Environmental Conservation

Mr. Anthony Harrison, ChargePoint

Dr. Mark Horton

Mr. Paul Jablonski, San Diego Metropolitan Transit System

Mr. Dan Jacobson, Environment California
ALSO PRESENT:

Ms. Karen Jacques, Sacramento Transit Advocates and Riders
Ms. Nina Kapoor, Coalition for Renewable Natural Gas
Mr. Ryan Kenny, Clean Energy
Mr. Bhavin Khatri, San Francisco Municipal Transportation Agency
Ms. Kathy Kinsey, NESCAUM
Ms. Christine Kirby, Massachusetts Department of Environmental Protection
Mr. Robert Klee, Connecticut Department of Energy and Environmental Protection
Mr. Brian Kolodji, Black Swan
Ms. Jennifer Kropke, International Brotherhood of Electrical Workers
Mr. Thomas Lawson, California Natural Gas Vehicle Coalition
Mr. Kent Leacock, Proterra
Mr. Rudy LeFlore, Sunline Transit
Mr. Jaimie Levin, Center for Transportation and the Environment
Mr. Mark Lonergan, Sacramento Regional Transit
Mr. Bill Magavern, Coalition for Clean Air
Mr. Kevin Maggay, SoCalGas
Ms. Deborah Mans, New Jersey Department of Environmental Protection
Mr. Steven McCauley, SMART Union
Mr. John McEntagart, International Brotherhood of Electrical Workers, Local 551
ALSO PRESENT:
Ms. Lisa McGhee, San Diego Airport Parking
Mr. Christopher Miller, Advanced Engines Systems Institute
Ms. Jacklyn Montgomery, CalAct
Ms. Urvi Nagrani, Motiv Power Systems
Mr. Robert Naylor, Los Angeles County Metro
Mr. Graham Noyes, Pearson Fuels
Mr. Keith Nunn, Golden Gate Transit
Mr. Jimmy O'Dea, Union of Concerned Scientists
Mr. Ernesto Pacheco, Communication Workers of America'
Ms. Kathryn Phillips, Sierra Club
Mr. Ray Pingle, Sierra Club California
Mr. Rick Ramacier, County Connection
Mr. Sanjay Ranchod, Tesla
Ms. Julia Rege, Global Automakers
Ms. Laura Renger, Southern California Edison
Ms. Emily Rusch, CALPIRG
Mr. Tim Sasseen, Ballard
Mr. David Sawaya, Pacific Gas and Electric
Mr. Ryan Schuchard, CALSTART
Mr. Edgar Seda, SMART Union
Mr. Carl Sedoryk, Monterey-Salinas Transit
Mr. Nick Segura, International Brotherhood of Electrical Workers, Local 569
APPEARANCES CONTINUED

ALSO PRESENT:
Ms. Estee Sepulveda, AC Transit
Mr. Joshua Shaw, California Transit Association
Mr. Jared Snyder, New York State Department of Environmental Conservation
Ms. Silvia Solis, Santa Cruz Metropolitan Transit District
Mr. JB Tengco, Blue Green Alliance
Mr. Glen Tepke, Metropolitan Transportation Commission
Ms. Eileen Tutt, California Electric Transportation Coalition
Mr. Emmanuel Wagner, California Hydrogen Business Council
Mr. David Warren, New Flyer of America
Ms. Rikki Weber, Earthjustice
Mr. Dave Weiskopf, NextGen
Mr. Jim Wilson, Humboldt Transit Authority
Mr. Vincent Wiraatmadja, BYD Motors
Mr. Peter Zalzal, Environmental Defense Fund
Mr. Bill Zobel, Trillium
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CHAIR NICHOLS: Sounds system working?
Yes, it's all good.

This is a historic day for the Air Resources Board. I have functioned as the Chair of this Board for a long time now without ever having used a gavel.

(Laughter.)

CHAIR NICHOLS: I've been able to compel the audience through the use of my voice and personality to do what I wanted them to do when it came to sitting down. But yesterday, I failed and so I was provided with a gavel, and the power has gone to my head.

(Laughter.)

CHAIR NICHOLS: I really like that.

(Laughter.)

CHAIR NICHOLS: I know, it's not a very good looking gavel, but, you know, we can work on that. Good morning, everybody, and welcome to the September 28th public meeting of the California Air Resources Board. Before we take the role and get started, we begin our Board meetings with the Pledge of Allegiance to the flag.

So please stand and join me.

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

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

BOARD CLERK DAVIS:  Dr. Balmes?

BOARD MEMBER BALMES:  Here.

BOARD CLERK DAVIS:  Mr. De La Torre?

Senator Florez?

BOARD MEMBER FLOREZ:  Here.

BOARD CLERK DAVIS:  Assembly Member Garcia?

Supervisor Gioia?

BOARD MEMBER GIOIA:  Here.

BOARD CLERK DAVIS:  Senator Lara?

Ms. Mitchell?

BOARD MEMBER MITCHELL:  Here.

BOARD CLERK DAVIS:  Ms. Riordan?

Supervisor Roberts?

BOARD MEMBER ROBERTS:  Here.

BOARD CLERK DAVIS:  Supervisor Serna?

Dr. Sherriffs?

BOARD MEMBER SHERRIFFS:  Here.

BOARD CLERK DAVIS:  Professor Sperling?

BOARD MEMBER SPERLING:  Here.

BOARD CLERK DAVIS:  Ms. Takvorian?

BOARD MEMBER TAKVORIAN:  Here.

BOARD CLERK DAVIS:  Vice Chair Berg?

VICE CHAIR BERG:  Here.

BOARD CLERK DAVIS:  Chair Nichols?
CHAIR NICHOLS: Here.

BOARD CLERK DAVIS: Madam Chair, we have a quorum.

CHAIR NICHOLS: Thank you. Just a couple of announcements before we get started. First of all, we have interpretation services provided today in Spanish for Item 18-7-6, the proposed innovative clean transit regulation, a replacement of the fleet rule for transit agencies. Headsets are available outside the hearing room at the attendance sign-up table and can be picked up at any time.

(Thereupon the interpreter translated in Spanish.)

CHAIR NICHOLS: Thank you.

For safety reasons, I ask everybody to note that the emergency exits are at the rear of the room, as well as to either side of the stage here. And in the event of a fire alarm, we're required to evacuate this room immediately, go down the stairs, and be out of the building until the all-clear signal is given, and then we can return and resume the hearing.

Anyone who wishes to testify should fill out a request to speak card. They've available also in the lobby outside the Board room. Please turn it into a Board assistant or the Clerk of the Board seated over here at
this table prior to the commencement of the item. And we remind speakers that the Board will impose a three-minute time limit on individual testimony. Please tell us your name -- first and last name when you come up to the podium, and then put your testimony in your own words. Anyone who needs the services of the translator can find her also down in the front. You don't need to read your written submission, because that will be entered into the record.

So the first item on our agenda today is considering amendments to the Low Emission Vehicle III, LEV III greenhouse gas emissions regulation. California's LEV III greenhouse gas emissions regulation for light-duty vehicles is a fundamental component of our State strategy for achieving our climate change goals. Recognizing the value of a national vehicle program, we've worked with the U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration, or NHTSA, to develop greenhouse gas standards that meet the needs both of California and the nation as a whole.

The success of this joint effort has enabled California to participate in a national program for reducing light-duty vehicle greenhouse gas emissions since model year 2012. This has been accomplished by the addition of some regulatory flexibility to the LEV III
program that allows automakers to certify vehicles that are sold in California with the federal greenhouse gas standards as an alternative to our own standards.

This flexibility was approved by the Board because the federal standards as of that time would deliver equivalent greenhouse gas emissions reductions to the California standards.

At the end of August, U.S. EPA and NHTSA published a proposal to significantly reduce the stringency of the federal standards from model year 2021 through 2026. As we have explained before and will do so again in this discussion, the federal proposal is contrary to the law that directs the federal agencies to protect the public health and welfare.

To the evidence that shows the current standards are feasible and cost effective and also contrary to the direction of innovation, and even to industries' own public statements of support for increasingly stringent standards.

Consequently, today's proposal is intended to serve as a backstop and preserve the emissions benefits of California's standards by clarifying that the compliance option is not available if U.S. EPA follows through with its proposed relaxation of its greenhouse gas emissions standards. Before we start this item, I want to highlight
another element of this notice of proposed rulemaking that was jointly issued by U.S. EPA and NHTSA.

The NPRM, as it's called, has a proposal specifically to find that California's greenhouse gas emissions regulation and our zero-emission vehicle regulation are preempted by federal law and to withdraw the waiver to enforce these regulations that was granted to California by U.S. EPA in 2013. This action is also contrary both to the law and to the facts.

California intends to vigorously defend our right to adopt and enforce these regulations including in court if need be.

With that introduction, I'll ask Mr. Corey to please introduce this item.

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair Nichols.

As you noted, when the Board approved the deem-to-comply option the allows compliance with federal light-duty greenhouse gas standards as compliance with LEV III standards, you directed staff to participate in a federal mid-term evaluation of these standards. The mid-term evaluation was designed to reassess the appropriateness of the federal standards for model years 2022 through 2025.

The Board also directed staff to evaluate the
appropriateness of the LEV III greenhouse gas emission standards for the same model years as part of the California focused mid-term review. On January 13th, 2017, U.S. EPA released its final determination to maintain the current federal greenhouse gas emission standards at their current stringency level.

Two moths later, staff presented to the Board the conclusion from California's mid-term review, which agreed with the U.S. EPAs' findings. Given that staff's findings agreed with those of U.S. EPA, the Board concluded that it was appropriate to continue California's participation in the national program.

However, with the change of federal administration, the U.S. EPA revised its final determination to conclude that the federal standards were inappropriate despite the extensive technical analysis and robust record on which they were based.

In contrast to the previous approach, the current federal administration did not include CARB in the development of the revised determination. And as you noted, last month, U.S. EPA and NHTSA published a notice of proposed rulemaking that will, if finalized as is, profoundly weaken the federal greenhouse gas emission standards.

Today's proposal will preserve the environmental
benefits and welfare protections of the LEV II standards. The amendments are limited in scope and clarify that the "deemed to comply" option only accepts compliance with the current federal standards. And as you mentioned, representatives of several of our state partners are here if support of this proposal.

We've coordinated closely with states that have adopted our standards, so that they'll be able to make any adjustments to their regulations, if needed, to continue to obtain the benefits of these standards in their states.

I'll now ask Sarah Carter of the Emissions Compliance and Automotive Regulations and Science Division to give the staff presentation.

Sarah.

(Thereupon an overhead presentation was presented as follows.)

STAFF AIR POLLUTION SPECIALIST CARTER: Thank you, Mr. Corey. Good morning, Chair Nichols and members of the Board. Today, I will be presenting proposed amendments to our Low Emission Vehicle III, or LEV III, greenhouse gas emission regulation.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: When we last presented to you in March 2017, we and U.S. EPA in their January 2017 final determination under the prior
administration had concluded manufacturers were still on track to meet the existing national passenger vehicle greenhouse gas emissions standards through model year 2025. Although current President had announced the mid-term evaluation process would be reinstated and U.S. EPA and NHTSA announced that they intended to reconsider the final determination, we recommended continuing an option for automakers to comply with the national program in lieu of our LEV III regulation, because the U.S. EPA standards remains in place then and are still in place now.

But earlier this year in April 2018, U.S. EPA revised its final determination to say that the standards were no longer appropriate. And to get -- and together with the National Highway Traffic Safety Administration, or NHTSA, issued a notice of proposed rulemaking, or NPRM, that proposes a dramatic and unfounded weakening of the standards and revocation of California's authority.

Accordingly, staff is compelled to propose revisions to the LEV III regulation to ensure that California continues to achieve our needed greenhouse gas emission reductions.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: So why are greenhouse gas emission reductions from passenger
vehicles so critical to California?

   It's simply because of the sheer number of passenger vehicles that operate in this state. Passenger vehicles include both light-duty vehicles, which are cars, pickups, minivans, and smaller sport utility vehicles, and medium-duty passenger vehicles, or large sport utility vehicles.

   The medium gray areas near the tops of the bars in this chart on this slide show the contribution of light-duty vehicles, which are the majority of passenger vehicles, to California's greenhouse gas emission inventory.

   As you can see, as of 2016, light-duty vehicles were responsible for approximately 28 percent of California's greenhouse gas emissions, and 70 percent of the emissions from transportation.

   By 2030, the current programs reduced the light-duty vehicle contribution to 23 percent. However, yearly increases in the number of vehicles on the road and miles traveled make it more challenging to reduce emissions from this sector.

   To put this in perspective, even with all of our currently adopted regulations in place, California's greenhouse gas emissions will still need to be reduced by about one-third in 2030 in order to meet the SB 32 target.
of 40 percent reductions. And meeting the Governor's mid-century climate target will require considerable more effort. These targets make it critical that we continue to maximize greenhouse gas reductions from the passenger vehicle fleet.

---oo0o---

STAFF AIR POLLUTION SPECIALIST CARTER: This slide shows a brief history of California's passenger vehicle greenhouse gas standards and the impact of our regulations on new vehicle emissions. Our first Pavley regulations reduced emissions for 2009 through 2016 model year vehicles. And for the first three years of these regulations we were it.

There was no federal control of greenhouse gas emissions until U.S. EPA adopted standards that were of comparable stringency to California's regulations for model years 2012 through 2016. This allowed for the creation of the first national program for these model years.

In 2012, CARB adopted our next generation of greenhouse gas standards for model years 2017 through 2025 as part of the LEV III regulations. This slide shows the LEV III fleet average greenhouse gas emissions standards, incrementally pushing vehicles greenhouse gas emissions downward by about 4.6 percent per year between the 2017
and 2025 model years. These standards, as shown by the

two lines in the figure, have separate passenger cars and
light-truck categories. The light-truck categories
include pickups, vans, and many of the sport utility
vehicles.

As with the Pavley regulations, the subsequent
adoption of U.S. EPA's greenhouse gas emission standards
that were comparable in stringency to the California
standards enables us to extend the national program for
the 2017 through 2025 model years.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: So what
is the "deemed to comply" option and why is it important?

This regulatory option says that automakers that
meet U.S. EPA standards are "deemed to comply" with
California's standards for the 2017 through 2025 model
years. This was a reasonable option for California,
because the basis for both the LEV III greenhouse gas
emission standards and subsequent U.S. EPA federal
standards was a joint technical assessment between CARB
U.S. EPA, and NHTSA. This two-year comprehensive
coordination between CARB and federal agency staff ensured
that the U.S. EPA and CARB greenhouse gas emission
standards were consistent in terms of their technical
underpinnings, stringency, and provisions.
Consequently, the currently adopted U.S. EPA standards provided comparable benefits to LEV III. And CARB approved a "deemed to comply" option for model years 2017 through 2025. This extended the national program through model year 2025.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: This slide shows the benefit of a national program. The map on the left shows in solid yellow, California and the 12 states that have adopted the LEV III regulation under Section 177 of the Clean Air Act. Combined, we account for approximately 35 percent of new passenger vehicle sales in the U.S.

Colorado is shown in striped yellow markings, as it is in the process of newly adopting the LEV III standards. Colorado represents an additional one and a half percent of new vehicle sales. The map on the right shows the benefits of a national program with greater potential for cumulative greenhouse gas benefits as it includes all U.S. vehicle sales.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: So why are we here today?

As I mentioned earlier, in August 2018, U.S. EPA and NHTSA published a note -- a joint notice of proposed
rulemaking, or NPRM, which contains three primary elements
that are a concern for California, and two of these are a
direct attack on California's authority.

First, it proposes to arrest the greenhouse gas
emission standards and corporate average fuel economy
standards at the requirements for the 2020 model year, and
sets the standards at that level through model year 2026.

But U.S. EPA is also proposing to withdraw the
waiver granted to California in 2013 for the greenhouse
gas and zero-emission vehicle elements of California's
Advanced Clean Cars program. And it contends that
California has disproportionately focused on greenhouse
gas emissions.

U.S. EPA justifies withdrawal of these waivers by
claiming that California does not meet the requirement for
a waiver as set forth in the Clean Air Act, including that
California needs its own standards to meet compelling and
extraordinary conditions.

Finally, NHTSA is proposing a regulatory finding
that California's greenhouse gas emission standards and
zero-emission vehicle requirements are preempted under the
Energy Policy and Conservation Act, or EPCA, as the
regulations related to fuel economy standards.

The federal agencies assert that California
regulation of tailpipe CO2 emissions both through its
greenhouse gas standards and zero-emission vehicle
regulations are de facto fuel economy standards, because
CO2 is a direct and inevitable byproduct of the combustion
of carbon-based fuels to make energy.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: This graph shows what the effect of the federal proposal would be on new vehicle emissions in California. The yellow line shows the projected greenhouse gas emission average for passenger vehicles sold in California. This fleet average was calculated based on the sales weighted standard for new passenger cars, pickup trucks, and sport utility vehicles that are projected to be sold in California for these model years.

The green solid line shows the projection for vehicle standards in California if the federal proposal is finalized. The green dashed line further accounts for the proposal to eliminate greenhouse gas emission credits for reducing the usage of traditional air conditioning refrigerants, which are short-lived climate pollutant.

As you can see, if EPA and NHTSA finalize the current federal proposal, and California continues to allow to the "deemed to comply" compliance option, or is denied its waiver for its emission standards, new passenger vehicles sold in California in model year 2025
will be emitting on average 57 grams per mile higher greenhouse gas emissions than the current standard.

--o0o--

STAFF AIR POLLUTION SPECIALIST CARTER: To provide some perspective, the benefit of the existing standards are projected to provide approximately 25 million metric tons of greenhouse gas reductions from the overall passenger vehicle fleet in California in 2030 compared to the original baseline in adopting the LEV III regulations.

This represents approximately 15 percent of the greenhouse gas reductions needed to get from California's 2020 target to the 2030 target. The federal proposal on the other hand would generate 12 million metric tons of more emissions in 2030 cutting the projected benefits nearly in half. For comparison, this loss alone would wipe out all of the 2030 benefits from the low carbon fuel standard regulation changes that were considered by the Board just yesterday.

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STAFF AIR POLLUTION SPECIALIST CARTER: Although the federal proposal does not directly alter criteria pollutant standards, flat-lined U.S. EPA greenhouse gas standards and corresponding NHTSA fuel economy standards would, nonetheless, increase public exposure to criteria
pollutants and toxic air contaminants due to an increase in fuel usage from the less stringent standards.

Flat-lined standards caused increased gasoline consumption and resultant increased emissions from fuel production, delivery, and vehicle refueling. These emissions will disproportionately impact the Los Angeles area where half of state refinery activity is located, and where additional NOx emission reductions are still needed to meet our SIP commitments.

Here, the passenger vehicle fleet is projected to be at 15 tons per day of NOx emissions in 2031 with our current regulations, but SIP commitments require even more action to eliminate another one-third of these emissions by 2031.

Under the relaxed NPRM proposal, NOx emissions would increase in the Los Angeles area by one and a quarter tons per day making the challenge even more difficult. Increased local exposure to benzene and other toxics would also result from the federal proposal especially in disadvantaged communities.

Finally, the loss of our ZEV Program and authority would eliminate our only viable strategy for achieving the criteria pollutant reduction requirements needed for SIP compliance, and the greenhouse gas reduction requirements needed to meet 2030 and 2045
targets.

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STAFF AIR POLLUTION SPECIALIST CARTER: For all of the reasons described to you today, staff proposes clarifying the text of the "deemed to comply" provision to affirm that California only accepts compliance with the currently adopted federal greenhouse gas emission standards. Those are the standards to which CARB agreed to accept compliance because they will provide substantially equivalent greenhouse gas emission standards as California's and are supported by the evidence establishing that they are feasible and cost effective.

The proposed federal rule that would arrest the standards at the levels for model years 2020 are not supported and do not adequately reduce emissions. I should mention here that the proposed amendments will not immediately eliminate the "deemed to comply" option. This provision and the current national program will still be in effect, as long as U.S. EPA does not change the current federal greenhouse gas emission standards.

However, if U.S. EPA changes the federal standards, automakers will be required to separately comply with California's current standards, and U.S. EPA's standards for those model years for which changes to the federal standards apply.
STAFF AIR POLLUTION SPECIALIST CARTER: As I'm sure all of you recall, California's standards are supported by several other states, some of whom are represented here today. Together with California, the states represent approximately 35 percent of the domestic vehicle market, helping to push a considerable number of vehicles across the country that are clean, have lower carbon footprint, and are less costly to operate.

It is critical that California -- that finalize today's proposed amendments as expeditiously as possible so that our state partners can move forward with their own rulemaking actions.

STAFF AIR POLLUTION SPECIALIST CARTER: This slide summarizes the comments we have received prior to the hearing in response to the 45-day notice. Twenty-nine comments have been submitted by stakeholders, which express overall support for today's proposal. Automaker comments request that this Board postpone a vote on today's proposal. They strongly support the continuation of a unified national program between CARB, U.S. EPA, and NHTSA, and request that CARB continue to strive to achieve that goal. Automakers also commented that if the Board
decides to follow through with the adoption of today's proposal, a number of additional changes to the LEV III regulation may be needed in order to address issues associated transitioning from one national program to two separate programs.

We have also received comments that request that we continue to consider additional regulatory flexibilities that could continue to provide the necessary greenhouse gas emission reductions while reducing compliance costs.

Finally, CARB has received two comment letters that appeared to raise potential environmental concerns. Although neither mentions the California Environmental Quality Act or potential environmental impacts of our proposed action.

Nevertheless, in the interest of completeness, CARB staff has prepared written responses to those comments, which are attached to the resolution for the Board's consideration.

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STAFF AIR POLLUTION SPECIALIST CARTER: In terms of the federal rulemaking, staff continues to actively protect California's interests before the rules are finalized. Staff will be providing substantial comments disputing the proposal, its asserted basis, and flawed
reasoning.

Our comments, together with those of many others, will seek to make clear that the administrative record is inadequate for the federal agencies to proceed as proposed, and will support our further legal challenges, if necessary.

Specifically, our comments will address why the NPRM is contrary to the language and intent of the Clean Air Act, the Energy Policy and Conservation Act, the National Environmental Policy Act, and the federal Administrative Procedures Act.

Our comments will also show that the NPRM is based on unreasonable assumptions and flawed modeling. It will not make the road safer and it's bad economics. It will cost jobs and raises fuel costs to consumers.

Comments on the NPRM are due to the docket by October 26th. In addition to preparing comments on the NPRM, CARB continues to participate in ongoing discussions with the federal administration on their proposal. CARB and automakers have expressed interest in finding a path to continue a national program, and CARB remains committed to working towards that goal.

Both the NPRM and 45-day notice for this proposal asked for stakeholder comments on additional flexibilities that we should consider adding to or extending in the
current program that could reduce costs for automakers, but maximize emission benefits and progress in long-term technologies necessary to meet California's climate change goals.

We will evaluate the potential of any suggestions received to determine whether any of these could provide a path forward to maintaining a national program for reducing greenhouse gas emissions from light-duty vehicles.

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STAFF AIR POLLUTION SPECIALIST CARTER: In conclusion, staff recommends that the Board approve today's proposed amendments to the LEV III greenhouse gas regulation to clarify that the "deemed to comply" U.S. EPA compliance option is available only for the federal light-duty vehicle greenhouse gas -- for the current federal light-duty vehicle greenhouse gas emission standards.

We recommend the Board direct the Executive Officer to file today's proposed changes with the California Office of Administrative Law as expeditiously as possible to facilitate adoption of these amendments by our Section 177 state partners, unless an agreement is reached with the federal administration to maintain a national program that meets California's greenhouse gas
emission reduction needs.

The Executive Officer will continue exploring options for a unified national program and appraise the Board of any developments that are in keeping with our air quality and climate change goals.

This concludes my presentation.

CHAIR NICHOLS: Thank you very much. I think there's going to be a lot of discussion and questions and comments from the Board on this item. But before we proceed to that or to the witnesses, I do want to recognize the presence of our 177 partners who are here. I know they have been actively participating in all of these developments and I would like to specifically welcome them and to ask for them to come forward and make their presentation to us at this time.

MR. KLEE: Good morning. I'm Robert Klee, the Commissioner of Connecticut's Department of Energy and Environmental Protection. And I want to start by saying a heartfelt thank you to Chair Nichols. The -- and California and the Board for your leadership role in setting the nation on a clear and most importantly reasonable and feasible path to a low carbon transportation sector.

I'm here today to express Connecticut's strong support for two things. One, Connecticut supports
maintaining the existing harmonized 2021 to 2025 light-duty vehicle greenhouse gas emissions standards that California, along with Connecticut and the other Section 177 states adopted in 2013 following the harmonization agreement of 2009; and two, that California's proposal to amend the "deemed to comply" provisions within the harmonized greenhouse gas standards is a reasonable approach, given it will only preclude this compliance flexibility if the federal standards agreed upon in 2009 from the '21 to '25 model years are changed by EPA.

In Connecticut we are in the process of making corresponding changes to our clean car regulations with respect to the "deemed to comply" provisions of the greenhouse gas emission standards. But we need California to act quickly to finalize your changes, so we can run our full regulatory process in Connecticut's regulatory structure.

In Connecticut, your regs are not adopted automatically by reference, so we have to run a full regulatory process, which is why we strongly oppose the delay proposed by the automobile manufacturers. Even though we support the continuing dialogue, any delay would make it impossible for Connecticut to achieve the incorporation of your regulations in Connecticut.

The Section 177 states that have adopted the
California Clean Cars Program, several of them decades ago, recognize the urgency of the climate crisis the world now faces. Like California, our states are committed to taking real action to combat global warming. Connecticut, like California, needs meaningful mobile source reductions to meet our own critical public health and greenhouse gas emission reduction targets.

In Connecticut, those are embodied in Connecticut's Global Warming Solutions Act, which sets targets for 2020, 2030, and 2050. These are ambitious greenhouse gas targets in statute. Forty-five percent economy-wide reductions by 2030, and 80 percent economy-wide reductions by 2050. In Connecticut, the transportation sector accounts for 43 percent of our state's greenhouse gas emissions and 65 percent of our smog-forming emissions. Air quality problems, and ozone in particular, continue to be a challenge for Connecticut, given the impacts of air pollution transport.

We cannot achieve compliance with the federal ambient air quality standards for ozone or the dramatic reductions in greenhouse gas emissions that is needed to meet our Connecticut legislatively mandated targets without a near complete transformation in the transportation sector, and California's rules are the foundation.
Without them, we'd have to take other drastic and frankly uncharted measures to meet our state's statutory greenhouse gas targets.

So Connecticut continues to support the harmonization of the greenhouse gas emission standards agreed to in 2009, standards which were established through the shared experience and expertise of California, the EPA, our Section 177 states, and the auto manufacturers.

From our perspective a deal is a deal until one side breaks its faith. EPA is certainly signaling that, and their intent to abandon this partnership. Any federal actions that weakens the national greenhouse gas standards or seeks to curtail California's waiver authority for greenhouse gas emission standards and their Zero Emission Vehicle Program is a direct challenge to the state sovereignty of California and our 177 states.

Furthermore, it would cripple our ability to protect public health and achieve our climate goals. This is unacceptable and we will take all necessary action to prevent this outcome.

I'm submitting a written copy of my testimony that will go into more detail on some of the aspects, because I do want to preserve time for my colleagues who have traveled quite a way to be here today.
But I will summarize those written comments with three key points. First, the CARB proposal should have no effect on California's current waiver under the section 209 of the Clean Air Act; second, CARB's proposal is not linked to the lead time requirements in Section 177 in the Clean Air Act; and third, CARB's proposal is not in any way linked to the federal fuel economy rules. And my written comments go into more detail there.

Because I wanted to close with the story of where this -- these rules are having a real positive effect, particularly in our state, and our -- or my state of Connecticut and our states across the region, and they're transforming the transportation sector as we know it, as the automobile manufacturers are developing electric vehicles in all shapes and sizes and they're showing up on our roads.

They are positively impacting California and all the states outside of California as this new sector economically grows. For example, the sales of electric vehicles eligible for our very popular cheaper rebate in Connecticut jumped nearly 200 percent in July and August.

We stand to benefit directly from economic growth in this cleantech space in one particular area where Connecticut has been a leader in hydrogen fuel cell development. Connecticut's fuel cell companies continue...
to partner with others, and pioneer the development of fuel cell applications in the transportation sector.

Thirty percent of the nation's fuel cell jobs are located in Connecticut. We are ranked third for U.S. Fuel cell patents from 2002 to 2015. The hydrogen and fuel cell supply chain in Connecticut is contributing significantly to our economy. More than 700 million dollars in revenue, more than 3,400 jobs and in regional employment in Connecticut.

And there is great potential for growth as these vehicles in the light-duty, medium-duty, and heavy-duty space are growing in their applications. And it's that economic development opportunity is also part of the reason why I've come out here to California to testify. And this is where these high-tech research and advance metric -- manufacturing jobs are so important to states like ours.

This technological and economic expansion will not happen at the same pace, and may not happen at all without increasingly stringent motor vehicle emission standards, and zero-emission vehicle requirements that are being driven -- that are driving investment in this cleantech space.

So in sum, California's leadership is particularly critical now, as the Trump administration
tries to move ahead with weakening federal greenhouse gas emission standards, and attacking states' rights by attempting to withdraw California's waiver for its existing greenhouse gas emission standards, and the zero-emission vehicle requirements.

These environmentally unprotective actions, which is hard to imagine as the Commissioner of an energy and environmental protection agency. But these unprotective actions to try to eliminate California's authority, and that of our 177 states, will have direct and negative effects on the health and welfare of our citizen.

Connecticut will continue to support California and our other 177 states to fight this misguided effort.

Thank you very much.

CHAIR NICHOLS: Thank you, Commissioner Klee.

MS. KIRBY: Good morning, Mary -- Chair Nichols and members of the Board, Vice Chair Berg. My name is Christine Kirby. I'm the Assistant Commissioner at the Massachusetts Department of Environmental Protection for the Bureau of Air and Waste. On behalf the Baker-Polito administration, I am here to support CARB's proposed amendments to the LEV III greenhouse gas emission standards to ensure the stringency of the greenhouse gas standards for new passenger cars and light-duty trucks.

Specifically, we support the proposed revisions
to the "deemed to comply" provisions that would apply to
only the current federal greenhouse gas standards in the
event the federal standards are weekend as proposed.

Massachusetts, like Connecticut and the other 177
states, intends to propose and adopt corresponding changes
to our State LEV regulations that will require continued
automaker compliance with the current stringent vehicle
standards in Massachusetts.

As background, Massachusetts first adopted the
California Low Emission Vehicle program in 1991,
applicable to model year 1995 vehicles. Since that time,
we've relied on the standards to reduce ozone precursors
and other pollutants, to reduce greenhouse gas emissions,
and to develop the market for zero-emission vehicles, or
ZEVs.

Due in part to our adoption of the California Low
Emission Vehicle program, we are now in attainment of the
federal ozone standards, although we have had a number of
exceedances this summer, so we need to continue to have
the program place. We have reduced greenhouse gas
emissions significantly below the businesses-as-usual
case. And I will get into why we still need to reduce
transportation emissions.

And we are now, like Connecticut, seeing the ZEV
market take off. We're seeing more and more vehicles take
advantage of our consumer rebate program MOR-EV in Massachusetts.

By my count, since 1991, we have amended our LEV program 10 or more times to keep current with California. And this is one of the most important, if not the most important, LEV rule makings Massachusetts will do to continue our progress on clean air and climate change mitigation.

The Massachusetts Global Warming Solutions Act, or GWSA, mandates that greenhouse gas emissions be reduced by 80 percent below 1990 levels in 2050. And as you will here today, many other states have that same mandate.

In addition under GWSA, a stringent reduction goal was set in 2010 under the statute requiring a 25 percent reduction in 2020 from 1990 levels. And then GWSA further requires interim 2030 and 2040 goals to ensure adequate progress towards 2050.

Massachusetts most recent greenhouse gas inventory for 2015 shows considerable progress towards the 2020 goal. We have reduced emissions by 19.7 percent below 1990 levels economy wide. However, total transportation emissions are roughly the same as they were in 1990, and have increase in terms of the overall percentage of total emissions, increasing from 32.3 percent in 1990 to approximately 39 percent in 2015, which
was our most complete emissions inventory. This is due to increasing vehicle miles traveled, which has offset the gain in vehicle greenhouse gas standards.

The numbers in other 177 states tell the same story. We need to continue to reduce emissions from the transportation sector to meet both our near-term and long-term greenhouse gas reduction goals.

In contrast to the transportation sector, greenhouse gas emissions in Massachusetts from the electricity sector have steadily declined due to our participation in the regional greenhouse gas initiative, otherwise known as RGGI, energy efficiency program, and our renewable portfolio standard among other efforts.

A year ago, Massachusetts went beyond RGGI and adopted a fossil fuel fired emissions cap for electricity generating units, and will require those facilities to reduce their emissions by 2.5 percent a year out to 2020 -- excuse me, out to 2050. This program is now underway and we expect to auction off allowances later this year or early next.

However, our success in meeting the challenge of global warming depends on how successful we are in reducing transportation emissions. There is no question that deep cuts in transportation emissions will be required. And the two critical strategies that we often
mention is reducing emissions from motor vehicles, and
electrification of the transportation sector. Both of
these are required through the Massachusetts adoption of
the California standards.

Because Massachusetts is preempted from opposing
its own regulations on new vehicles, it relies on
stringent federal and California standards. The current
harmonized greenhouse gas and CAFE standards are forecast
to result in a 34 percent and light-duty vehicle
greenhouse gas emissions in 2025. But because vehicles
last a decade, weakened standards will undermine
Massachusetts ability to meet the greenhouse gas limits of
GWSA, including our ability to set interim limits for 2030
and 2040, and to meet the long-term goals.

Without these standards, and I think Commissioner
Klee referred to this, we will be looking at many more
other onerous programs to reduce transportation emissions,
because we know that that is the critical part to meeting
our long-term goals.

So in closing, we are prepared to join California
and the other Section 177 states to protect the integrity
of the greenhouse gas standards, and the LEV program, as
well as our state authority under the federal Clean Air
Act.

Thank you for the opportunity to testify before
you today, and now I'll turn it over to Deborah Mans from New Jersey.

MS. MANS: Good morning. My name is Debbie Mans and I'm the Deputy Commissioner of the New Jersey Department of Environmental Protection.

Thank you to California for your leadership on this issue, and for working collaboratively with New Jersey and other 177 states to protect public health and the environment. New Jersey has provided written comments earlier in the week in addition to our testimony today.

New Jersey Governor Murphy has committed to using every tool at our disposal to fight efforts to rollback federal fuel emission standards that save New Jersey consumers money, protect the environment, and drive innovation in the transportation sector.

As a northeast coastal state with 1,792 miles of shoreline, New Jersey is particularly vulnerable to rising sea levels and other affects of global warming. We have experienced a dramatic increase in the frequency, duration, and intensity of storm events. Hurricane Sandy, one of the most destructive storms ever to hit our state, was a wake-up call.

Five years later, the storm is still fresh in everyone's memory, and the New Jersey, New York coastal
area bore the brunt of the storm. The storm surge was nine to 10 feet above normal high tide along much of New Jersey coast, and caused $30 billion in damages and loss of life.

We understand first-hand the urgent need to reduce our greenhouse gas emissions and the consequences of failing to act. Like many other states, New Jersey has also established aggressive, science-based greenhouse gas emission reduction goals. New Jersey's Global Warming Response Act calls for an 80 percent reduction in greenhouse gas emissions from 20-2006 levels by 2050.

Achieving this goal will require a 2.2 percent reduction in greenhouse gas emissions each year through 2050. And much of this reduction will need to come from our transportation sector, which now comprises 42 percent of New Jersey's emissions.

The transportation sector is our biggest challenge. Unlike other economic sectors, transportation sector emissions in New Jersey are continuing to rise. This is because the increases in fuel efficiency we've seen in recent years have been offset by continuing increase in vehicle miles traveled.

Our legislature adopted the California motor vehicle emissions standards nearly 15 years ago. Today, as the Trump administration prepares to reverse course on
critically important federal motor vehicle greenhouse gas and fuel economy standards, New Jersey is relying even more on California's Low Emission Vehicle program, not only to prevent backsliding in our state, but to ensure continued forward progress.

New Jersey values working collaboratively with California and other states to reduce vehicle emissions and get cleaner cars out on the road. Earlier this year, Governor Murphy signed the state zero-emission vehicles program memorandum of understanding committing New Jersey to work with other states to support the deployment of zero-emission vehicles at home, in the Garden State, and across the country.

The amendments to the "deemed to comply" provisions of the California regulations that are under consideration by the Board today make necessary changes to the regulations that are consistent with the original intent and the very basis for accepting compliance with federal standards as a demonstration of compliance with the California standards, that federal emission standards will provide equivalent emissions reductions.

Now that appears that may no longer be the case. California has New Jersey's strong support for the amendments under consideration by the Board today. Thank you for your work on this.
CHAIR NICHOLS: Thank you. Welcome back.

MR. SNYDER: Good morning, Chair Nichols and members of the Board. I'm Jared Snyder, Deputy Commissioner of the New York State Department of Environmental Conservation. And thank you for providing us the opportunity to testify today.

New York State strongly supports the staff proposal to clarify the "deemed to comply" provision. Compliance with the significantly weakened, and we believe unlawful proposed federal emission standards, cannot be "deemed to comply" with the more protective CARB standards, standards that have been adopted by New York and other Section 177 states, and are essential to protect our citizens from the threat of climate change.

Since experiencing the devastation of Super Storm Sandy firsthand nearly six years ago, Governor Cuomo has made reducing the pollution that is causing climate change a top priority in New York. In New York, severe weather events are now the norm and disastrous. Significant flooding from storms occurs at alarming frequency. Sea levels are projected to rise up to six feet by 2100, which would make the flooding of New York's tidal areas routine.

Climate change also has substantial public health benefits. We just completed an ozone season where all the monitors in the New York City metro area showed
non-attainment with the ozone standard, and half of which showed non-attainment with the old 2008 standard.

On July 2nd, a particularly hot day, we experienced ozone levels in the Lower Hudson Valley that were the highest seen in the past decade, levels that are very unhealthy for the general public according to EPA's rating system. At Governor Cuomo's direction, New York is committed to fighting the cause of climate change through a comprehensive strategy that is designed to reduce greenhouse gas emissions and bolster clean renewable energy development.

Together with the other 15 states in the U.S. Climate Alliance, New York has committed to the principles of the Paris agreement. We've adopted ambitious greenhouse gas reduction goals of 40 percent reduction by 2030, and 80 percent by 2050. We've made multi-billion dollar investments in solar energy and renewable energy, poured millions into geothermal and energy efficiency, and we're poised to develop the largest offshore wind farm off the east coast.

Transportation, however, is New York's largest greenhouse gas emissions sector. Transportation emissions grew 23 percent between 1990 and 2014. And while we started to bend that curve downward, much more is needed to meet our climate goals -- the science-based climate
goals. And that will be impossible without strict vehicle emission standards, including the zero-emission vehicle mandate.

To ensure that consumers find electric vehicles attractive, we've invested and continue to invest extensively in electric vehicle infrastructure. Under the Charge New York program, we are committed to growing from -- increasing from 2000 public chargers to 10,000 public chargers by 2021.

Just a few months ago, the New York Power Authority announced $250 million Evolve New York program, $250 million for new electric vehicle infrastructure in New York State. And proceedings of the Public Service Commission are getting utilities in the game.

DEC and NYSERDA also provide tens of millions of dollars to rebates -- electric vehicle rebates to municipalities and consumers. These programs have contributed to a 67 percent increase in the number of electric vehicles sold from 2016, when we adopted those incentives, to 2017, 67 percent increase.

And we just announced that the $128 million vehicle mitigation trust proceeds in New York will also be invested to transform our transportation network, leaning heavily on electrification.

We are proud to be long-term partners with
California in working to advance motor vehicle standards and reduce emissions. We've supported harmonized national standards for greenhouse gas emissions because it spreads benefits across the entire country, provides regulatory stability and predictability to industry, and contributes -- visitors and residents alike are contributing to the emission reductions needed.

But now, due to a federal proposal that will increase petroleum consumption and the profits of oil companies, we support the staff proposal to clarify the "deemed to comply" provision.

The California regulatory provision has always been technology forcing. And the federal proposal is a giant leap backwards. And we also support continued dialogue however with industry and the federal regulators to explore whether a meaningful harmonized program that achieves the emission reductions needed can be realized.

The authority for California to adopt these regulatory programs is clear in section 209 of the Clean Air Act, and by extension, the authority for the Section 177 states is also clear. That authority is a critical component of New York's effort to address not only greenhouse gases, but also criteria pollutants and their precursors.

Indeed, California initially adopted the electric
vehicle mandate years ago to reduce criteria pollutants, and New York initially adopted it for the same reason. So when the Board finalizes this action and adopts the staff proposal, we will commence a rulemaking to adopt it in New York as expeditiously as possible.

And when the time comes, New York will be prepared to sue the federal government for its illegal, irresponsible, and immoral regulatory action, which is nothing more than a thinly veiled giveaway to the fossil fuel industry.

While the current administration may want to reverse the progress we've made to reduce climate pollution, New York will continue to protect our communities and our environment.

Thank you very much.

CHAIR NICHOLS: Thank you.

BOARD MEMBER GIOIA: We like that New York bluntness.

(MS. FELDON: Now, how do I follow that? (Laughter.)

MS. FELDON: Good morning, Chair Nichols, Vice Chair Berg, members the Board. My name is Leah Feldon. I'm the Deputy Director for the Oregon Department of Environmental Quality. Thank you for the opportunity to
address you regarding this rulemaking today.

Since 2012, EPA, NHTSA, the State of California, and the major automakers have agreed on a single national program that regulates greenhouse gas and fuel efficiency standards from all light-duty vehicles.

This harmonized standard provided regulatory certainty for automakers, and lowered costs to consumers for the last six years. Now, the Trump administration is reneging on that agreement with its proposal to freeze federal light-duty vehicle greenhouse gas standards without adequate reasoning. This regression is not acceptable to Oregon, and we are concerned with the regulatory uncertainty this causes both for automakers, and in the ability of Oregon to make required progress in greenhouse gas reductions.

Global warming has had a serious impact in Oregon. We've seen an increase in the number and intensity of forest fires. Since 1970, the length of Oregon's average fire season has grown by 78 days. Last year, Oregon experienced 2,000 wild fires that burned roughly 665,000 acres of forest and range land. It cost the state nearly half a billion dollars to suppress these fires.

Wildfire smoke has caused the southern Oregon community of Medford to experience 34 days of unhealthy...
and hazardous levels this past year. Oregon must take steps now to address the causes of global warming and mitigate its impacts. Like other section 177 states, Oregon has established an aggressive long-term greenhouse gas emission reduction goal, which is 75 percent below 1990 levels by the year 2050. While emissions from all other sectors are declining in Oregon, emissions from motor vehicles are climbing.

The transportation sector is the single largest source of greenhouse gas emissions in Oregon comprising 39 percent of the statewide emissions. In order to meet our State greenhouse gas targets, transportation sector emissions must transition to cleaner fuels, reduce the number of miles driven, and convert to cleaner vehicles.

We've adopted state programs to lower the carbon intensity of our transportation fuels, to integrate land use and transportation planning, to reduce vehicle miles traveled per capita, and decarbonize our electricity. But we must continue to have the cleanest and most efficient passenger cars and trucks available in Oregon as well.

Together, these programs can give us meaningful greenhouse gas reductions. But without the appropriate emissions standards, the success of our other programs is at risk because the Clean Air Act preempts us from adopting our own motor vehicle emission standards. Since
2005, we have relied solely on California's authority to
set the more stringent motor vehicle emission standards
that we need to help us meet our climate goals and our air
quality goals.

It serves as a critical backstop to a weakened
federal program. It is imperative to ensure that
innovations in clean car technology continue. We strongly
support the proposed revisions to the "deemed
to comply" regulatory provisions that are under
consideration by the Board today, and will follow shortly
with our own corresponding rule changes to ensure that
Oregon will continue to require greenhouse gas standards
as agreed to and determined to be achievable by EPA under
the previous administration.

Preservation of the LEV III standards is
important to Oregon, and we applaud you for your
leadership in preserving these critical standards.

Thank you again for the opportunity to address
the Board today. I'll now turn it to my colleague from
Vermont.

MS. HALES: Good morning. My name is Heidi Hales
and I'm Director of the State of Vermont's Air Quality and
Climate Division. Thank you for the opportunity to
provide comment to you today.

Like many other states, Vermont has aggressive
greenhouse gas reduction goals and wants to do its share
to address climate change. Vermont's adoption in 2005 of
California's first-in-the-nation greenhouse gas emission
standards holds an important place in our state's and
indeed nation's history of curbing greenhouse gas
emissions from motor vehicles.

As many of you will recall, shortly after Vermont
adopted California's greenhouse gas standards, the
automobile industry filed a lawsuit alleging that the
regulations were preempted by the Energy Policy
Conservation Act.

Almost two years later, the U.S. district court
in Vermont upheld Vermont's regulations and rejected all
of the automobile industry's preemption claims.

The court's well established -- I mean,
well-reasoned opinion helped to clear the way for a
favorable decision in a similar case in California,
upholding EPA's decision to grant a waiver for the
California standards.

Climate change is happening now and is evident in
Vermont. During the past 50 years, Vermont's climate has
shown a clear warming trend in all seasons, especially
winter.

Climate change is also altering the frequency,
timing, intensity, and duration of extreme weather events
that include periods of drought, severe storms, and resultant floods that damage property and infrastructure. These factors have contributed to increased flooding, with almost twice as many FEMA declared disasters in Vermont from 2007 to 2016, as compared to the previous 10 years.

Changes in local climate will also impact Vermont's environment and economy by affecting activities dependent on seasonal climate patterns, such as maple sugaring, farming, fall foliage tourism, timber harvesting, and winter sports. Climate change is a critical issue facing Vermont citizens ecosystems and economic vitality.

As far as Vermont is concerned, the science and economics of reducing greenhouse gas emissions from automobiles are as irrefutable as a right under Section 177 of the Clean Air Act to adopt and enforce California's greenhouse gas emission standards in lieu of federal standards.

In the northeast, outside of the beltway, this is a bipartisan issue. Since Vermont first adopted California's standards in 1996, we've had two Republican governors, including our current governor, and two Democratic governors. For over two decades now, we've had unwavering support for Vermont's decision to adopt and
enforce California's motor vehicle emission standards.

The California standards are a critical component of Vermont's air pollution control program, because motor vehicles are the largest source of ozone-forming pollutants, air toxics, and greenhouse gases in Vermont.

With respect to greenhouse gases, transportation accounts for nearly 45 percent of Vermont's greenhouse gas emissions. While we recognize that climate change is a complicated problem that will not be solved by any one action, regulations that increase in stringency over time to reduce greenhouse gas emissions from passenger vehicles are a critical step in the right direction.

Therefore, Vermont strongly supports the proposed amendments to California's light-duty greenhouse gas regulations to clarify the "deemed to comply" option. It will not be available if week or federal standards for model years 2021 to 2025 are adopted.

This proposal embodies the fundamental understanding behind the "deemed to comply" provision, which is that the federal program would provide greenhouse gas emission reductions that are substantially equivalent to the California program.

Having it any other way would defeat the very purpose of the California program, and the decision by Vermont and other Section 177 states to exercise their
right to adopt and enforce California's standards in lieu of the federal standards, by subjecting them to less protective federal standards.

Thank you again for the opportunity to provide comment today.

CHAIR NICHOLS: I have to apologize for a little bit of the byplay that's been going on up here. We were really admiring the photo that you used on your slide for Vermont. And all of us who have every been in Vermont during that season of the year are feeling an intense nostalgia, if not desire, to actually get on the road and go visit.

MS. HALES: Well, we hope you visit.

BOARD MEMBER GIOIA: Do you like the no traffic part on the road or do you like the --

(Laughter.)

CHAIR NICHOLS: All of it. All of it.

(Laughter.)

MS. HALES: Thank you.

CHAIR NICHOLS: Thank you.

MR. CLARK: Good morning, Chair Nichols, members of the Board. My name is Stu Clark. I'm here on behalf of the State of Washington and Governor Jay Inslee. I'm the manager of the Air Quality Program for the state.

Thank you for the opportunity to speak with you this
morning. We are just now hopefully reaching the end of another terrible and tragic wildfire season in the west. In August, my state was choking on smoke from wildfires that destroyed hundreds and hundreds of thousands of acres, and exposed millions of our residents to hazardous levels of fine particulate pollution.

In Washington, as in California, climate change has made our fire season longer and increased the size and intensity of our wildfires. And by the middle of this century climate researchers predict wildfires will destroy twice as many acres as temperatures continue to rise and our forests bake.

For those of us who live in the west, climate change is not an abstract far-off problem. In Washington, essential water supplies for our seven million residents are threatened by declining snowpack, as is our multi-billion dollar agricultural industry.

The Pacific Northwest's iconic salmon and Orcas are threatened with extinction. Sea level rise is threatening our shorelines, infrastructure, and coastal communities, and our multi-million dollar shellfish industry is facing decimation from ocean acidification.

As the current federal administration ignores the threat of climate change and backpedals on its
responsibility to reduce greenhouse gas emissions

It is more critical than ever for us, as State officials, to take action. In Washington, we have adopted aggressive gas reduction targets, and motor vehicles are by far the largest source of those emissions. We will not meet our targets without significant additional reductions from the transportation sector, especially light-duty vehicles.

The proposed rollback of federal standards, if it were allowed to stand, would add over 2.5 million metric tons of greenhouse gas emissions back into Washington's atmosphere by 2035.

As a Section 177 state, Washington relies on the California Advanced Clean Cars Program to maximize vehicle emission reductions and drive the development of cleaner low-carbon transportation sector.

Maintaining California's authority to adopt motor vehicle emission standards and the right for states like mine to opt into those standards is vitally important to us.

And this is especially critical when the federal government is unable or unwilling to demonstrate leadership. Over the years, we have witnessed rapid and cost effective development of advanced vehicle technology spurred by California's regulations. Past vehicle
standards have been achieved faster and at lower cost than the experts predicted. And those standards have helped consumers by delivering cleaner more efficient vehicles.

We strongly support the amendments under consideration by the Board today that clarify and preserve the original indent of the "deemed to comply" provisions. California's affirmative action on these standards will help keep American position to lead the world in efficient vehicle technology.

And Washington is already moving to align our regulations with your proposed changes, so we can use these powerful tools to get the cleanest cars responsible on the road, and continue our progress on clean air, and our fight against climate change.

Thank you for the opportunity to speak with you again today and testify. CARB's long history of mobile source leadership inspires us to reach higher and move faster.

On behalf of Governor Inslee, I want to say Washington stands shoulder to shoulder with you in the fight to preserve these provisions and to perfect -- protect our communities, our economies, and our environment.

Thank you.

CHAIR NICHOLS: Thank you very much. And I can't
express really how grateful we are and honored by your commitment to be here and to support what we're doing. If there's one short message I take from this, it is that you need us to take action today in order for you to be able to do the rulemakings that you all need to do in order to continue to be in alignment with California?

I see the heads nodding, so I just wanted to summarize that quickly.

If there are any questions from members of the Board?

Yes, go ahead.

BOARD MEMBER GIOIA: I just have a question. I appreciate that the presentation included a slide, if you can put that up, on the risk to public health here in California from this -- from this federal action. And so you don't have to do it today, but -- put that slide up for a second. Can you put the one that said -- it said was slide 9.

Okay. So the -- yeah, so it would be useful -- and I realize you have to make certain assumptions to provide us. And again, you can do this calculation later, because I think it's important for us and some of us who also serve on local air district frankly, were you talk about the increase -- the additional NOx and some of the additional emissions that would occur as a result on the
increased -- for increased fuel production.

And if you could provide a range of what the additional emissions would be from refineries in California as a result of this?

So if you can work on providing that. Again, not here today, but -- because it will take some assumption. And you identified refineries in the Los Angeles area, so some number for refineries in California.

CHAIR NICHOLS: You're addressing this to the California staff?

BOARD MEMBER GIOIA: Yes. Oh, yes. I'm sorry, yes. This is clearly meant to the California staff. Yes, not to the --

CHAIR NICHOLS: Okay. I had invited questions of --

BOARD MEMBER GIOIA: Yes. I'm sorry. Yes, on the -- because we heard both presentations.

CHAIR NICHOLS: -- for some of the other states on this.

BOARD MEMBER GIOIA: Yeah, right, if you have that, right.

(Laughter.)

BOARD MEMBER GIOIA: Probably, you know -- there would be increased emissions for those refineries in the State of Washington, right?
CHAIR NICHOLS: Right.

BOARD MEMBER GIOIA: So you can figure those numbers. So we can -- I'll just -- you don't have to respond now, but I really would like to get this information, especially serving on local air district. Okay. Yeah, I'm not putting you on the spot to provide it now. And then in the previous slide, you also said -- you talked about the -- in California, a 12 million metric ton per year loss would wipe out benefits. So do you have a national number for that as well? That's a California number, I take it, right? So if you have an estimate for a California number that -- I mean, a U.S. number for that. And then getting back to the risk to public health with -- you know, sort of laying out some assumptions and range about increased gasoline consumption and the increased emissions for fuel production.

ECARS CHIEF TECHNOLOGY OFFICER McCARTHY: Yeah. And this is Mike McCarthy. In the national space, the previous estimate EPA had was about 540 million metric tons --

BOARD MEMBER GIOIA: Okay.

ECARS CHIEF TECHNOLOGY OFFICER McCARTHY: -- for the '22 to '25 standards, Incremental to '21. It's not exactly what the -- the NPRM actually flatlines early at 2020, so the revised estimate would likely be larger than
that 500.

BOARD MEMBER GIOIA: Got it. Okay. That gives me a range. That's all I needed to know, but -- so if you could work at some point on getting numbers that you could send out, and -- with regard to emissions -- quantification of emissions increase.

CHAIR NICHOLS: Maybe just an update that could be sent out to all the Board members would be --

BOARD MEMBER GIOIA: Yeah, just sent it out to the whole Board, yeah.

CHAIR NICHOLS: -- would be useful.

ECARS ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM: Yeah. This is Joshua Cunningham. I'll just note that we -- we have already determined a general assessment of the impacts of criteria emissions in the South Coast Air Basin and statewide. So it might take me a few minutes to pull this up, but at least we'll be able to prepare that for you --

BOARD MEMBER GIOIA: Great.

ECARS ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM: -- quickly after the Board hearing.

BOARD MEMBER GIOIA: Thank you very much.

CHAIR NICHOLS: Okay. Yes. Everyone would like to see that.

Okay. Ms. Mitchell, did you have your hand up?
BOARD MEMBER MITCHELL: No.

CHAIR NICHOLS: Oh, I'm sorry. Okay. Any other questions before we listen to our witnesses?

We have 17 witnesses who've signed up to speak on this item, and then we'll pull it back for some Board discussion.

So let's start with CALSTART.

MR. SCHUCHARD: Good morning, Chair Nichols, and members of the Board. I'm Ryan Schuchard with CALSTART. We'd like to express our general support for the measure, while also urging CARB to continue to work towards -- working towards a harmonized approach nationally and leaving some flexibility for further negotiations to do that.

We do not want to see a reduction in fuel economy -- federal fuel economy standards, and we vigorously oppose any action to undermine California's waiver.

And, Chair Nichols, I must say I was proud to hear you in Fresno on Monday representing us. I thought you were very eloquent and appreciated you being here. And when we look at the ARB's proposal, we have no choice but to agree that the federal administration withdrew its previous determination without due process and coordination.
So we stand with you on this measure, and we also ask that you continue to seek ways to make refinements to the federal standard that can keep within the same stringency that is so important to California.

Thank you very much.

CHAIR NICHOLS: Thank you.

Dr. Brezny.

DR. BREZNY: Good morning, Chair Nichols and Board members. And thank you for this opportunity to provide comments today.

I'm Rasto Brezny, the Executive Director for the Manufacturers of Emission Controls Association. MECA represents the world's leading manufacturers of mobile emission control and GHG technologies, including the full complement of technology for electric and electrified vehicles. Our members are part of the nearly 300,000 North American jobs in the clean vehicle industry that wouldn't exist if it wasn't for performance-based regulations that drive innovation.

We believe that the best hope for a successful long-lasting vehicle GHG reduction program is founded on a negotiated set of standards between California, NHTSA, and EPA, with increasing year-over-year stringency that allows California and Section 177 states to achieve their air quality and climate goals, and the federal agencies to
meet their statutory requirements.

A negotiated program further eliminates the uncertainty caused by protracted litigation. For over 42 years, MECA has supported every -- every waiver request made by California, including this one in 2012, because California's authority has been critical in driving innovation in our industry.

For over 50 years, California has played a leadership role in advancing vehicle standards and air quality policy that created a market for clean vehicle technologies, first in California, then in the U.S., and eventually around the world.

This is a successful model where California acts as a laboratory for new technology and policy that allows manufacturers to gain experience that benefit the rest of the nation.

Therefore, MECA supports California's waiver, and the state's role as co-regulator of mobile source emissions. A few days ago in Fresno, I spoke about the detrimental impact on our industry from a long period of regulatory stagnation. And therefore, we urge CARB to work towards a negotiated unified vehicle program that continues to reduce GHGs.

In the event that an agreement cannot be reached, we recognize that CARB must take the necessary measures to
address the air quality for the citizens of California.

If light of this, we ask ARB to consider measures and flexibilities to further advance the pace of innovation, including a supplier-based off-cycle credit program that addresses GHG reductions by all technologically feasible and verifiable means.

In closing, MECA members are committed to provide the technology solutions to help California meet its climate and air quality goals.

Thank you.

CHAIR NICHOLS: Thank you.

Mr. Douglas.

MR. DOUGLAS: Thank you, Chair Nichols, members of the Board. I'm Steve Douglas with the Alliance of Automobile Manufacturers representing 12 of the world's leading car companies, or about 70 percent of the new vehicle market.

So first, I'd like to just remind the Board of the Alliance and our members' position on this. First, the Alliance actively supports one national program with regulations that cover all 50 states negotiated between ARB, EPA, and NHTSA.

Second, we support continued improvements in fuel economy and greenhouse gas standards, and recog -- and that recognize the marketplace realities, so that balance
between the standards and the market.

And finally, we support continued and expanded incentives for advanced technologies like electrification that are really critical for California to meet it's long-term greenhouse gas goals.

We've made the position clear to the media, to -- in Congressional testimony, in meetings with the President and the White House, and, of course, in meetings request ARB, EPA, and NHTSA.

We are optimistic, or at least hopeful, that continued dialogue can and enable all of the stakeholders to find a common ground to continue the one national program. Consequently, we recommend the Board defer a decision on this item, and instead direct staff to continue working with their federal counterparts, automakers, and other stakeholders to develop consensus regulatory changes that will meet your statutory mandates to protect public health, welfare, and the environment, while considering the national implications of any decision, including what a split in the program would mean overall for greenhouse gas emissions.

If, however, you approve this and the "deemed to comply" provision is approved, either now or in a future rulemaking, ARB would need to modify its greenhouse gas regulations to deal with various issues that need to be
addressed when we go from meeting one program nationwide
to meeting two separate programs.

    We've outlined a lot of those issues in our
written comments, but a lot more work is going to be
needed between automakers and ARB staff. Again, I'd like
to thank you for your time, and I'd be happy to answer any
questions.

MS. REGE: Good morning, Chair Nichols, members
of the Board. I'm Julie Rege with the Association of
Global Automakers. Global Automakers represents the U.S.
operations of international automobile makers, suppliers,
and other trade-related associations. We represent 56
percent of the new vehicle sales in the state and over 50
percent of the new green vehicle sales in this state.

    It's been another big week in California,
starting off with the kick-off of federal public hearings
on CAFE and GHG proposal in Fresno, and now with today's
consideration of the amendments to "deemed to comply".

    I appreciate the opportunity to provide these
comments on these important issues. And the reality is
our message has been the same in both forums. Global
Automakers wants a national program that includes
California. This best serves American customers in this
State and throughout the nation, as well as the
environment throughout the nation.
It provides a smart efficient policy for improving fuel efficiency and greenhouse gases. And we want to continue to build on the progress we've made to date. We've been advocating for a national program with meaningful and steady annual improvements in fuel efficiency.

We also believe the federal program needs to support compliance flexibility. For example, credits, air-conditioner improvement, and off-cycle technologies, all of which reflect real-world benefits, and importantly policy levers that encourage innovation and investment in advanced technology. These latter elements, like multipliers and zero grams per mile upstream, are critical for transition to ultra low carbon transportation across the country.

We believe that a unified program is achievable, and it's critical that California and the federal government put aside differences and recommit to a national program.

Global automakers much prefers the path of coordination to years of uncertainty and litigation on preemption and waivers.

And so as it relates to "deemed to comply", we request that the Board defer action today. We understand ARB can issue amendments again, if needed, but we believe
the better approach is to wait and see how federal discussions play out, the outcome of which is very uncertain at this time.

Should discussions fail to reach a desired outcome in the end, ARB can then alter "deemed to comply", and seek the required waiver for that amendment. In addition, in our written comments, we detail a number of issues with ARB's regulations that are on the books. We believe additional amendments are needed, as well as consideration of alternatives, and that this will help make sure the regulations can be implemented in an efficient manner and will be feasible across California and the states that follow California. Global Automakers is committed to working with ARB on these concerns.

In summary, Global Automakers believes ARB should, first, work cooperatively with the federal agencies to find the right national solution; second, defer action on today's proposed amendment until we can determine whether a resolution with the federal agencies is attainable.

And third, if ARB ultimately revokes the "Deemed to comply" provision, make the necessary regulatory adjustments to make California's program feasible.

Thank you.

CHAIR NICHOLS: Thank you.
MR. ZALZAL: Good morning, Chair Nichols and members of the Board. My name is Peter Zalzal. And I'm here today on behalf the Environmental Defense Fund in strong support of California's advanced clean cars standards that are vital to safeguard the health and well-being of millions of people across the Golden State.

For over 50 years, California has been a leader in establishing air pollution standards for motor vehicles that are protective of human health, while paving the way for more than 12 states to do the same.

There's no question that California now, as much as ever, continues to need these important standards to reduce climate de-stabilizing and health harming pollution from cars and trucks.

Indeed, California is experiencing severe and tragic weather events exacerbated by climate change, including drought, flooding and wildfires. And the State is home to 19 of the 25 most ozone-polluted counties.

And there's an overwhelming body of evidence documenting the feasibility and cost effectiveness of the Advanced Clean Car program that the Board has just reaffirmed in a transparent and rigorous process last year.

It's equally clear that the "deemed to comply" provision today before the Board was intended, when
adopted, to provide a compliance flexibility that would
nevertheless ensure the achievement of the pollution
reductions promised by the federal clean cars standards
currently in effect and by the California Advanced Clean
Car program.

For instance, a July 2011 CARB commitment letter
clearly states this compliance flexibility applies only to
quote, "The greenhouse gas emission standards adopted by
EPA for those model years that are substantially as
described in the July 2011 notice of intent, even if
amended after 2012".

These and many other statements make clear that
the "deemed to comply" provision was meant to operate only
if future amendments to the federal standards retain the
protectiveness of the program. Any other understanding is
flatly inconsistent with this history and California's
long-standing important and independent role in adopting
protective clean car standards.

The Board is now considering amendments to
reaffirm this long-standing understanding of the "deemed
to comply" provision. In doing so, EDF likewise supports
the Board's efforts to make any such changes contingent on
the federal government finalizing a rule to weaken its
clean car standards, such that should NHTSA and EPA
abandon their fundamentally misguided attacks on
California's Advanced Clean Car program and on the public health and welfare of all Americans, there is no need for the clarification.

We greatly appreciate the opportunity to provide testimony at today's hearing and underscore EDF's strong support for the Board's efforts to ensure that all Californians will continue to benefit from the critical pollution reductions that the Advanced Clean Car program will deliver.

Thank you.

CHAIR NICHOLS: Thank you.

MS. GUTIERREZ: Good morning. My name is Irene Gutierrez and I'm a staff attorney at the Natural Resources Defense Council. I'm here today representing NRDC's more than three million members and activists who fight to uphold access to clean air, clean water and a healthy planet.

First, I want to thank Chair Nichols and the Board members for their strong leadership in the face of federal threats to clean car standards. I attended the Fresno hearing earlier this week, and I appreciated the presence and leadership of the California delegation, and the strong statements that they made in support of our clean cars standards.

Rolling back federal standards makes no sense in
practical or a legal manner. Further, there is no factual or legal basis for EPA to take away California's authority to move forward with its own program.

NRDC supports strong clean car standards at the federal and state level, and supports California's efforts to continue making progress. We've submitted comments supporting ARB's proposed actions here, and I'll summarize them today.

While we support ARB clarifying its regulation, we do not think that a clarifying change is necessary. The record leading up to the codification of the "deemed to comply" provision is clear, and it shows that California only intended to accept compliance with federal standards, only as long as those standards remained as strong as California's.

Further, it makes no practical sense for California to accept compliance with weaker standards. For decades, California has led the way in requiring automakers to design cars that protect individuals, the environment and the climate. Congress explicitly recognized this authority decades ago.

In light of its long-standing congressionally-recognized authority to be an innovator and a leader, it makes no sense to have in place a regulation that defeats that authority of California.
Traveling to Fresno this week really brought home the point that now, more than ever, we need California's leadership on clean cars. We heard that day from many residents of Fresno, as well as physicians and other activists in the area about the air quality issues that they're suffering and the climate issues that they're suffering.

The rest of the state continues to suffer from air pollution, heat, waves wildfires and other effects of climate change. So we support the actions that California is taking today to maintain its leadership role.

Thank you.

CHAIR NICHOLS: Thank you.

MR. ANAIR: Good morning -- excuse me. Good morning Chair Nichols, members of the Board. My name is Don Anair. I'm the research and deputy director in the clean vehicles program with the Union of Concerned Scientists. I'm here today to support the proposed amendments, as it's imperative that California and the other clean car states continue to move forward in reducing pollution from our transportation sector in our cars -- in our new cars and trucks.

To date, UC estimates that the standards have reduced more than 27 million metric tons alone in California. They've also saved California consumers more
than $7 billion at the gas pump, and by 2030 will save the
average household in California more than $3,500.

The mid-term evaluation carried out by ARB staff
and heard by this Board last year clearly was conclusive
in determining that these standards are feasible,
available, and necessary to reduce pollution from our
cars and trucks.

We sincerely hope The federal administration will
listen to the overwhelming rejection of their proposed
standards at the three hearings this week across -- held
across the country. However, it is critical that
California and the other states continue to move forward
despite what U.S. EPA and the Department of Transportation
decide to do.

We believe the proposed language is consistent
with the original intent as adopted in 2012, and I urge
the Board to take action today.

Thank you.

CHAIR NICHOLS: Thank you.

MR. KINSEY: Good morning, Chairman Nichols,
members of the Board. My name is Kathy Kinsey. I'm a
senior policy advice or with the Northern East States for
Coordinate Air Use Management or NESCAUM. NESCAUM is a
regional association of the six New England states, the
air pollution control agencies in the six New England
states and New Jersey and New York.

And I'm here today to echo the comments of the state speakers that you heard from earlier this morning, to speak in strong support of staff's proposed amendments, but also more broadly in support of California's authority under the Clean Air Act to regulate motor vehicle emissions, and it's long history of environmental leadership, particularly with respect to the transportation sector from which both our states and the nation as a whole have greatly benefited.

As you know, seven of the NESCAUM states have exercised their authority under Section 177 of the Clean Air Act to adopt the California motor vehicle emissions standards. Many of them actually did so decades ago.

Adoption of the California program has resulted in all of our states in improved air quality and improved public health outcomes. And importantly, the California rules have established the basis for a much more effective federal regulations.

We strongly oppose any effort to rescind California's existing waiver or curtail California's authority, or the authority of the Section 177 states to adopt more stringent greenhouse gas emission standards for motor vehicle emissions.

NESCAUM supports the proposed amendments to the
LEV III regulation. These amendments simply clarify that the "deemed to comply" provision only applies to currently adopted federal standards. This is consistent with the original intent and will ensure that the emission benefits of California's program are not lost to our states in the event that the federal standards are ultimately weakened.

Our states have successfully defended their right to adopt and implement the California light-duty vehicle standards in the past. And if history is to repeat itself again, NESCAUM is fully committed to working with the Section 177 states and with California to ensure the preservation of our state authority under the Clean Air Act.

Finally, I would just like to thank California and the Air Resources Board for your national and your international leadership and your pioneering efforts to protect the environment and public health from motor vehicle pollution.

We have all benefited tremendously from that leadership. Thank you very much for the opportunity to speak to you here today.

CHAIR NICHOLS: Thank you.

MR. NOYES: Good morning, Chair Nichols, members of the Board. Very much appreciate the opportunity to be here today. Graham Noyes, Noyes Law Corporation on behalf
of the Pearson Fuels. Pearson is the largest supplier of
E-85 fuel in California to flex-fueled vehicles.

As with many folks in the room, I started the
week this week with a very early drive down to Fresno,
appreciated the fabulous job done by the California panel,
and think that Chair Nichols had perhaps the best line,
Nothing safe about the SAFE Rule. And that's
absolutely -- absolutely the case, in terms of the rule
itself.

The additional point that I would make is that
there's nothing safe for California's policies, including
our greenhouse gas policies, our criteria pollutant
policies, our compliance with the State Implementation
Plan, and our market-based policies with a litigation
course. And from my perspective, and others that I've
spoken with, that's the course that we're on right now,
which will -- whatever the ultimate course and whether we
are correct in all our legal positions or not will result
in years of uncertainty, will result in setbacks to our
programs because of that uncertainty, will result in
tremendous resource dedication to the wrong things. And
so from our perspective, the best possible solution here
is a negotiated solution.

I think the good news, in terms of the
negotiation, is that there's nothing safe for the
automakers in this years of -- in years of litigation either. They clearly are supportive and have made it on the record that they're willing to see increases in standards. That's consistent with the technologies they're bringing into play, and also where the rest of the world is going. The bad news is it does appear safe for this federal administration to have this fight with California. It seems that this federal administration is particularly -- is actually looking forward to this fight.

So California needs to look for solutions in compliance flexibilities. We need big multipliers for ZEVs. We need other flexibilities that are on the list from the automakers and from MECA, and we need to recognize the benefits of biofuels.

Biofuels have been delivering about 90 percent of the greenhouse gas reductions in the Low Carbon Fuel Standard to date, about 10 times what we've seen from the EVs thus far. They provide real-world greenhouse gas benefits and criteria pollutant reductions. They also provide policy support and political support in terms of bringing on much of the U.S. Senate that can help with this administration. Frankly, the autos need to get this deal done with the -- with California in 2018 and take that back to the administration and get the deal done with the federal administration in early 2019 for us to achieve
If I could address specifically the point raised in the letter Chair Nichols around the timing of this briefly.

CHAIR NICHOLS: All right.

MR. NOYES: In the letter submitted for today's proceeding, we took the position that a delay made sense in terms of the approval of the "deemed to compliance". The key point for that was really to keep this very much at the top of everyone's list, and to dedicate the necessary staff resources and to tremendous focus on this in 2018 to facilitate the CARB automaker negotiations that certainly need to -- need to apply.

Very much heard the comments of the Section 177 states that were well put here as to how this fits in the legal framework. So our position, this is really a tactical issue when the Board does this, and so that would not be the focus of our comments. It's really about facilitating compliance, flexibility, negotiation.

Thank you.

CHAIR NICHOLS: Well, I was going to make a comment later about all the helpful advice we were getting about exactly how to negotiate, but you've already done that. So thank you.

(Laughter.)
MR. NOYES: Thank you.

CHAIR NICHOLS: Thank you.

Okay. Mr. Bienenfeld, there you are.

MR. BIENENFELD: Here I am. Chair Nichols, Vice Chair Berg and members of the Board, I'm Robert Bienenfeld, assistant vice president, American Honda Motor Company. Thank you for the opportunity to comment on these proposed "deemed to comply" amendments.

Honda supports our trade association Global Automakers' comments on these amendments. We urge California to work with the federal government to achieve national standards that preserve a coast-to-coast efficient market, a national market for automobiles, achieve greater greenhouse gas reductions than could be possible through the efforts of California and the 177 states alone, and preserve California's right to regulate.

These are important outcomes from negotiated national standards. We believe the adoption of these amendments is premature and unhelpful while negotiations are underway. A Board member recently said we can easily change the regulations if a deal is reached.

Yet, this claim belies the political nature of the action. If this is, of course, easily reversed, then it is just as easily postponed for a few months.

We are a country riven more by symbolism than by
substance, and action today is evidence of this. We believe the amendments will have unintended consequences. As proposed, it will remove "deemed to comply" even if California and the federal government reach agreement. And if no agreement is reached, the amendment will activated California's dormant GHG regulation that is unworkable as written.

Another option should be considered by this Board. In the unlikely event that ARB and the federal government are unable to reach an agreement, we believe the Board should direct staff to study and develop a supplemental voluntary program that is complementary to the existing program. A supplemental program could include flexibilities, a relaxed standard, which, if followed by even one automaker, would have salutary effects, such as maintain -- maintaining the efficient national market and reduced GHG more than just if California and 177 states followed this by themselves.

So, in conclusion, that's what we would like to see the Board direct staff to do.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. MILLER: Good morning, Chair Nichols and Board members. My name is Chris Miller. I'm the executive director of the Advanced Engines Systems
Institute. AESI is a trade and advocacy association of companies that are developed -- committed to developing and deploying innovative technologies to reduce the environmental footprint of today's cars, trucks, and mobile sources. Our members have worked with EPA, ARB, and our customers, the automakers, for more than 40 years to produce cutting-edge solutions to air pollution problems that dangerously impact public health and the environment.

Over that period, our industry has helped achieve massive emissions reductions while the economy grew tremendously. Our industry has grown too. Now, there are more than 300,000 people that are working directly in developing and deploying clean vehicle technology in at least 34 states.

California's leadership has made much of this progress possible. California's efforts to combat mobile source air pollution have led to national standards that have attracted investment, R&D dollars, and intellectual capital from around the world. We hope and intend to help California, the Section 177 states, and the federal government, if they're interested, expand on that solid record of accomplishment over the next 40 years.

Our industry relies heavily on the regulatory certainty. We need it to make sound business decisions on
our long term R&D investments. However, the regulatory process, since the jointly developed TAR was completed, has been less than certain to put it mildly. We do not support the administration’s preferred alternative in the NPRM. We do not support a revocation of the existing Clean Cars Program waiver.

Flatlining the standards and disrupting rational regulatory processes will cost jobs and chill investment in our industry.

The proposal alone is already encouraging some companies to defer new job-creating investments or to actively consider shifting their investments to all -- to other countries that are more serious altogether. We strongly prefer one national program, and have set that out as one of the core principles of a new and broad coalition of automotive supplier groups known as the automotive -- or excuse me, the Advanced Technology Leadership Group.

AESI ports California’s efforts and those in the Section 177 states to address their and this nation’s serious environmental and public health challenges, whether that occurs through amending the "deemed to comply" provision today or by other means in the near future. It is our strong hope that California, NHTSA, and EPA will produce a constructive path forward very soon,
and one that continues U.S. global leadership on climate change and air quality.

Thank you.

CHAIR NICHOLS: Thank you.

MR. BARRETT: Good morning. I'm Will Barrett the American Lung Association in California. In brief, the American Lung Association supports this amendment to clarify that compliance with current health protective federal rules will meet California carbon emission requirements. There is really no rational basis to think that CARB intended anything other than to allows and accept compliance with the existing stringent federal standards, as opposed to less protective proposed rules.

If this clarification is needed to provide rational guidance as the federal government considers this senseless proposal to rollback health protective standards, we support CARB moving forward today and encourage all the 177 states to take action as quickly as possible.

The Lung Association is adamantly opposed to the joint U.S. EPA and NHTSA proposal to weaken our existing clean air car standards and strip state authority to protect the health of our citizens.

Our staff volunteers, help professional volunteers made this very clear at hearings across the
country this very week. By design, the federal proposals would increase harmful pollutants, threaten public health, and burden communities already most impacted by toxic air emissions from the petroleum supply chain.

We support CARB making this clarification today in the best interests of public health, clean air, and a stable climate.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. RANCHOD: Good Nichols and Members of the Board. Sanjay Ranchod with Tesla. Thank you for the opportunity to provide comments here today in support of this item.

Tesla has a mission, the mission is to accelerate world's transition to sustainable energy. All Tesla vehicles are zero emission, and assembled here in California. Our vehicles help to reduce the emissions of harmful air pollutants in communities across California. And we share the state's air quality, clean transportation, and climate goals.

Unlike other automakers, we do not believe the proposed amendments are premature. Tesla strongly supports ARB's efforts to maintain the stability and stringency of the LEV III greenhouse gas emission standards, the continued regulatory stability for auto
manufacturers embodied in the current federal and state
greenhouse gas vehicle standards, and the "deemed to comply" regulation is important.

It has helped contribute to billions of dollars of investment by Tesla in this country. And Tesla has become one of the largest manufacturing employers in the state of California with more than 20,000 workers.

There's no question that California has a continued need to address the impacts of air pollution on the state's residents. The level of protection established by the "deemed to comply" provision, and the existing U.S. EPA greenhouse gas light-duty standards remains a necessary minimum.

Allowing for the "deemed to comply" regulation to encompass new regulations that diminish this level of needed public health protection would be wrong and result in ARB running afoul of statutory requirements. ARB should ensure that any amendment to the "deemed to comply" regulation is durable enough to ensure that a recognition of federal equivalency will occur only when the current levels of greenhouse gas emission reductions are maintained or one-day strengthened.

Tesla believes the ARB proposal could be refined to make the "deemed to comply" authority flexible enough without requiring ARB to undertake additional regulatory
amendments in the event the federal program should be altered in a way that maintains or increases its stringency. This could be achieved by amending section 1961.3(c) as described in the written comments that we submitted earlier this week.

Existing standards are achievable through readily available technologies, and at lower cost than anticipated in the 2012 joint rulemaking. Therefore, Tesla strongly supports ARB's efforts to maintain the stability and stringency of the LEV III greenhouse gas emission standards.

Thank you.

CHAIR NICHOLS: Thank you.

MS. McGHEE: Good morning. SDAP in general is supportive. However, there are concerns relating to fleets that do require all technologies to have certification. Regulatory standards impact the market. CARB and EPA are regulators of our vehicle's tailpipe emissions and fuel economy standards. However, neither of these two agencies regulate vehicle performance with zero tailpipe emissions technology, including useful duration, onboard diagnostics, vehicle labeling, fuel economy, warranty, and garage service stations to be available to diagnose malfunctions of vehicles that are 100 percent proprietary, penalties and enforcement for vehicle
repairs, defect reporting, durability and performance certification testing.

In fact, all heavy-duty ZEVs have no certification requirement. ZEVs in the medium- and heavy-duty sector have no standards. The HVIP ZEV voucher program began in 2009 and we've sold 575 vouchers with 65 percent of these vehicles cannibalized due to the OEMs no longer in business. This leaves California with 210 ZEV vehicles in the HVIP program with $33 million spent.

The ZEV Program requires actions to ensure these vehicles a safe. It is not reasonable based on existing lesson learned to not create a certification program that protects against new issues in this technology.

Commercially registered fleet vehicles have no lemon law, thereby commercial motor carriers have operational duty to protect the public when in transport and the highways or roadways while mobile. It is our motor carrier license requirement to operate safely.

Endangering the public health and welfare can reasonable be determined with more emissions, but so can unsafe vehicles that have no standards for robustness, durability, performance under heavy wear and tear vehicle miles traveled by commercial operators that run 10 plus hours a day.

It is appropriate to find a regulatory process to
ensure this technology is safe, affordable and feasible. We have no regulation with ZEV technology to appropriately have an average fuel economy and efficiency standard without the same considerations to control and improve the technology. This would illustrate that the economy of fuel and control of reducing emissions from grid-dispensing technology could increase CI and could also cost fleets and consumers more than CAFE regulated technology.

Fleets value fuel economy far beyond commercial -- consumer purchased vehicles. Without technology confidence and durability useful life standards that equal 100,000 plus miles, the same as in other technologies, fleets will compare the standards and reliability. Fleets will stay in older and dirty vehicles. This is a direct consequence. Older vehicles are not safe, and older vehicles create more emissions.

The Clean Air Act ZEV technology requires setting standard and maximizing the potential of zero emitting technologies to be fuel efficient, to enable -- should enable co-chairing to diagnose malfunctions and create a remedy and enforcement procedures to make sure these vehicles can stay on the road for the same useful life as conventionally-fueled vehicles.

This will eliminate two different regulatory
requirements for zero-emission vehicles and other
technologies. The cost --

CHAIR NICHOLS: Excuse me. Your time is up.

MS. McGHEE: Oh. Okay. Thank you.

CHAIR NICHOLS: Could I just ask a question,
because I was just searching to see if you had submitted a
letter or any written testimony. I'm not familiar with
SDAP.

MS. McGHEE: Oh, I'm sorry. We're a small fleet
operational vehicle in San Diego at the San Diego Air
Part.

CHAIR NICHOLS: Oh. Okay. And are you here
primarily with respect to the ZEV bus item then as opposed
to the federal coordination --

MS. McGHEE: No, act --

CHAIR NICHOLS: -- or both? It does -- I was
trying to figure it out.

MS. McGHEE: Actually really it would be both
would be the answer.

CHAIR NICHOLS: Okay. All right. Thank you.

MS. McGHEE: Thank you.

CHAIR NICHOLS: Appreciate that.

Mr. Magavern.

MR. MAGAVERN: Good morning. Bill Magavern with
the Coalition for Clean Air.
We were one of the original sponsors of Fran Pavley's clean cars bill back in 2001. It was enacted into law the following year. And since then, this Board has done an excellent job of implementing it, despite obstruction tactics from first the Bush administration and now the Trump administration.

So we fully support the proposal before you today, because it would continue the current standards, which are based on science, and fact, and technological feasibility. They continue to be more than feasible as determined by the National Academy of Sciences Report. And they've been delivering benefits for our health, for our climate, and for consumers.

The Trump administration proposal, on the other hand, ignores scientific fact, technological fact, ignores the benefits for consumers, and for our health, and for our climate. And, in fact, I want to -- as native New Yorker, I want to thank Mr. Snyder for summing up that proposal in three words, illegal, irresponsible, and immoral.

The proposal is so backward and unpopular, that even the auto companies aren't really thrilled with it, which leaves you to wonder this is being done to benefit whom? And the only answer I can come up with is the oil companies, who are, of course, the allies and donors of
the Trump administration.

So this proposal seems designed to allow for, to facilitate the additional use of oil in our vehicles, which is against every policy that every previous administration has had for the United States. So really, I think the only beneficiaries would be the oil companies.

So I don't have any negotiating advice for you this morning. I'm just here to offer our strong support as you go forward, and to let you know that the breathers of California are with you.

CHAIR NICHOLS: Thank you.

MR. KOLODJI: Chair Nichols, Board Members and the world, my name is Brian Kolodji, Black Swan. And I am a chemical -- a professional chemical engineer in the state of California for -- with over 40 years of experience in the energy industry, and the 2018 American Institute of Chemical Engineers Carbon Management Sustainability Session Chair.

I add my breath and support to this measure before the Board. California must lead for the U.S. and for the world to help gasoline-fueled vehicles, all vehicles, as well as all -- as well as associated gasoline production go the way of the buggy and its horse.

It is time -- it is time now, and we are running out of time, as emphasized by Governor Brown's recent and
I have a copy here, if anybody wants to see it -- Executive Order B-55-18, to achieve California -- to accelerate California to carbon neutrality by 2045. Without zero-emission vehicles, almost one half of the world's 15 gigatons, that's 15 gigantic billion tons of greenhouse gas, in the form of carbon dioxide from gasoline fueled vehicles and refineries, cannot be removed to arrest and start the reduction of the 300 parts per million -- to the 300 part per million level of CO2 which is now over 400 parts per million, a level not achieved in over a million years, okay, and seen -- and seen for over a million years, almost -- okay.

So I'm a minute ahead of time. I'm stopping now.

(Laughter.)

CHAIR NICHOLS: Well, you feel very strongly about this. We appreciate your support. Thank you.

Mr. Weiskopf.

MR. WEISKOPF: Good morning, Chair Nichols, members of the Board. I'll be brief. Thank you for very much for your ongoing and past efforts on this rule in negotiating with really extreme patience with the federal government on this.

I know a number of folks have expressed a desire for certainty and flexibility, and one national standard.
The good news is we have all three. I thank you for the clarification to the existing rule to maintain what is a thoroughly negotiated and highly achievable very reasonable standard. I urge you to adopt the clarification today.

Thanks very much.

CHAIR NICHOLS: Okay. Thank you.

That concludes the list of witnesses that I have. So I can close the record and proceed to a discussion by the Board.

I think it might be useful just to say a word or two about where we are. This is, to some extent, is duplicating what the staff presentation already covered, as well as our fellow states. But we don't really see any reason why there needed to be a change in the existing standards at all. And when the previous administrator of U.S. EPA came in and reversed the findings that had already been done, we objected vehemently. And when they took action to then announce that there was going to be a need to move forward with a new set of standards, we filed lawsuits. So there is -- there is litigation at the moment already underway on this exact set of issues. Although, it's, at the moment, not active. Briefs have been filed, but there's nothing happening.

So then the question is, okay, what do we -- what
do we do now in the face of a proposal that came out in August, which is dramatically worse than what we had been led to expect, and was the product of a very closed process, in which unlike the previous negotiations that led to the existing standards, California played no role. That is, we were repeatedly told that we would be allowed to look at the federal government’s data and to discuss with them what the changes were, if there were going to be change proposed, and that never happened. So prior to August, although there were meetings, there was, in fact, no exchange of data that happened at all.

So now the proposal is out, and there's been a new series of discussions activated. And we have been told, I don't think there's anything at all secret about this, that the President told his administration, his agencies that he would like to see a negotiated settlement with California of some kind, along the lines of what they've have proposed.

Well, the proposal is to -- is to preempt California completely, and then to either freeze, or some minor variations of a freeze, the standards that are -- that are in effect today.

And so we're really not in a position to negotiate around that proposal. And we have, of course, a third party in all of this in a sense, which is not a
governmental party, but the -- but the auto companies who I think precipitated this entire action, but now are saying, and I have heard them in many places saying, this isn't really what they want. They want something else.

But they're also not in a position to negotiate with California, because I think it's -- you know, it's fairly obvious that politics does play a role in this situation. It would inevitably, and if the companies were to present a deal that they and California agreed to to the federal administration, that would not go well in terms of getting where we -- where we would like to go.

So we're in somewhat an awkward position. But one thing that has been a problem all along is that we don't have all the data that the federal government, at least in theory, is relying on to justify the need for a rollback here, because we have not received the compliance plans from the company.

So the staff has prepared a letter, which I believe is about to go out or has already gone out - I'm not quite sure - to all the manufacturers, to their CEOs basically asking them to come in and in writing present to us what their compliance plans actually are, so we're in a position to see for ourselves if there is a real problem here, and where the flexibilities could be found, and how we could move forward in a more -- in a more collaborative
manner.

But meanwhile, the record closes on this existing federal proposal October 26th. They granted a three-day extension in response to many requests for more time. So the record will close on the 26th. Then it goes into a period of sort of behind-the-scenes work, you know, by the federal agencies. And there's the possibility that California could be involved. Although, again, despite their stated willingness to work with California, we remain in this very awkward situation, where at least as far as the agencies are concerned, we're just a stakeholder like any other stakeholder. They do not see us as a partner and a collaborator in this process.

But be that as it may, you know, that's what the -- that's what situation is, and so we're going to do our best to assemble a sufficient level of knowledge and detail here, because we work on a technical basis, you know, to see where there could be some room for flexibilities and to follow through on the commitment that we've made all along, that we would prefer this to be a national program just as everybody else would. And we are not searching for an opportunity to, you know, test our strength in the litigation arena.

I think anybody who's been watching what was going on in the Senate yesterday, and I haven't seen
anything yet today, but from what I've heard, can
understand why, you know, we just as soon not be caught up
in the drama of the potential Supreme Court litigation at
this point either.

So all in all, despite our convictions that we're
right legally, and factually, and morally, we would also
like to, you know, find a way to get this all resolved.
And in the meantime, I know my fellow Board members have
felt all along that there's a lot more that we need to be
doing about reducing vehicle emissions. That, you know,
this is like a small -- it's like a baseline for, you
know, where we need to move to.

But anyway, I just thought I should sort of lay
that out in response to the many helpful comments that
we've received and the support to let people know where
things are from my perspective, and then to invite the
Board members to either comment or ask any questions.

So I'll throw it open for some discussion.

Dr. Sperling.

BOARD MEMBER SPERLING: Thank you, Chair Nichols.

So I would add to your just list of reasons for
what we're doing as -- and I'd add economically also, and
I'll come back to that in a second. It seems listening to
this that this is really a no-brain -- in terms of the
action before us, it's a no-brainer. We -- you know, we
need to act to support our sister states -- 177 states. And delaying would create a lot of problems there. So, you know, I just don't see any other option other than what is proposed by the staff.

Number two, I agree that there -- with what some of the car companies and some others said that it would be desirable to make some changes in the regulation. And I think that this Board would probably support many of them. I certainly do. I mean, there's changes such as how we treat electric vehicles. And I know the automobile industry itself agrees with this that, you know, providing a better treatment of electric vehicles.

So there's certainly many things to talk about in terms of changes later on, whether it through -- whether it's in the negotiations or in the voluntary program. I guess that's a little by of advice on the negotiation, but --

(Laughter.)

BOARD MEMBER SPERLING: In a gentle kind of way.

(Laughter.)

BOARD MEMBER SPERLING: And the third point I wanted to make is that there's a lot of question about -- the question of these standards by both the Trump administration and by the car industry originally was that, you know, fuel prices were not as high as we
thought. Although, now they're going back to what we --
what is in the original proposal.

But it's really -- there is a fundamental
challenge there, and that we do want people to be buying
these low carbon efficient vehicles. And the challenge is
how to make that happen. And so there is one important
idea, one way to make that happen that should have a lot
of support from consumers, from the industry, from
government, and that is this idea of feebates.

And we talk about here what are -- so if we don't
come to a negotiated settlement -- I think it was
Christine Kirby from Massachusetts who I'll call out for
being a great leader and partner for many, many years with
us and in this area, you know, talked about other programs
that would be needed. And Steve Douglas also talked about
strong support -- from the Alliance about strong support
for incentives.

Well, that's what we have here. You know, that's
what feebates does. So for those of you not familiar,
that means you haven't been coming to many Board meetings
where I've been talking.

(Laughter.)

CHAIR NICHOLS: They haven't been listening
carefully enough.

BOARD MEMBER SPERLING: Not listening.
It's the idea that if you buy a high-carbon inefficient vehicle, you pay a fee. If you buy an efficient low-carbon vehicle, you get a rebate. And you can do it in such a way that there's -- it's revenue neutral, so there's no cost to consumers, no cost -- or no net cost, no cost to government. And, in fact, there's a long -- a lot of benefits to consumers.

And so I put that on the table as one of these other things that actually I think we should be doing, because it will really help the industry sell these more efficient vehicles, and it will support people. It's an equity argument also, because that will mean the smaller more efficient vehicles will be much cheaper with large incentives. It provides a permanent incentive program for our zero-emission vehicles going into the future. It's all good.

And on that point, I just want to elaborate on what I said about economically, which actually underlines all of what we're talking about here. And that is that every economic analysis that's been done -- and even if you use the numbers from the Trump administration, consumers come out better with these greenhouse gas standards going forward, because the amount of money that's save in fuel is much greater, in fact, several times greater with most analyses than the extra cost of
the vehicle in terms of the efficiency in low-carbon technology.

So even if you don't even take into account climate or air pollution, or all these other benefits, you know, it's also a no-brainer from an economic perspective. So vote yes.

(Laughter.)

CHAIR NICHOLS: Got it.

Dr. Balmes, I think that's a motion. All right.

I'll take that as motion.

BOARD MEMBER DE LA TORRE: (Nods head.)

CHAIR NICHOLS: And a second.

You can move forward.

BOARD MEMBER BALMES: Well, as a scientist, I try not to be overtly political, but I actually have to be today. And I appreciate our state partners on the 177 rule, their strong support for our efforts. And I just -- it absolutely drives me crazy the states' rights issue. States are allowed to take away voter rights, but the current Federal administration wants to take away the rights of multiple states to provide a cleaner environment. I just don't get that on any level.

As a scientist, I'm appalled at the total disdain for evidence, especially scientific evidence. For example, climate change won't go away by stripping all
mention of the term from EPA websites. Policies to encourage burning as much oil as possible make absolutely sense. There's no evidence in support of this policy, either scientific in terms of what we know about greenhouse gas emissions, or economic as Professor Sperling just mentioned.

And on a final note, because I'm sure my fellow Board members have other things to add, they just announced today that the EPA is going dissolve its Office of the Science Advisor. Again, science is going to go away just because they get rid of an office.

But I'm really very upset about the fact that you cannot make policy -- environmental policy with a total disregard of the facts. You know, alternative facts don't make it in terms of environmental policy.

So I strongly support us going forward with the -- our current policies.

CHAIR NICHOLS: Thank you.

Yes. Go down the line here. You first, John.

BOARD MEMBER GIOIA: I won't add to the wise comments of my colleagues. I won't repeat those.

But let me just say, and that's why I appreciate the public health air emissions slide as a local air district regulator, this will increase emissions in communities near refineries, and make it harder for
communities to meet air district stand -- to meet air
quality standards.

So I think we need to understand the local
impacts -- air quality impacts from this approach by the
federal government in addition to all the other issues
that my colleagues have raised.

CHAIR NICHOLS: Thank you.

Hector.

BOARD MEMBER DE LA TORRE: Thank you. First of
all, everything you said.

(Laughter.)

CHAIR NICHOLS: Thank you.

BOARD MEMBER DE LA TORRE: But, you know, I like
to put things in a little more colorful language.

(Laughter.)

BOARD MEMBER DE LA TORRE: First of all, we have
a national standard. And the OEMs went to Washington and
asked for changes to an administration that they knew,
should have known, was an irrational actor. If they were
paying any attention to that campaign, they should have
understood what they were doing.

So when I hear let's wait and see, you didn't
wait and see. You ran to this administration right around
election day. He wasn't even sworn in yet and you were
there. So we are here because of you.
A few of you raised my comments from March of 2017 where I talked about a divorce. I appreciate that. I appreciate that you remembered what I said, and now here we are. We are in litigation. There's probably going to be more. But telling us to stand down in the divorce that we warned you was going to happen, and here we are having this fight, and you're telling us to stand down, to wait and see is a ridiculous request. And to continue that team of the divorce, it's like in the middle of a contentious divorce, the kids having a temper tantrum and wanting the parents to pay attention to them, while they're throwing a temper tantrum over something.

It's not about you. It's about this government of the state of California, and the other states thank you very much, and the federal government. You triggered it, and now we have to follow through with it.

The issue of voluntarily standards, that just makes me laugh. California is not Blanche DuBois. We're not waiting on the kindness of strangers. We're not waiting on the kindness of strangers. We have to do by the people of California what we have to do, which is to make sure that we are protecting the environment, to make sure that we're reducing greenhouse gases.

And so please trust us, we can do some voluntarily standards. We'll do above and beyond. No. We need to know. We are a regulatory body. We don't go
around asking people, oh, please can you -- can you do
what we need you to do? No, that's now what our role is.
That's not why we're here.

In terms of softening our standards, well, we
kind of already did, back in 2012. If we had done our
own, we would have been tougher than what we did with you
and the federal government. Even though that was a
friendly federal government, that's not as much as we
could have done, if we'd done it on our own. We did it --
we made a concession at that time in the interests of the
national standard.

And so to ask us to make further concessions all
these years later because you don't like some of the
pieces of it that you agreed to in 2012, that makes no
sense either. That feels a lot like the Brezhnev
doctrine, what's mine is mine, and what's your, we'll talk
about.

(Laughter.)

BOARD MEMBER DE LA TORRE: We are not negotiating
against ourselves here. We have one goal, which is we are
going to have no net decrease in GHG emissions over the
course of the remaining time of this contract of this
deal. A deal is still a deal. And regardless of what's
going on back in Washington, regardless of whether they
treat us as stakeholders, we have rights, and we're going
to exercise those rights to the hilt.

And, you know, if they don't like it, I welcome them to invoke cloture in the Senate and make changes, because that's what it's going to take on their side.

Thank you.

CHAIR NICHOLS: Any further thoughts before we bring this to a vote?

Ms. Mitchell.

BOARD MEMBER MITCHELL: Thank you.

And I don't know whether anybody could say it better than Hector has said it. The thing that's really disturbing here is that this involves not just our GHG emission reduction program, but tailpipe emissions, the CAFE standards that we have worked so hard to get here in California.

I like to think that California discovered smog, and we also discovered the cure for smog. Haagen-Smit came up with a tailpipe emission combining with sunlight, and that's how we got ozone.

And so we really have a big stake in this to protect what it is we have so far achieved here in California. We are so thankful to our Section 177 states, and those of you out there who have supported us in this endeavor. We don't want to go backwards. We can't go backwards. It's a matter of public health, and a matter
of global warming and protecting our earth.

So I stand firmly with our Chair on this, and our board that we have to move forward with this and we have to do it immediately, so that we can help our Section 177 states do what they need to do as well.

CHAIR NICHOLS: Thank you.

We've been joined today by our Senate appointee to the Board, Ricardo Lara. So would you like to add something?

SENATOR LARA: Thank you. Thank you.

To the states that are here, I want to welcome you on behalf of the California Legislature. Thank you for being part of this important discussion with us, and being part of this important fight for, not only our states, but the nation.

You know, I stand in strong support of the staff recommendation to protect our vehicle standards, including the federal crediting system for low GWP systems, as we in California now move to creat an incentive program to reduce our HFC gases, which is unprecedented as we now join Japan and Germany on this important effort.

And I agree with our Chairwoman as we talk about the fact that this is the bare minimum of what we can be doing. And in the legislature, we've answer the heed of continuing to create policies that further create an
opportunity for the expansion of EVs in our communities, particularly in our working class and low-income communities, as we now expand the sticker HOV program to used EVs, so that as these vehicles mature, and are now resold, that folks who have an opportunity to purchase these used vehicles actually also take part in our sticker program, which we know continues to be one of the critical incentives to purchasing an EV in our state.

Likewise, we continue to create mechanisms to stabilize our energy rates, so that we continue to apply that to our large EV fleets and freights, as we continue to figure out methods and strategies to further perpetuate these technologies and continue to foment them.

And we've been very successful. We've been able to really continue to penetrate the market, and again do what we can to continue to be a global leader in this issue.

I think, you know, this is an important path forward. And without these emission reductions we will continue to have to find reductions elsewhere. And where do we find these reductions? And I think it's actually quite disingenuous from the automobile industry to come in and say let's work collaboratively with the federal government. Well, we've tried, and we clearly are not welcomed in Washington D.C. And that's okay. We're used
to not being welcomed in a lot of places.

(Laughter.)

SENATOR LARA: So this is why we lead, and this is why we take the mantle. We don't wait for federal government to act. We are California, and now we are joined with several states that share in our values. And as the gentleman said from NL -- NLC said that the feds are looking forward to having this fight. Well, guess what, we're also looking forward to having this fight, because the health of Californians, the health of our state, our nation, and the globe are at stake. And that is a fight worth having, and we're ready and we'll welcome it.

This is why I think this is a perfect step forward. I commend the staff for continuing to look on behalf of the best interests of every single Californian and ensuring that we are in the best place to continue to win, and do what we have to do to protect our climate and our environment.

Thank you.

CHAIR NICHOLS: Thank you. One more comment here. Yes.

BOARD MEMBER SPERLING: Yeah, I support what Senator Lara just said, and some others. You know, we've hears some fiery speeches here. I have to say I'm glad
Chair Nichols is the one leading the negotiations, because I would be a horrible negotiator.

(Laughter.)

BOARD MEMBER SPERLING: But I do want to make a comment that, you know, at the end of the day, the auto industry in particular does have to be a partner, you know, with us going forward. And, you know, yeah, they screwed up with, you know, initially in dealing with the administration. I think they appreciate that as well. I guess that wasn't a technical term, but --

(Laughter.)

BOARD MEMBER SPERLING: But, you know, going forward, you know, we have to -- however it goes forward, this is -- this entails a lot of stakeholders and a lot of organizations. So, you know, I don't want to be an apologist -- I'm not an apologist for the auto industry, but we do need to look at them as our partners in making this work successfully going forward.

CHAIR NICHOLS: Okay. And now I guess the last word goes to Dr. Sherriffs.

BOARD MEMBER SHERIFFS: Well, I really didn't want the last word. But yeah, I'll try and speak as a scientist and an advocate for health. And it's certainly very good that I am not doing the negotiating.

But those negotiations clearly need to be driven
by our goals, and echoing the comments made by my
colleague here, that no net loss. And, in fact, I would,
say, oh, we're renegotiating agreed upon standards. Well,
staff is directed to develop the data, to understand
better what's going on, and has been commented, well, we
step back a little bit. And when I remember discussions
in 2016 and 2017, and how industry was overperforming, and
consumers were benefiting beyond what we had hoped.

Well, where should we begin our negotiation from?
We should be considering asking for even more. This is an
opportunity potentially to get more in terms of greenhouse
gas reductions, to get more in terms of criteria
pollutants, to get more in terms of health benefits.

So if it's being opened up, I don't think it's
being opened up for us to think, well, how far back are we
going to have to step? It's, well, is this an opportunity
to move forward?

And I again --

BOARD MEMBER SPERLING: With feebates.

BOARD MEMBER SHERIFFS: With feebates or
whatever, or whatever. There's so many ways to do it.

And I just want to add thanks for the state
representatives who have come, because I'm sure the
journey, not just in the miles, and the airlines, and all
of that, I'm sure it's not a political straight road to
get here, so thank you for your efforts and support.

    CHAIR NICHOLS:  Okay.  I think that does conclude the comments from the Board members, and I will endeavor to take them all into consideration.  And I know the staff has heard you as well.

Whenever I go to a meeting with our federal counterparts, I am reminded of a story that my husband, who was a litigator used to tell about Averell Harriman when he was negotiating on behalf of the United States with Churchill and Stalin at the end of the Second World War, and he, in his memoirs, wrote that his secret to negotiating with Stalin, who was famously bullying in his behavior, was that he just turned his hearing aid off.

    (Laughter.)

    CHAIR NICHOLS:  And having reached and age where I have actually acquired hearing aids, I've been thinking about that as a -- as a tactic.

    (Laughter.)

    BOARD MEMBER BALMES:  Can you turn your Tweet feeds off, though?

    (Laughter.)

    CHAIR NICHOLS:  Anyway.  With that note, I'm going to call for the question here on the resolution.  We have a motion and a second on the table, so would all in favor please say aye?
(Unanimous aye vote.)

CHAIR NICHOLS: Any opposed?

Any abstentions?

Okay. I think it's done and message is clear.

So thank you, staff, and we'll keep persevering here. Thank you very much.

(Appause.)

CHAIR NICHOLS: I see we have a lot of people who joined us who are here for the transit rule.

And so why don't we just take a brief break, like 10 minutes, to reassemble, and then we'll move on to that item.

(Off record: 11:10 a.m.)

(Thereupon a recess was taken.)

(On record: 11:29 a.m.)

CHAIR NICHOLS: Ladies and gentlemen, we're ready to move on to the Innovative Clean Transit Rule.

All right, everybody. Our second and final item for the Board's consideration today is the proposed Innovative Clean Transit Regulation. Transit agencies provide safe, affordable and reliable transportation service throughout the state and serve a critical need, especially for transit dependent individuals, including low-income Californians.

They have played and will continue to play
important roles in helping California to meet air quality standards, achieving greenhouse gas emissions reductions, protecting our communities not only by deploying clean technologies, but also by providing new and innovative services to reduce congestion.

Transit agencies have also been our partners in leading the way with heavy-duty vehicle technology innovation. They were one of the first to control harmful diesel exhaust by retrofitting existing engines with particulate filters, and many have embraced other advanced engine technologies and zero-emission buses.

Today, several transit agencies already have considerable experience with zero-emission buses, and many more are beginning to incorporate them into their fleets. Broadly implementing zero-emission technologies is a necessary component to effectively address multiple and complex air quality and climate protection issues all at the same time.

In my region of the state, Los Angeles, several transit agencies have already committed to 100 percent electrification by 2030, including Foothill Transit, L.A. DOT and L.A. Metro. The proposed regulation that is before us aims to achieve a long-term goal of transforming the public transit sector to zero-emission technology by 2040. How we meet that goal is the key question before
The goal -- the technology continues to advance, and more work still needs to be done. By working towards a common goal, we can assure that we make a successful transition. I want to particularly thank the agencies for having worked so hard with us. And although, I know not all are in full support of the proposal, I do believe that we've come a long way in at least establishing the communications that are going to be necessary as we move forward.

So with that, Mr. Corey, would you please introduce this item?

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

The proposed Innovative Clean Transit Regulation is identified in the state strategy for the State implementation Plan, and the 2017 Climate Change Scoping Plan as a necessary component for California to achieve established near- and long-term air quality and climate protection targets.

Zero-emission buses provide immediate health benefits to local communities are more energy efficient than conventional buses and significantly reduce petroleum and other fossil fuel use.

Accelerating the use of zero-emission buses is a key step in advancing the use of zero-emission technology
and other heavy-duty vehicles. And as you indicated, transit agencies are taking the lead in introducing zero-emission technologies in heavy-duty sectors -- or heavy-duty vehicles. Throughout the development of this regulation, we met with several of the transit agencies and appreciate their partnership, and strongly believe this proposal reflects our conversations. And as you know, it is much better than the early process.

And also as you noted, transit agencies provide a critical service to Californians and lead in technology innovation that improves mobility and air quality. Having a strong partnership with transit agencies will continue to be our top priority to ensure a successful deployment of zero-emission buses while continuing to improve transit services.

Part of making a successful transition includes structuring the proposed regulation to preserve access to existing funding to assist transit agencies in deploying buses and infrastructure. The combination of incentives and regulatory measures provide a strong market signal for zero-emission technology deployment, and in creating new jobs and investment in California.

With that, I'll asking Shirin Barfjani of the Mobile Source Control Division to begin the staff presentation.
(Thereupon an overhead presentation was presented as follows.)

AIR POLLUTION SPECIALIST BARFJANI: Thank you, Mr. Corey. Good morning Chair Nichols and Board members. Staff has worked closely with transit agencies, environmental groups, and other stakeholders in the past three and a half years. We have developed a transit proposal that achieves maximum emission reduction, advances zero-emission technology, yet the proposal is mindful of how transit agencies plan, operate and maintain transit buses.

I will describe how transit agencies have been taking a lead role in furthering California's air quality and climate protection goals, what the staff proposal is, what funding is available for transit bus electrification, and what the next steps are.

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AIR POLLUTION SPECIALIST BARFJANI: Transit agencies provide safe, reliable and affordable mobility options to tens of millions Californians, especially for transit-dependent and low-income riders. Transit agencies are not only mobilizing people, but also moving our communities toward a more sustainable future. Sorry.

They shape a transportation landscape through
enhanced connectivity and improved mobility. Successful operation of public transit supports the ability of local agencies to meet their greenhouse gas emission reduction targets required by Senate Bill 375 the Sustainable Communities and Climate Protection Act, and achieve carbon neutrality by 2045.

There are more than 200 public transit agencies in California operating nearly 13,000 transit buses. They are diverse and differ in modes the operate, bus fleet size, and terrain.

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AIR POLLUTION SPECIALIST BARFJANI: Transit agencies are the state's long-term partners in leading heavy-duty vehicle technology innovations. They have played and will continue to play important roles in helping California meeting air quality standards and climate protection goals by deploying the cleanest technologies and adopting new innovative ways to increase ridership -- ridership.

Their leadership continues today with multiple transit agencies operating zero-emission buses in their regular revenue service and use low NOx engines. It is important since zero-emission technologies and experience developed for transit -- sorry, this is important since zero-emission technologies and experience developed for
transit buses can be directly transferred to other heavy-duty applications.

A robust and sustainable public transit system, along with affordable transit-oriented housing is a key to accomplishing California's transportation and air quality goals.

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AIR POLLUTION SPECIALIST BARFJANI: The current transit fleet rule was originally adopted about 20 years ago and included a zero-emission bus demonstration followed by a purchase requirement. In 2009, the Board adopted -- the Board determined technology was not yet ready and directed the staff to prepare amendments to the regulation to delay the zero-emission bus purchase requirements and to conduct further research on commercial readiness.

CARB staff conducted a comprehensive technology evaluation in 2015, and concluded the zero-emission bus technologies were in -- were in their early commercialization stage. Since then, we have continued to see significant progress in the technology. And staff began working with transit agencies and other states -- state holders on developing a path forward.

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AIR POLLUTION SPECIALIST BARFJANI: This map
shows more than 50 California transit agencies are either operating zero-emission buses in their daily operation or are planning to deploy them in the near future, more than any other state.

As of August 2018, there are more than 500 zero-emission buses in operation or on order, and another 729 have been awarded funding or are planned to be purchased in the next few years.

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AIR POLLUTION SPECIALIST BARFJANI: Currently, at least 16 California transit agencies are committed to making a full transition to zero-emission technologies with the Board adoption policy, with the Board adopted policy. Many of them set a goal of full transition before 2040. These transit agencies together represent close to 50 percent of all buses in the State of California.

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AIR POLLUTION SPECIALIST BARFJANI: The key pieces supporting a transition to zero-emission buses are coming into place. Government agencies, industry, and of course transit agency are work -- are working hand-in-hand to deploy the technologies and address barriers.

California is now -- California is now home to zero-emission bus manufacturing, which create high-quality employment opportunities. Five manufacturers have
California-based plans, making either battery electric, or fuel electric buses, or both. These manufactures are leading the transition to green jobs in California.

Other key pieces of transition include: Major investment by California utilities to pay for charging infrastructure, and to establish new rates; actions to streamline zero-emission bus purchases and standardized charging; and, of course, investment of significant funding to overcome early high costs.

Despite the discrete -- sorry, despite the increase momentum in advancement and deployment of zero-emission bus technologies, additional technology improvements and cost reduction are still needed to meet our long-term goals.

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AIR POLLUTION SPECIALIST BARFJANI: This slide shows some of the overarching principles that we embraced in the -- in this process, and are reflected in the staff proposal.

Most importantly, we have a shared goal with California Transit Association and environmental groups, on overarching a zero-emission system in California by 2040. We believe the proposal provides flexibility and sufficient time for transit agencies to address potential challenges, and take advantage of available funds.
The proposal also strive to not just maintain, but enhance service through increased mobility options. Let me highlight the last point on this slide. Staff is committed -- staff is committed to successful implementation of this regulation and technology long term. As such, we continue to not only monitor the progress, but be actively involved in overcoming issues. We will report back to the Board periodically as well as commit to a comprehensive review, which I will discuss later.

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AIR POLLUTION SPECIALIST BARFJANI: We now move to a description of the proposal. Briefly, the major elements of the proposal include a zero-emission bus rollout plan, early action credits, zero-emission bus purchase requirements, and the use of low NOx engines in renewable fuels. Each of these will be described in more detail on the following slides.

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AIR POLLUTION SPECIALIST BARFJANI: The proposed ICT regulation applies to all transit agencies in California, but has delayed requirement for smaller transit agencies.

The current staff proposal uses a threshold of 100 transit buses to differentiate the large transit
agencies from the small ones. Staff is preparing proposed
changes to the definition as highlighted in the orange
box, to be more -- to be more consistent with one that is
it commonly used by transit agencies, as proposed by the
California Transit Association.

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AIR POLLUTION SPECIALIST BARFJANI: For
successful zero-emission bus deployment, it is essential
for transit agencies to engage local communities and have
an individualized rollout plan on how they would deploy a
zero-emission bus fleet that would meet the 2040 goal.

Information from these plans will help in shaping
future funding decisions and utility planning that will
help support market expansions.

Staff is proposing additional time for small
transit agencies to ensure they have an opportunity to
learn and benefit from larger fleet experiences.

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AIR POLLUTION SPECIALIST BARFJANI: The
zero-emission bus purchase requirements are based on an
annual purchase percentage according to transit agencies' 
regular purchase cycle. Buses may be used for their full
useful lives, and no buses would need -- would need to be
replaced early.

The zero-emission bus purchase requirement would
begin in 2023 for large transit agencies and three years later for small transit agencies.

The purchase requirements for 2023 and 2024 highlighted in orange could be eliminated if California transit agencies collectively purchase a certain number of zero-emission buses early. I will describe this in more detail in the next slide.

AIR POLLUTION SPECIALIST BARFJANI: Based on the initial proposal, the 2023 zero-emission bus purchase requirement would be waived if California transit agencies collectively purchase 1,000 zero-emission buses by December 31st, 2020. The 2024 zero-emission bus purchase requirement would be eliminated if 1,150 zero-emission buses are purchased by December 31st 2021.

Staff is preparing proposed changes to reduce the first target to 850, and to increase -- and to increase the second target to 1,250 zero-emission buses. This change is based on recent survey information from transit agencies.

Staff believes these targets are likely to be met and would result in early emission reductions benefit, provide flexibility for transit agencies, and would increase access to available incentives.

All early zero-emission bus purchases will count
to a future -- will count toward future compliance obligations -- obligations. There are additional compliance options to provide flexibility that I will describe in the next few slides.

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AIR POLLUTION SPECIALIST BARFJANI: The joint compliance option allows transit agencies to work together to pool resources to more effectively deploy zero-emission buses and the related infrastructure. This option allows for better coordination with the -- within a region, a metropolitan planning organization, and an air district, and complements similar coordination that occurs in meeting SB 375 goals.

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AIR POLLUTION SPECIALIST BARFJANI: Early action bonus credits are proposed for transit agencies that deployed zero-emission buses early. These pioneers accepted higher risks and costs at early stages of technology development, and helped the state, manufacturers, technology providers, and utilities to address and overcome early barriers. Their experience is invaluable to the entire California's medium- and heavy-duty -- medium- and heavy-duty vehicle sector.

These bonus credits can be used towards meeting purchase requirements until 2029 when 100 percent purchase
requirements kick in. However, bonus credit cannot be used towards meeting the threshold for early ZEB, zero-emission bus compliance.

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AIR POLLUTION SPECIALIST BARFJANI: The zero-emission mobility option encourages innovation in providing first and last mile connectivity and improved mobility for transit riders. It can be used in lieu of purchasing zero-emission buses, if the services are provided with zero-emission vehicles, such as vanpools, microtransit, and bicycles. Within this option, staff is also proposing a multiplier of three for bicycle mileage. This option would enhance service by being responsive to diverse and changing mobility concepts. It would also complement regional plans for developing sustainable communities and support the long-term goal of achieving a zero-emission transit system.

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AIR POLLUTION SPECIALIST BARFJANI: There are multiple bus types used by transit agencies for various purposes. These bus types include smaller cutaways, motor coaches, double deckers, and articulated buses. Zero-emission technology in these categories is not as advanced as the common 40-foot bus. Therefore, staff is proposing to exclude them from the zero-emission
bus purchase requirements until 2026. They would only be
required at that time after the applicable bus type has
passed the Altoona testing requirements.

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AIR POLLUTION SPECIALIST BARFJANI: In close
coordination with transit agencies, we included safeguards
to ensure transit service is not compromised in any way.
Concerns related to a delay in bus delivery,
infrastructure issues, or the ability -- or the ability
of an available bus to meet district's needs can be
addressed. These safeguards allow for consideration of
individual transit agencies' circumstances and ensures
that transit agencies are not required to buy
zero-emission buses that would not meet their needs.

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AIR POLLUTION SPECIALIST BARFJANI: Even though
zero-emission bus technologies have advanced rapidly in
recent years, continued improvements in technology are
needed for a complete transition.

As mentioned previously, staff has committed to
report back to the Board periodically with updates. We
have also committed to conduct a comprehensive evaluation
of zero-emission bus technology and infrastructure with
real-world data. The review will include an analysis of
costs, range, battery performance, and reliability before
any zero-emission bus purchase requirement is implemented.

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AIR POLLUTION SPECIALIST BARFJANI: When conventionally fueled buses are purchased, the proposal would require low NOx engines, if available. Fuel switching would not be required.

This requirement would apply to all transit agencies, except for buses dispatched -- dispatched primarily in rural areas with cleaner air.

In addition, staff also proposes to require large transit agencies to use renewable diesel or renewable natural gas when renewing fuel contracts -- contracts starting in 2020. This will further support the LCFS market.

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AIR POLLUTION SPECIALIST BARFJANI: Along with development of the regulatory proposal, staff also prepared a thorough economic analysis detailing the potential economic impacts. The staff analysis -- the staff analyzed at least eight alternatives, including some that were more and less stringent, some that were voluntarily measures, and some that relate the low-NOx engines and alternative fuels.

Sorry. I repeat it one more time.

Staff analyzed at least eight alternatives,
including some that were more and less stringent, some
that were voluntary measures, and some that related to
low-NOx engines and alternative fuels.

The analysis shows, there is an overall cost
saving of the regulation due to the operational and
maintenance savings of the electric buses. Battery
electric buses have a higher upfront cost, but lower
operating cost. Savings come from reduced fuel cost,
including LCFS credit for electricity and lower
maintenance costs.

Although each fleet is different, we have found
that transit buses have a positive payback over their
life, even without other incentives. However, funding is
still important, especially in early years to help reduce
or eliminate the higher upfront costs. When funding
opportunities are considered, these upfront costs can be
reduced or eliminated, and total savings for transit
agencies would be substantial.

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AIR POLLUTION SPECIALIST BARFJANI: Multiple
state programs provide access to funding for zero-emission
buses. Although, I want to be clear, that most of these
programs are not dedicated to transit agencies. Local and
federal funds are not included in -- are not included in
this slide and add to the opportunities.
As this slide shows, there has never been so much incentives available for transit agencies to take advantage of. Among these funding programs, the Board will be hearing the proposed fiscal year 2018-19 funding plan for clean transportation incentives next month. This proposed funding plan includes an additional $125 million proposal for clean truck and bus vouchers.

In addition, the CPUC has approved more than 575 million to install charging infrastructure for zero-emission trucks and buses over a five-year period. The credit value for each battery electric bus could be about $10,000 per bus annually at credit price of $100. With your approval -- with your approval of the Low Carbon Fuel Standard regulation yesterday, the credits from the LCFS program will increase.

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AIR POLLUTION SPECIALIST BARFJANI: The next two slides show the emission reductions the proposed regulation would achieve. For tailpipe emissions of NOx and fine particulate matter, or PM2.5, the regulation is estimated to result in cumulatively over 7,000 tons and nearly 40 tons of emission reductions respectively from 2020 to 2050.

The regulation contributes to attaining air
quality standards, reducing local health risks to individuals, and meeting climate change goals. The majority of these benefits will be in the state's most populated and impacted areas.

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AIR POLLUTION SPECIALIST BARFJANI: Zero-emission bus experience is helping advance technology deployment in other heavy-duty on-road sectors to further the emission reduction goals identified in the State SIP Strategy and achieving carbon neutrality.

The regulation is expected -- expected to cumulatively reduce GHG emissions relative to current conditions by 19 million metric tons of CO2 equivalent, from '20 to 2050.

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AIR POLLUTION SPECIALIST BARFJANI: Staff prepared a draft environmental analysis for the proposed Innovative Clean Transit Regulation. The EA also considered two alternatives, one more and one less stringent than the staff proposal.

The draft EA concluded that implementation of the proposed regulation could result in beneficial impacts to energy demand and GHG and greenhouse gases. It also concluded potentially significant adverse impacts primarily related to the short-term construction
activities.

Staff will present the final EA and written response to comments on the draft EA to the Board at the next hearing anticipated in January 2019 to finalize the environmental analysis.

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AIR POLLUTION SPECIALIST BARFJANI: In summary, a viable zero-emission bus market has now developed with number of zero-emission bus -- zero-emission transit -- with number of transit agencies committing to fully electrify their fleets.

The proposed ICT regulation is driving innovation, yet with appropriate safeguards. It provides a significant number of important benefits as listed in here.

I conclude this presentation with highlighting findings made after thorough analysis of cost and benefits of the proposed regulation.

The regulation is a necessary program for meeting the state's goals and requirements to reduce emissions; no alternative would be more effective and less burdensome in carrying out the purpose for which the regulation is proposed, and the proposed amendments are consistent with the Board's environmental justice policies and do not disproportionately impact people of any race, culture or
AIR POLLUTION SPECIALIST BARFJANI: This last slide summarizes the proposed changes that staff is recommending to be made available for public comments for an additional 15 days comment period, and presented to the Board at the future hearing.

Staff would consider suggestions in the public comments and for additional improvements, and expect to make changes available for public comments in October/November time frame.

The second hearing is anticipated in January of next year to finalize the environmental analysis, and for the Board to vote on the updated proposal.

This concludes my presentation. Thank you for your attention.

CHAIR NICHOLS: Okay. Thank you. We have a very long list of witnesses, and I want to encourage those who are here in support to come up and say their support, but if at all possible not to take your full three minutes, because otherwise we're going to be here for a very long time.

So with that admonition, we won't try to cut short the people who are in opposition, because that -- we need to hear from you, but we -- but our -- our many, many
supporters of this rule probably don't need to detail it at great length, but we'll listen to everybody.

So let's start with Kent Leacock from Proterra.

Good morning.

MR. LEACOCK: Good morning.

CHAIR NICHOLS: Or almost afternoon. We're right on the cusp here.

MR. LEACOCK: Good morning, Chair Nichols, members of the Board and staff. Thank you for the opportunity to provide support. Kent Leacock from Proterra. And I'll cut right to the chase.

My main message is to convey how ready and ripe the battery technology is to serve transit rides throughout America. I was here three years ago, and the zero-emission bus world is completely different than it is -- than it was then. Proterra alone has now over six million miles of revenue service and nearly 100 customers in 39 states and two Canadian provinces.

There are now multiple manufacturers of zero-emission buses in California. And the ZEB industry will continue to innovate and reduce upfront and operational costs. We strongly support continued funding in incentive programs such as HVIP and VW, as well as the SB 350 transportation electrification for infrastructure funding.
Finally, the last thing I'll close with is that I'm proud to say that technology transfer is real. I also talked about that when I was here three years ago. And I think at the time, I was also the last person on the agenda.

CHAIR NICHOLS: That's right.

MR. LEACOCK: So this pretty funny that I'm first now.

CHAIR NICHOLS: The last shall be first.

MR. LEACOCK: You may have recently heard that Daimler Trucks made a strategic investment to partner with Proterra to utilize the electric drivetrain and energy storage technology that we developed for transit and apply it to trucks and electric school buses.

This is a clear success of our -- of ARB's investment in zero-emission transit applying to additional zero-emission applications. So I thank you for the opportunity to provide support, and I give you back a minute and a half. Thank you.

(Laughter.)

CHAIR NICHOLS: Thank you so much.

We brag about Proterra all the time. So congratulations.

For starters, I want to thank you all for being here today. It's been a very busy two weeks and I saw a lot of you at GCAS making sure that we're setting global leadership by our own example, which was entirely in opposition to the day I had two days ago testifying in front of the EPA in Dearborn, where we are seeing the rapid rollback of a lot of wonderful work.

And so to come into this room and to see staff thinking about data, health, and quality of California lives is very refreshing. So for starters, thank you.

Leading to this rule, the idea of a plan that fits within the scoping plan and beachhead technology approach that will lead to further applications is real.

Motiv Power Systems started by building one electric school bus. And that technology has already transferred into delivery applications, work trucks, electric mobile lung clinics, blood mobiles, book mobiles, and we're just getting started. This rule and your foundation for a 100 percent zero emission future for transit buses is the foundation for that for the State of California.

I am strongly in support. And if there are to be any modifications, I would only urge that you accelerate timelines because this is exactly what we need exactly when we need it.
Thank you so much for your time and work.

CHAIR NICHOLS: Thank you.

CAPCOA EXECUTIVE DIRECTOR ABBS: Good morning, Chair Nichols and members of the Board. My name is Alan Abbs. I'm the Executive Director for California Air Pollution Control Officers Association.

In addition, I'm here on behalf of Wayne Nastri of the South Coast AQMD and also Jack Broadbent of Bay Area AQMD. So this is a three-for-one testimony.

(Laughter.)

CAPCOA EXECUTIVE DIRECTOR ABBS: As to start off, we're in full support of staff’s proposal, and we also appreciate the extensive workshop schedule that led to this proposal today.

As you're aware, in South Coast, medium-duty and heavy-duty vehicles account for over 25 percent of the NOx emissions in the district. And their AQMP requires a 50 percent total decrease in NOx to meet their 2031 standards. In the Bay Area, they've established Diesel Free by '33 initiative to get all diesel emissions out of the Bay Area. And transit buses are going to be a prime way of making early action to get that done.

And so in addition, we also support the provision that provides for low-NOx purchase requirements beginning in 2020, because we have some -- some short-range goals in
addition to long-range goals. And so requiring low NOx early on is a good way to split the middle on this.

And as -- and I don't need to talk anything about AB 617, but the transit buses are going to be a great way to lower diesel emissions in affected communities.

The only thing I would suggest, and I know that staff is already considering this, has to do with the incentive programs. And as the presentation showed, incentives are -- there's a lot of incentives out there, and incentives are going to be a prime way to -- to get a lot of these buses out there and in use.

And so to the extent possible, we'd like to see some harmonization of the requirements, as they apply to transit buses. And then also to consider including maintenance, training, and some infrastructure as available funding within those incentive programs just to make sure that purchase of these buses are still going to be attractive to transit agencies and the costs don't outweigh their short-term benefits.

And then lastly, I'd just like to remind the Board that as -- to think about the surplus emission reduction provisions. This was an issue we had with Carl Moyer several years ago, where, as you get to lower emission requirements, the cost effectiveness gets harder to justify. And so we just need to keep that in mind...
going forward, that there is a cost effectiveness issue, and then make sure the incentive programs account for that and still allow these buses to be funded to the maximum extent possible.

Thank you.

CHAIR NICHOLS: Thank you.

MR. WARREN: Good afternoon, Chair Nichols and distinguished Board members. My name is David Warren. I'm the Director of Sustainable Transportation for New Flyer of America. We produced -- we are the largest manufacturer of transit buses in North America. We produced over 7,300 buses driven by electric motors and batteries, and 1,700 of these have been zero emission, either battery electric, fuel cell electric, or trolley electric.

So I'm here to make some comments today regarding the current state of battery electric bus and fuel cell electric bus technology and infrastructure. I have six points to make. I've submitted written comments to you as well.

Point number one, the range of battery electric bus. Great improvements have been made, but the current state of the art under severe conditions, 115 degrees, aged batteries, severe terrain, you're looking at 175 to 225 miles. That compares to a diesel or a CNG bus of 350
miles. So when fleets try to implement the zero-emission bus, range is going to be a consideration in their one-for-one bus replacement.

Second point, the cost of battery electric buses. Batteries comprise 35 percent of the cost of a battery electric bus. So batteries are continuing to decline in cost. But the challenge will be for transit is that instead of taking that cost reduction, we're going to stuff more batteries on the bus to close that range gap. So in the foreseeable future, don't expect the cost of these battery electric buses to come down.

The other factors are that many of the battery cells come from Asia. We've got trade policy issues as well. And then the elements that make up the batteries.

The next point is weight. The weight of batteries on a transit bus is huge, 7,500 pounds. That's the equivalent of not one, not two, but three Honda Fit automobiles. So the challenge with battery electric buses, is that you can carry batteries or passengers.

Many of the buses that have been through the Altoona test cycle, zero emission certain buses have been overloaded, front axle and gross vehicle weight. It's a challenge for the industry.

Next point I want to make is related to fuel cell electric buses. For 2018-19, we're going to deliver 27
buses to the State of California. The fuel cell technology is great. It will close the gap on the range within a CNG or diesel bus. The challenge is going to be is the infrastructure. We need hydrogen. We need private and public investment in that. If we can get the hydrogen, we're going to increase volume. We'll be able to reduce the cost of those buses.

The next point is charging standards. There is -- there are four charging standards in the industry, two of these are released and they're published, and two of them are still in development. By the end of 2019, those standards will be in place. It should be a requirement of -- it should be a requirement of the purchase of the zero-emission buses that the charging equipment is interoperable and available from multiple suppliers.

And my last point is infrastructure. Implementing battery electric buses, the technology of the bus is the easy part. It's the infrastructure, trying to get to a facility that's going to require 13 to 20 megawatts at a large facility. It's not just the charging equipment. It's the transformers. It's the switch gears. It's the metering. It's the big electric -- or pardon me, copper wire that goes to that facility. It should not be overlooked in the implementation.
Thank you very much.

CHAIR NICHOLS: Thank you. Thank you.

MR. WAGNER: All right. Hey. Emanuel Wagner with the California Hydrogen Business Council. I am going to keep my comments a little shorter here.

We are in support of the ICT. We want to make three recommendations to be looked at, while moving forward. The first is to require an analysis and the assessment of both fuel cell electric because and battery electric bus alternatives, and the justification for the proportions of each of those in the rollout plans by the transit agencies.

The second one, infrastructure plans and the rollout plan must be -- must include estimates of time and cost that will be incurred by the transit -- by the transit agency for all charging and/or fueling infrastructure required to ensure these factors have been taken into account.

And thirdly, we recommend a change to require large transit agencies to submit its board-approved rollout plan along with its approval to the Executive Officer by July 1st, 2021, so one year later.

The reason for that is that this will allow important deployments of battery electric buses and fuel cell electric buses to generate data, which will be
invaluable to transit agency assessments. Both AC Transit and Orange County Transit agencies are taking delivery of multiple BEB and FCEB deliveries for a single manufacturer this career and the coming year.

The operational service of these buses will be begin in earn in the beginning of 2019, meaning that performance data and reporting will not be available until well into 2020. So moving the rollout plan deadline to 2021 will allow data to be collected across a full year of operation for consideration by all California transit agencies in they're rollout plan.

So I'm going to cut short here. Appreciate your time, and we are happy to work with you on some of those recommendation.

CHAIR NICHOLS: Thank you.

MR. TEPKE: Good afternoon. I'm Glen Tepke with the Metropolitan Transportation Commission. That's the transportation planning and funding agency for the Bay Area. MTC does not operate transit buses, but we help pay for most of the buses that are operated in the Bay Area, so we're very interested in the ICT regulation.

MTC shares the goals of the regulation to reduce greenhouse gas emissions and to achieve a zero-emission transit fleet by 2040, but we do have some specific
concerns about the costs, and especially the funding for compliance with the regulation. I've submitted a comment letter that lays those concerns out.

Just in the interests of time, I just want to highlight a couple of them. One is the incentive funding that the Air Resources Board manages, the HVIP, Hybrid Voucher Incentive Program, and the Volkswagen Environmental Mitigation Trust Funds. We think those are kind of the ideal funding sources for helping the transit operators cover the incremental capital costs of complying with the regulation.

However, under the proposal, those funds could not be used for zero-emission buses that are purchased in compliance with the schedule for the purchase requirement. They only could be used if the operators are buying buses sooner or in larger quantities than are required.

And the problem with an incentive approach like that, is that incentives only work if the operators have the ability to time the purchase of their buses to take advantage of those incentives.

Operators do not have a lot of discretion over when they buy their buses. Their buses are typically replaced about every 14 years. They cannot be replaced early due to federal funding requirements. So whether an operator is able to take advantage of that incentive
funding depends more on kind of the luck of the draw of
when their buses are next due for replacement than it does
with their, you know, willingness to buy zero-emission
buses. So we think that all ZEBs that are purchased in
the state should be eligible for the vouchers from one of
those programs.

The second issue is San Francisco Municipal
Transit Agency operates a fleet of electric trolley buses.
They're powered by overhead wires. These are zero
emission buses. They're actually greener than any other
ZEB technology at this point, because they operate on
hydroelectric power.

The current transit fleet rule treats those as
zero emission buses, but the ICT proposal does not. Those
buses are very expensive to purchase. So we're painfully
aware of that, since we help pay for them. They're -- the
overhead wire is expense to maintain, so we think that
Muni should get some credit for operating those buses,
which are an important contribution to the zero-emission
transition.

Thank you.

CHAIR NICHOLS: Thank you.

MS. RENGER: Hi. Good afternoon, Chair Nichols,
member of the Board. Laura Renger for Southern California
Edison.
First, I'd just like to quickly thank Tony, Yachun, and Shirin for all of their work on this. Staff has been amazing to work with, and we really appreciate this efforts here.

Southern California Edison strongly supports the proposal to transition to zero emission by 2040 for our transits. I'm going to talk to you today about two programs that have already been approved by our Public Utilities Commission that we are offering to support in this transition.

One is a infrastructure investment program where we will provide $365 million worth of investment into the electrical infrastructure to support medium- and heavy-duty electric vehicles. Under that program, 15 percent -- a minimum of 15 percent of the installations will be for transits. And this will support a minimum of 870 installations to support 8,490 vehicles.

We also have -- I'm sorry. And on that program, we will also provide 50 percent rebate for the cost of the electric vehicle charger to support those buses.

Early next year, we will also be offering a rate that was specifically designed to assist with medium- and heavy-duty infrastructure charging. Under this rate, demand charges will be waived for the first five years of the program. In years six through 10, the demand charges
will slowly be fanned in. It's a 10-year rate design and
we will be rolling that out early next year.

The time is now to act on this rule. And we look
forward to working with CARB and our local communities and
the transits to ensure a smooth transition to the
zero-emission bus future.

Thank you.

MR. SCHUCHARD: Hello again, Chair Nichols, Board
members. Ryan Schuchard with CALSTART. We're bringing
together two really important parties for a wedding, maybe
to build on a theme from early today. Although a happier
theme. Transit agencies are so important to California,
period, for greenhouse gas reductions. And zero-emission
drivetrains is one of the many things we need to ask them
to do. So we're just -- we value the transit agencies so
much.

The other party is zero-emission buses. And
continuing to support the commercialization of this
technology is essential for GHG reductions in transit, but
also building the beachhead markets beyond to trucks. And
we have followed this rulemaking with that in mind very
closely and with great interest. We're committed to
transformational changes, and making rules that work both
for fleets and that accelerate technology.

And if I could, I'd just like to acknowledge
Senator Lara, he's been really the biggest champion in the legislature bringing the incentive funding needed in this industry to have us -- allow us to even have this conversation. And also, Tony's team and Emily and staff for really developing the foundations for this.

So we -- I'll surely cut to the chase. We have members and friends on different sides of this. Zero-emission bus manufacturers have -- are showing that they have technology that does work bus by bus, when you look at vehicles that have graduated into the early commercial phase like those you get from HVIP incentives.

At the same time with the proposed rule, transit fleets are being asked to do something that is completely new, and they face uncertainties when you take into account the whole operations of a lot of buses together, on a -- particularly around the whole charging infrastructure and cost from their perspective

So just -- just two thoughts for recommendations. One, please let's continue to ensure that there is sufficient incentive funding available for these vehicles, and off-ramps and flexibility in the cases that transit agencies truly cannot meet the requirements.

And second, to double-down on working closely with the CPUC and the Energy Commission to ensure that there are sufficient incentives in the infrastructure for
the electrification, both getting the service to the site, and the chargers done, and the rates that work from the perspective of the fleet operators.

These challenges are sur -- absolutely surmountable, but they will require some enhanced coordination and investment.

Thank you very much for your leadership.

MR. McENTAGART: Hello. How are you?

Chair Nichols, Vice Chair Berg, Board, staff, thank you for your work. My name is John McEntagart, and I am an IBEW official here from Local 551. We represent all members from the Golden Gate Bridge to the Oregon state border. And I'm here to speak in strong support for the advanced Clean Transit Rule. We are asking CARB to create a regulatory standard that will not only create better air quality, but also provide good clean green career pathways. Our members coming out of our apprenticeships are looking for clean energy career opportunities. And this is not only an investment in the air quality, it is an investment in clean energy workforce for us working Californians.

So we ask of you give us clean air, we ask of you to give us the green jobs, and finally implore you, please let's be bold. Our health and livelihoods as working Californians require it. And the healthy future for all
of us depends on it.

And lastly, I'd like to comment on some of the comments that were made earlier about the electrical infrastructure might be a little difficult and large. And for a State certified electrician, such as myself, and for companies I've worked for, it is seamless work for us. This is what we do, so please give us a chance to do it.

Thank you.

MR. CLARK: Hi. My name is David Clark, and I'm with International Brotherhood of Electrical Workers. I'd like to thank the Board for giving me the opportunity to speak.

Local 100 is in Fresno. You guys had a chance to sample our wonderful air quality down there, while you were you there. So I definitely have a vested interest in this.

IBEW workers spend a lot of time outside, especially during the middle parts of the day when peak ozone happens. And there -- the American Lung Association has rated Fresno 4th worst in the country for ozone pollution, and 5th worth for year-round particulate matter. So I'd like to say that I don't think the market will take care of itself. And I think that we need -- we need strong regulatory action, not only to protect our health, but also to create good green charging
infrastructure jobs.

Thank you.

MS. KROPKE:  Good morning, Chairwoman Nichols and esteem Board members. My name is Jennifer Kropke. I have the privilege of working for -- on behalf of the International Brotherhood of Electrical Workers, and the National Electrical Contractors Association. Thank you for a thoughtful, well-researched proposal by staff. Thank you especially to Mr. Tony, Ms. Shirin, and Ms. Yachun as well as for the workshops that have been a part of this.

We stand in strong support of the Innovative Clean Transit Rule. This rule will create good green jobs in charging infrastructure and other clean energy technologies that will be a part of this process, such as Solar arrays, batteries, microgrids, and -- and all of these additional infrastructural upgrades that will become a part of this plan.

I also wanted to note it was very fortuitous that this discussion is coming on the heels of the Global Climate Action Summit, because there's been a lot of discussion about air climate, and jobs, and creating those good green jobs. Rules like this that are bold, not only benefit our air quality, they also benefit our working Californians.
So we continue to ask CARB to be bold in their regulatory action and vote in favor of this rule. Thank you very much.

MR. COLE: Hello, Chair Nichols, Board and staff. My name is Derek Cole. I'm a member of IBEW Local 302 serving Contra Costa County. And I'm here to say that our membership is in support of the ICT Rule. Adopting the ICT will create millions of hours of clean energy work for our brothers and sisters seeking clean energy career opportunities. And as electrical workers we are exposed to some of the worst air quality, while we're outdoors working during the day.

And I'm thankful for the AC Transit is operating some zero-emission buses, but let's set regulatory standards, so that all agencies will similarly commit to a zero-emission transition. We can clear the air, create good jobs, green jobs, but we need your vote to set the regulatory standard.

And thank you very much for your time.

MR. SEGURA: Good afternoon, Board. My name is Nick Segura, business manager of IBEW 569 representing over 3,300 electrical workers in San Diego and Imperial Counties. We support the Innovative Clean Transit Rule and urge you to move forward to finalize and adopt this critical proposal. That IC2 -- the ICT rule will help
clean our air, create good middle class jobs, and establish California as a national leader in clean transportation.

In fact, IBEW 569 has already launched an electrical vehicle infrastructure training program, and IBEW electricians are building -- charging infrastructure throughout the state to support the growth of zero-emission vehicles. The ICT rule will also help accelerate this industry growth.

We've already seen momentum in San Diego. Our metropolitan transit system has approved a zero-emission pilot bus for six buses. And given our state's leadership on clean energy as well as San Diego's goal of 100 percent renewable goal, we see a bright for zero-emission transit buses to be powered by clean solar energy, another sector that has put thousands of IBEW electricians and apprentices to work. Another benefit of this rule relates to air quality, a concern of ours, as most of our members are -- work outside in construction. This rule will help reduce air pollution in the communities where we live and work.

Finally, we know we are running out of time to address the climate crisis. We support the IC2 -- ICT as another vital tool in California's toolkit to reduce harmful climate emissions from transportation. The ICT is
a win-win for our environment, our economy, and working families. And we speak in strong support. Thank you very much.

MR. NAYLOR: Chairman Nichols, members of the board, I'm Robert Naylor representing the Los Angeles County Metropolitan Transportation Authority. First, we want to thank the Board and your very professional staff for working with the transit agencies over the last three and a half years on this regulation. As Chair Nichols noted, our board last year set a 2030 goal for conversion to zero-emission buses.

Since that is a more aggressive schedule than the one in this regulation, we think we can work within this regulation to reach that goal. Importantly, we think the regulation as contemplated offers the flexibility to confront some serious challenges, which you've heard about. One is the range of the vehicles. We're hopeful, but they don't have the range we need yet to operate our kind of operation.

Second is the expense of both the charging infrastructure and the long-term fuel costs of both electricity and hydrogen. The far exceed the cost that we're currently experiencing with our current fleet.

Finally, the transit agencies are going to need an ongoing funding source from those sources outlined in
the presentation, and we urge the Board and we know the Board will continue to work in that direction.

Two comments in the staff presentation stood out for us as on point. On page eight it said, "Continued technology advancement and cost reductions are needed". And on page nine, the staff said, "Ensure requirements are technologically and financially feasible". To provide that kind of flexibility, we urge you to ensure that the final rule provides for benchmarking and regulatory assessments as the rule is implemented.

Again, Metro thanks the Board for working with all of us transit agencies, and rest assured Metro will work diligently with you to make steady progress on the transition to zero emissions.

Thank you.

MR. KHATRI: Good afternoon, Chair Nichols and Board members. This is Bhavin Khatri. I'm representing San Francisco Municipal Transportation Agency. First, I'd like to thank the staff of -- the folks that are working on this regulation. They've involved us and greatly worked with us to get it to where it is today.

We support the goals of the regulation that will help accelerate the adoption of zero-emission buses in transit agency, and fully support CARB's goal of reducing greenhouse gases and other emissions through
electrification of transit fleets.

SFMTA is a national leader in supporting sustainable reduced and zero-emission renewable transit vehicles. We operate the largest fleet of zero-emission coaches, running 100 percent greenhouse gas-free electricity in North America.

In May 2015, our Board adopted a zero-emission vehicle policy requiring us to purchase 100 percent zero-emission buses in 2025 with a goal of full electrification of fleet by 2035. This is ahead of CARB's commitment of 2040.

The zero-emission policy also outlined several of the innovative programs that we've done, such as green zone or battery electric bus pilot program, and our hybrid conversion program. While we're happy with the regulation, we do have two specific asks based on our unique challenges that we have at SFMTA. One of the tasks that Glen Tepke mention is the trolley buses. We think trolley buses should be counted as zero-emission buses, and should qualify for bonus credit. We're in -- we're in the middle of purchasing the largest procurement of zero-emission buses in North America with 185 40-foot trolley electric buses.

Our trolley buses are zero emission in a true sense, as they're powered by greenhouse gas-free
electricity, generated by a hydroelectric plant. The operation of trolley coaches does not produce any greenhouse gases compared to a typical battery electric bus, which may not be powered by greenhouse gas-free electricity.

The trolley -- the trolleys can operate without the poles on battery power alone for a limited distance, much like the short-range battery electric buses. The trolley buses are electric buses with additional overhead infrastructure technology that allows us battery -- allows the batteries to be charged while the bus is operating, which offers us an additional advantage.

The intent behind our request to include trolley coaches in the ZEV definition is to get recognition for our zero-emission trolley coach buses. We do not plan to use bonus credit to delay our electrification efforts. We may not, in fact, use any of the bonus credit if all transit agencies statewide collectively purchase the required number of zero-emission buses as part -- part of the way for early compliance.

Like I said, SFMTA has already committed to procuring battery electric buses in starting 2025. And we need this time to ensure the battery electric buses infrastructure is in place before system-wide adoption of the battery electric buses.
CHAIR NICHOLS: Thank you.

MR. KHATRI: In conclusion, I would just like to say --

CHAIR NICHOLS: You -- that sounds was your time being up.

MR. KHATRI: Oh, sorry about that. Thank you. Appreciate the time.

CHAIR NICHOLS: Thank you. We understood the request.

MR. SASSEEN: Thank you Chair Nichols and members of the Board, members of the Senate and the Assembly. Tim Sasseen from Ballard Power Systems.

We at Ballard are highly appreciative of the hard work that CARB and other stakeholders have put in to creating this important regulation. Thank you for your continued openness to industry and for your consideration of our feedback. I would like to express Ballard's overall support for the proposed Innovative Clean Transit Rule.

Ballard manufacturers fuel cell stacks and modules for medium- and heavy-duty vehicles. Our fuel cell modules have been in transit buses in public service for almost 20 years and seven million miles. As such, we have gained a good deal of knowledge on integrating zero-emission technology into this demanding market.
segment. It's precisely this demanding environment that makes transit most appropriate for scaling both grid charging and fuel cell electric powertrains.

However, this rule cannot be formed in isolation. Achieving SB 100's 2045 goals of carbon neutrality and a renewable grid will require more than tripling of our renewable generation in California, and doubling or more of our electrical loads on our electrical grid.

Economically transmitting and distributing this energy will be a monumental challenge, particularly in areas of remote generation, such as mountains and deserts, and in areas of dense usage, such as ports, urban industrial areas, and in many transit agencies.

The ICT rule must acknowledge that California now has two economic -- economical alternatives for zero emission's energy transmission distribution, namely the power grid, and hydrogen as a fuel. This -- the most appropriate method will be determined by use in each case. Liquid and gaseous fuels have proven their effectiveness in serving dense loads in and in transporting that energy over long distances without adding permanent infrastructure.

Hydrogen has proven itself to achieve this. It must be considered for the demanding needs of transit agencies. Unfortunately, many transit agencies have not
been exposed to fuel cell bus technologies as the economics have historically favored larger fleets to support fuel production. And only recently have buses come down to competitive levels. We therefore strongly support the recommendations of the California Hydrogen Business Council, particularly in these three areas:

One, requiring rollout plans to include an analysis of both fuel cell electric and battery electric alternatives and justifying the proportions of each in the procurement plans; two, require the rollout plans to include time and cost estimates for all infrastructure elements that the transit agency will be responsible for, including cost estimates for utility upgrades outside of transit -- transit administrator facilities from their load-serving entities, and; three advance the due date for the rollout plan by one year to 2021 to allow important deployments of fuel cell, electric, and battery electric buses on a common manufacturers platform to gather at least a year of data, namely those at AC Transit and Orange County Transit Authority.

If these comparative assessments are not made and issues such as range or major utility upgrades prevent success of the ICT when alternatives could have been achieved, California will suffer back -- setbacks, and public support for zero-emission transport goals will be
suffering.

Thank you.

MR. BOUWKAMP: Good afternoon, Chair Nichols and members of the Board. My name is Nico Bouwkamp. I'm with the California Fuel Cell Partnership. And I'm number 18 on the list, so we have a few more to go, so I'll try to keep it concise.

My comments are mainly related to contextual -- the contextual situation. As you may be aware, and if you're not, then I'll -- I can give you a hard copy. California Fuel Cell partnership recently released a document called the California Fuel Cell Revolution. It's a 2030 vision document that also talks about light-duty vehicles. But what's interesting about that is that it has the same infra -- or similar infrastructure as for the bus -- bus market. Points in there is that production is a really important part. And you've heard several people speak about that, and I'll get back to that in a moment.

Fuel Sell Partnership's members support both pathways, both fuel cells and battery electric, where applicable. And you've heard a few comments related to range of different vehicles -- of vehicle technology applications. Our members have over 18 years experience in California with fuel cell buses, that's transit agencies as well as those that provide the buses and the
infrastructure.

Fuel cell buses have been built in California since 2010, so that's ongoing. There are three transit agencies with growing fleets that operate fuel cell buses like any other fuel -- any other bus in their bus fleet, be it CNG or diesel.

And going back to those 2030 goals, keep that in mind, 2030 will show different infrastructure costs as there are now. And I heard some references to that earlier. As you may be aware, last week -- or the week before, the Hydrogen Council met in conjunction with the Climate Summit in San Francisco. And one of the goals they shared was for 2030 to have completely decarbonized hydrogen. In other words, the hydrogen most likely 100 percent renewable. And I've not heard any reference to that yet about the fuel -- on the fuel side of things, so that will contribute to the emission reductions.

And then one thing that's important in all of this is the sustainable businesses case. It's something that really drives all of us, and we'll probably hear more about them in years to come.

Thank you.

MR. BARRETT: Good afternoon. I'm will Barrett with the American Lung Association. I thought for my fourth appearance I would go to the other podium, so here
we are.

(Laughter.)

CHAIR NICHOLS: You're confusing me.

(Laughter.)

MR. BARRETT: The American Lung Association supports the proposal to adopt a zero emission bus requirement as a critical part of our clean air and climate strategies in California. The transportation sector is the leading source of criteria air pollutants and climate pollution that threatens public health, impacts asthma, and a wide range of other respiratory issues. We see this rule as a major advancement in the overall effort to achieve health protective air quality standards in our state's climate policies.

The transition of the transit bus sector marks an important foothold in the overall transition to zero emission heavy-duty technologies across the board that we need to see accelerate.

Yesterday, this Board during the LCFS discussion updated the efficiency credits for zero-emission buses in recognition of the value that these technologies bring to our air and our climate. At a recent workshop on the ZEV fleet discussion, a slide was shown by staff with the title "Zero Emission is Key to California's Future". We wholeheartedly agree with that statement. And especially
within the context of SB 100 and the Governor's new Executive Order on decarbonization.

This policy advances that clean air future that we're all trying to get to. We urge you to move forward with a clear policy that 100 percent of transit buses in California will be zero emission by 2040.

And finally, I just wanted to thank you for your support of moving forward with zero-emission technologies across the board as a critical public health effort.

Thank you very much.

CHAIR NICHOLS: Thank you.

DR. HORTON: Good morning, Madam Chair and Board.

Dr. Mark Horton. I'm a pediatrician and public health professional, previous State Health Officer and Director of the California Department of Public Health.

Myself and 99 other physicians in public health, professionals around the state have presented a letter to you in strong support of moving it forward with ZEV bus rule.

You have strong support in the medical and public health communities for moving ahead on this rule. Why is this important? Well, hopefully, it will add a sense of urgency to the work that you're doing. We're not just talking about the long-term effects of climate change due to air pollution, rising sea levels, wildfires, floods,
droughts. We're talking about today people dying and suffering from cardiovascular and respiratory diseases across the country right here in California.

We hope this adds a sense of urgency to the work that you're doing and that we'll move very aggressively in implementing ZEB bus rule. Thank you very much.

CHAIR NICHOLS: Thank you. Good to hear from you.

MR. O'DEA: Morning, Chair Nichols, Board. Jimmy O'Dea, from the Union of Concerned Scientists. I really want to thank the Board and staff for the three years worth of work, getting the standard where it is today. This standard is something that the State should be really proud of, especially in the context of advancing the accessibility and experience of zero-emission vehicles to all Californians. Buses are the people's electric vehicle. These vehicles, of course, have zero tailpipe emissions, but also significantly lower lifecycle global warming emissions, 75 percent lower in the case of battery electric vehicles, and 50 percent lower in the case of fuel cell electric vehicles than diesel and natural gas.

And this is why the Union of Concerned Scientists, our 70,000 supporters in the state are behind this rule. And we're not the only ones. In addition to the health professionals across the State, 35 mayors have
submitted a letter to the Board supporting the acceleration of zero-emission buses across the state.

Our coalition we've worked at UCS with a coalition of labor, health, community groups the last three years in support of this rule. We submitted a letter to the Board August 30th outlining three ways we think that this rule can be strengthened. I'll just touch on one and let my colleagues address others.

And the one I want to touch on is the -- revising the date for when our articulated buses and shuttle buses come under the purview of this rule. Currently, it's 2026. We believe that's too late, given that these two types of buses make up a third of all buses in transit agencies' fleets across the state, and given that the technology of these buses exists today. There's articulated buses, there's shuttle buses that exist.

And what we would propose is that two years after being certified, these two types of buses, from the Federal Transit Administration by going through that certification process, we propose that they become under the purview of this rule at that time.

Thanks for your consideration.

CHAIR NICHOLS: Thank you.

MS. ESSNER: Good morning, Chair Nichols, members of the Board. My name is Kristin Essner. I'm with the
Orange County Transportation Authority.

First, I just want to take a moment thank the ARB staff for all of the work they've done since the December discussion draft has been released. I do believe progress has been made since that time, but we do have some continued concerns with the regulation as it's currently proposed. We've submitted a detailed comment letter detailing where we see progress that's been made, and also where our concerns continue to lie.

We support CTA's comments, the California Transit Association's, which will be upcoming later in this hearing. But there are two significant concerns we wanted to highlight. One is related to funding. Most of the funding sources provided for right now in the regulation are either existing sources or they're competitive grants, or one-time appropriations by the legislature. These are not funding sources that we could depend on year to year, or we are already committing those funds to our existing transit fleet operations.

We would hope to see in future iterations a more detailed strategy for finding a long-term sustainable funding source for this purpose, and also a more clear definition that the competitive grants and other incentive funding that is under the control of the ARB can be accessed through the life of the regulation rather than
just for early action.

Second, we would like to see more clear benchmarks before any purchase requirement is enforced. This is particularly of concern for OCTA, because we have a very significant procurement happening before 2023 where we would have to replace about half of our fleet, which is 299 buses.

If those buses cannot act as we need them in operations and daily services, that jeopardizes our transit services, and potentially our federal funding in the future.

Furthermore, OCTA has recently extended our useful life out to 18 years, which is way beyond the 12-year useful life as required under federal law. But that is -- has been done in order to maximize funding for operational needs. That is absolutely paramount to OCTA going forward, and we hope the collaborate with both ARB staff and the Board as we move forward with this. Thank you for the opportunity to comment today.

CHAIR NICHOLS: Thank you.

MR. MAGAVERN: Bill Magavern with the Coalition for Clean Air in support. We already knew we had an urgent need to clean up transportation in this state. And recently we've been reminded how urgent that need is. We have we had a summer of smog. In the South Coast, 87
straight days exceeding the ozone standard, and similar
problems in the San Joaquin Valley and around the state.

And we also have seen that when it comes to
greenhouse gas emissions, while other sectors have been
trending downward, transportation emissions are actually
on the rise.

So we know that a really vital piece of
decreasing emissions from transportation is a healthy
public transit. We need to decrease vehicle miles
traveled. And that is going to require greater funding
for public transit from the legislature, as well as from
the federal government. And it will also require defeat
of Proposition 6 on the ballot.

This proposal before you today is part of a suite
of measures that you have taken action on or will taken
action on to clean up transportation. And this one has
been in the works for a long time.

And I think your staff have used the time well to
really come up with an excellent proposal. But I do want
to stress the urgency and note that the State
Implementation Plan that you adopted a year and a half ago
actually said that this rule would be adopted in 2017 and
implemented in 2018.

So that's just to emphasize that we need these
emission reductions as soon as possible, so we ask you to
finalize this and get into the implementation stage as soon as possible.

And as Jimmy O'Dea said, there is a range of health and environmental and labor organizations who have sent you a letter. We're asking for three amendments. He talked about one of them. I will stress the second one, which is simply to have a binding requirement that by 2040 all the transit buses be converted over to zero emission. It's already clearly stated as a goal, and we're asking you just to put in the assurance that that will happen.

Finally, speaking for the Coalition for Clean Air, we also support and thank you for the nearer term requirements for low-NOx engines and renewable fuels, because those will deliver additional emission reductions over the next several years.

Thank you.

CHAIR NICHOLS: Thank you.

MR. HARRISON: Thank you, Chair Nichols and Board members. My name is Anthony Harrison, and I'm here on behalf of ChargePoint to convey our strong support of the ICT rule. ChargePoint has a motto, if it rolls, flies or flows, we want to charge it. And this role aligns with that mission, as it builds upon the successful policies that this Board has already implemented to drive adoption in the light-duty sector for zero-emission vehicles.
So you've already heard today from Proterra that the battery technology is ready. You've heard from Southern California Edison that the electric utilities are ready to deploy the infrastructure needed. And you've heard that from several representatives from IBEW that there is a ready and willing workforce to install an infrastructure.

Well, I'm here to tell you that the charging technology is also ready to support this transition to a clean transportation future.

ChargePoint recently celebrated one billion mile -- gas-free miles delivered, along our charging network. And we are already working with transit agencies, bus manufacturers, and electric utilities across the globe to build upon that first one billion, and increase billions more miles that are delivered through public transit buses.

Finally, we want to convey that the most important aspect of this rule is that it builds towards increasing access to clean transportation for all Californians. This includes Californians that rely on public transportation to get to and from where they need to go every day, who don't drive a light-duty vehicle, and need public transportation in order to move them around the state. This rule will make sure that they also have
access to clean and green transportation.

Thank you.

MR. SEDA: Good afternoon, Board members. My name is Edgar Seda. I am here on behalf of Smart Union sheet metal, air, rail, and transit. We are the unionized workforce building BYD zero-emission buses. We are here in support of this rule and the million of green working hours this will create for our members.

As a production lead, I oversee safe window installation, and I took time away from my job today for all of you guys to see how important this is to us.

Please support our industry, and adopt this rule.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. LONERGAN: Good afternoon, Chair Nichols and members of the Board. My name is Mark Lonergan and I'm the Deputy General Manager and Chief Operating Officer for Regional Transit here in Sacramento, and I'd like to speak in support of staff's recommendations on the ICT proposal.

Here in Sacramento, we were one of the first transit systems in the country to move to compressed natural gas as a low emissions fuel for our transit bus fleet, moving away from diesel in the early 1990s. Today, we're on the cusp of another major shift in technology to zero-emission vehicles. We are currently working with
Electrify America to bring 12 full sized and three shuttle sized zero-emission buses to this region. We are also procuring and additional six shuttle-size zero-emission buses in an effort to find a functional ZEV alternative to the conventionally fueled cutaway buses that are commonly used in shuttle and paratransit services.

In the near future, we have about half our full-sized bus fleet up for replacement. This represents about 96 CNG buses that will be replaced by us between 2020 and 2023. So major decisions on the magnitude of our ZEV conversion will be upon us quickly.

A conversion to a fully ZEV fleet is a bold initiative. And like bold -- all bold initiatives, it's not without risk. Our first and foremost responsibility is the provision of reliable public transportation to our many customers that rely on our service every day. However, we also believe it is time to start moving our fleet to a ZEV fleet in a deliberative and measured way, with the goal of complete fleet conversion as early as 2030.

We believe the progress made in the development of full-size battery electric buses in recent years would serve approximately 30 percent of today's operational needs for our system. And as range improves, we fully expect the availability of vehicles that would fully meet
our services needs before 2030.

The higher price of ZEV transit vehicles are currently offset by a number of funding opportunities that are both helpful and essential in supporting the transition to zero-emission transit bus fleets. We would request that these programs be continued and made as flexible as possible into future.

While the trend is generally positive, there are risks and uncertainties in transitioning a large fleet to 100 percent ZEV. Both range and vehicle weight remains an issue. In addition, adequate charging infrastructure for large -- a large transit fleet is a concern. Having both adequate power from our local utility and charging infrastructure to charge 250 buses over a five-hour period every night will be a challenge.

We also know that some of the smaller buses we use for specialty services, like microtransit or neighborhood shuttles are still very range limited. And the development of ZEVs in this market may lag behind their larger brethren. We appreciate the work that has been done by your staff in preparing the proposal presented today. We believe our concerns as a transit agency have been heard and addressed. The proposal sets a reasonable time frame to transition to ZEV -- ZEVs appropriate incentives and options to address the unknowns
that could delay our best efforts in transition. We support the proposal and look forward to continuing to work with your staff in the future. Thank you for this opportunity to comment.

MR. McCAULEY: Good afternoon, Board. I'm Steven McCauley. I'm a member of SMART, the Sheet Metal Air, Rail and Transit. We're the union for BYD. I am a lead that I'm in charge of the Material Specialist Group over there.

I locate, and find, and distribute the zero-emission bus parts. The rule would certainly help with the clean zero emissions. We -- the reason I'm nervous, this is a personal thing to me. My wife has asthma. This is so important to me to see this come through.

Your vote on this would just be awesome to pass this and help us out. We're stalking green jobs, great jobs in building a clean environment.

That's all we need. Thank you.

MS. WEBER: Good afternoon, Vice Chair Berg and members of the Board. My name is Rikki Weber. And I am here on behalf of Earthjustice. Earthjustice is a public interest environmental law firm headquartered here in California, and has been working with the Advance Clean Transit Coalition, the L.A. County Electric Bus Coalition,
amongst other coalitions, to advance the transition to 100 percent zero-emissions buses in California.

We are here with our partners today to support moving forward quickly on a strong, innovative Clean Transit Rule. Staff has done a great job carefully constructing a regulation that is flexible enough to allow transit agencies to function efficiently, as we transition to a zero-emissions fleet, but also guarantees the necessary transformation that health, environmental and environmental justice organizations have required.

Electric buses do need electric chargers. And the California Public Utilities approved one billion in funding for electric transportation infrastructure. This means utilities will be building hundreds of fast chargers and other technology across the state.

This rule has been many years in the making and it will provide desperately needed criteria pollutant and green gas -- greenhouse gas emissions reductions for our state to meet its pollution reduction standards.

As a recent -- as recent coverage in the LA Times and other outlets have noted, many parts of California suffer from the worst air quality in the nation. We fail to meet State and federal air standards for ozone and fine particulates, increasing health risks in vulnerable populations subjected to pollution daily.
In the San Joaquin Valley and the South Coast air basin, we suffered more than 100 ozone violation days, and we will most likely see more before the year is over. By passing the Innovative Clean Transit Rule, we can give all Californians a better opportunity for healthier living.

We understand the important role buses play in getting people to school, to work, and to run errands. I have lived in the Bay Area for 15 years, and have relied on buses and other forms of public transportation and my bike almost exclusively. I look forward to the day when every commuter in California shares the road with zero-emission buses.

Earthjustice supports the recommendations to strengthen regulations that were provided to the entire board in our comments we submitted with the health, environmental, and good jobs groups. The Innovative Clean Transit Rule should be passed quickly. Let's make Californians proud by adopting a first-of-its-kind regulation this year.

Thank you.

MS. BHOLA: Hi. Good afternoon, Board members. My name is Abhilasha Bhola, and I'm a Senior Policy Coordinator with Jobs to Move America. We're a national organization that's partnered with seven international unions in the AFL-CIO. In Los Angeles, we have a local
coalition that includes faith, community, environmental and workforce development groups.

Firstly, we'd like to thank the Board for its leadership on pushing for a strong innovative clean transit rule, and continuing to show leadership on meeting the specific needs of low-income communities and communities of color. We'd also like to thank the staff for using BYD's community benefits agreement with Jobs to Move America as an agreement of a high road electric bus manufacturer committed to creating jobs for disadvantaged communities.

This rule is a critical step in improving air quality for our state and maximizing our tax dollars by creating good jobs for communities facing significant barriers to employment. CARB can go further by encouraging transit agencies to adopt proven jobs policies, such as the U.S. Employment Plan that meet the goals of the SB 350 barrier study, such as access to good jobs, and investments in apprenticeship and pre-apprenticeship programs.

The U.S. Employment Plan has been used in transit agencies across the country, including in New York and Chicago and Los Angeles and incentivizes bus manufacturers to disclose how many jobs they're creating, the quality of those jobs, and how they'll invest in apprenticeship and
pre-apprenticeship programs.

And, in fact, at L.A. Metro, they use the U.S. Employment Plan on the procurement of electric transit buses. And this led to the community benefits agreement with BYD, where BYD committed to hiring 40 percent of its workers from disadvantaged communities, including veterans, people coming out of incarceration, women and African Americans, as well as investing in pre-apprenticeship and apprenticeship programs to ensure that every worker can be successful on the job.

ARB has an unmissable opportunity to duplicate these efforts and continue to show leadership on reducing greenhouse gas emissions, investing in the clean economy, and providing economic opportunity for communities across California.

Thank you.

MR. PACHECO: Good morning. My name is Ernest Pacheco. I'm the Environmental Programs Coordinator for Communication Workers of America District 9, which represents workers in Nevada, California, and Hawaii.

We support the ICT goals and we appreciate the effort and degree of seriousness that the CARB staff and the Board have put in to developing these rules, and we support the recommendations for inclusion of community benefits and labor conditions like the U.S. Employment
Plans, that are articulated in the joint comments
submitted with our allies, Jobs to Move America, Blue
Green Alliance, IBEW, SMART, Sierra Club, et cetera, that
were submitted this week.

My district, District 9, represents over 50,000
Californian workers in a diverse range of industries. We
have a long record of working to support policy that
attempts to deal with the root causes of the current and
worsening climate crisis. The most recent related
climate-related campaign that we were significantly
involved in was what felt like the trench warfare of the
effort to pass SB 100. But we fought long to address
climate change and to protect and expand the AB 32
principles, and many of its legislative and regulatory
children, which we consider the ICT to be one of.

The first campaign I personally was directed by
my union to work on full time was the fight against the
Prop 23 attack back in 2010 of AB 32. And in the years
since, we've engaged in a dozen climate-related campaigns
with our allies like the Sierra Club and Blue Green
Alliance; doing things such as legislation, regulation,
holding trainings on climate change for our members;
supporting various policy mechanisms like community choice
aggregation as a means to create new local renewable
energy distributed resources, et cetera, et cetera.
And I'm saying all this not to pat ourselves on the back, but because through all these campaigns there was a through line -- there were a couple through lines, in what we say to our union members and to other members of the community in all these campaigns.

One, that good environmental and public health policy is also good for workers; two, that there needs to be a true just transition for those workers disenfranchised by our evolution out of our current destructive systems and into the sustainable ones; and three, that addressing climate change and creating good family-sustaining jobs are not incompatible, but that indeed intelligent climate policy is the main driver of a green economic engine that can create millions of high rate jobs for California and the nation.

We've been saying this for years. And these beliefs -- this truth is what allows us to spend the time and resources as an organization to really engage in the necessary work addressing climate crisis.

We are now reaching a point where the rubber hits the road. And this agency and this rule is extremely important. It's exactly the place where we are going to show whether or not California is the leader, and how we do this, and how the community and workers are considered as we move forward on climate.
I think it's hard to overemphasize how important it is to set the right precedence here on this rule to include real worker and disenfranchised community considerations in the final product.

So again, thank you to staff and the Board for your work on this, and please consider adopting our recommendations as submitted in our joint letter this week.

Thank you.

VICE CHAIR BERG: As our next speaker comes down, I think we're approaching the 1:00 o'clock hour, you can see that we have decided not to take a lunch break today. We're just going to go through with the testimony. And so Board members as they would like to, they'll go up and -- and they can hear back there as Supervisor Gioia just told us.

BOARD MEMBER GIOIA: We could -- we heard everything you said while we were having lunch. I heard the jobs presentation early, because I did hear that.

VICE CHAIR BERG: Also, if you haven't signed up yet, would you please sign up to speak, because we are going to close the speaker request list. And so we'll do that at 1:15. Thank you.

MR. TENGCO: Good afternoon. My name is JB Tengco and I'm the west coast director for the Blue Green
Alliance. Blue Green Alliance brings together several unions and environmental groups to look at the way we address climate change and create and maintain good jobs. Many of our members, both in the environmental side and labor side have made comments today and will comment after me.

We appreciate the hard work of the CARB staff and Board in creating and advancing this important rule, and we support approving this rule as soon as possible. We believe that the adoption of a strong innovative clean transit rule is critical for meeting California's greenhouse gases, and air pollution reduction goals. And we believe that this rule can also lead to high quality job opportunities for California's working families, especially when combined with intentional workforce policies.

According to a jobs multiplier study developed by the University of Michigan, this transition to zero-emission buses will create over 38,000 jobs, mostly in California in final assembly, component manufacturing, and other related jobs. And that does not include the thousands of jobs that will be created for the skilled and trained workforce to build out the accompanying zero-emission infrastructure that we've heard earlier today.
While the Innovative Clean Transit Rule has the potential to create these thousands of clean energy jobs, it is critical though that CARB continues its leadership and look to ensure that these new jobs also create careers that provide family-sustaining wages, health care, a voice for workers, and an economic opportunity for disadvantaged communities.

As we've heard earlier today from BYD, this is possible, but that does not mean that all other California manufacturers will follow suit. We recognize that CARB has already taken a leadership role in developing policies that deliver co-benefits for all communities, and we applaud CARB for its leadership in looking holistically at the communities ranging from air quality to good jobs. We look forward to seeing CARB continue its forward thinking as California continues in this transition.

Than you.

MR. LeFLORE: Madam Chair, members of the Board. My name is Rudy LeFlore from Sunline Transit Agency. We were about clean transit before it became cool.

We were -- run a hydrogen reformer and we're purchasing a hydrogen electrolyzer. So we've be producing hydrogen for a number of years. We were the recipients of the first Buy America compliant fuel cell bus in the United States. So we have been a head of policy about
zero emission for years prior to this activity. And so one of the things we wanted to do -- we support the reg -- the new regulation -- proposed regulation, but we see a couple of opportunities that we don't want to miss on. And one has to do with the rollout plan. The rollout plan includes a requirement for training.

Sunline has received a grant from the FTA and we've last year convened a plenary session of stakeholders to see what the minimum requirements were for training as we embark on these zero-emission technologies.

We gathered that information in what we call a center of excellence, and we would like to partner with ARB in establishing a rollout -- or a rollout plan that establishes the minimum training requirements for funding and accepting zero-emission technologies.

It's not just because the money is available. We want the money to be used efficiently, and we believe that we have some things to share with the industry. So we would ask that the Board consider in a training session a collaboration between ARB, and Sunline, and the Center of Excellence to establish the minimum requirements for training, and make it less arbitrary than it is now, in terms of getting a Board-approved plan.

We also believe that the enviroscan[SIC] -- we
don't see the significance of that in this regulation. We understand it when it comes to funding opportunities, but don't clearly see the significance of the EnviroScreen with the rollout plan. But again, we think this is an easy thing for ARB to do to partner with Sunline on this center of excellence for training. And we implore the Board to join with us.

MR. MAGGAY: Good afternoon, Board members, Vice Chair Berg. My name is Kevin Maggay. I'm with SoCalGas. We strongly support emissions reductions from the transit sector, however we do have many comments and concerns with the proposal, which I couldn't possibly get through in three minutes. So we have submitted a number of comment letters, and I'll try to hit some highlights during my time.

While there are several demonstration projects, and a lot of people have invested into zero-emission buses, they have not yet proven to be operationally or economically feasible. It's been reported by several news outlets like the LA Times and the Albuquerque Business Journal that they have a record of poor performance.

Mandating technologies that aren't proven yet could have unintended consequences. Transit agencies have commented in workshops and in some of their comment letters that if they prove to not be operationally or
economically feasible, transit agencies will be forced to reduce service, raise fares, or both. In short, if ARB gets this wrong, then transit agencies and those that rely on transit are the ones who are going to suffer.

RNG and low-NOx engines are available today. RNG has the lowest carbon intensities in the LCFS. And a Southwest Research Institute study showed that in duty cycles the low-NOx -- some transit duty cycles some low-NOx en -- excuse me -- the low-NOx engine produced undetectable levels of NOx.

We believe that a performance-based standard with options and off-ramps should be considered, and we have proposed this in workshops and in formal letters.

Government code section 11346.5(d)(13) requires agencies adopting regulations to assess reasonable alternatives that quote, "Would be as effective and less burdensome to the affected private persons than the proposed action or would be more cost effective to affected private persons".

By not assessing a performance standard, ARB staff did not meet this requirement to assess reasonable alternatives. L.A. Metro did a study in 2015, they looked at if they turned over their entire fleet with low-NOx engines in RNG versus turning over their entire fleet with battery electric vehicles, that not only would it be
significantly less cost to turnover their fleet to low-NOx engines and RNG, but you would actually achieve more total emission reductions over a 40-year period. And we urge CARB staff to assess this alternative in the next round of the proposal.

Additionally, we want -- we wanted to point out the diesel bus provision. Under the proposed regulation, if a transit agency is replacing a diesel bus, they can replace it with the cleanest available diesel technology, which would be a 2010 engine. We think that this is an incredibly low floor for the program. We recommend that any bus, regardless of the technology, be replaced with at least a near-zero technology with -- using renewable fuel.

Lastly, we also recommend that we -- that the proposal delay submittal of the rollout plans. If this proposal is adopted in January, that gives them less than a year to decide which technology to go with. Really, they're to be choosing between electric and hydrogen. And in that year's time, there's very -- there's not going to be that much data to base their opinion on. And we think that hydrogen, because it doesn't have the same issues, doesn't have the weight range and downtime charging, it's that hydrogen could ultimately be the best zero-emission technology for this and other mobile applications.

Thank you.
VICE CHAIR BERG: Thank you.

MR. CAMPBELL: Good afternoon. Todd Campbell with Clean Energy. And thank you, Madam Vice Chair, for working through lunch. Appreciate that both from the Board and the staff.

Cleaner Energy today is opposed to the current proposal, but not opposed to zero-emission buses in and of themselves as we are currently an energy provider of zero tape -- zero tailpipe platforms like hydrogen.

As you know, we serve tran -- the transit community as an energy provider, and we are true believers of their mission of mobility for people. That is the primary purpose. So the following comments are not to be obstructionist, but to encourage you to ask the tough questions and ensure that the final rule fully supports our transit agencies and achieves clean air for our communities as soon as possible.

First, we believe the agencies are required under Government Code section 11346.5(d)(13) to perform a full environmental analysis of alternatives to the staff's proposal. This exercise is of particular importance because so many transits have converted their facilities to run on natural gas to help clean the air at ARB's request. These properties are also able to easily adopt near zero natural gas engines that not only provide zero
equivalent performance on NOx emissions, deep reductions in greenhouse gas emissions that are competitive, if not better, than -- they are also be able to preside -- provide a cost effective alternative that may not require such financial constrain on the state.

We would have liked to have seen a full environmental analysis for you to consider prior to the rule. The L.A. County Metro did a similar study with a third-party analyst, who found that the near-zero pathway was far superior for NOx and greenhouse gas emissions almost a decade earlier and far more cost effective.

Second, there is no formal regulatory assessment of ZEB technology with established benchmarks within the rule well in advance of 2023 that would allow for a global off-ramp for transit agencies if ZEB technologies or costs of transportation electrification does not match ARB staff's best forecast.

As you know, we - and I include myself in this we - didn't do such a great job at setting the 15 percent ZEB purchase requirement in 2008 for transit on the diesel pathway. We did the analysis, and collectively we got it wrong. The consequence was dirtier -- dirtier air, especially for disadvantaged communities.

This brings me to my third point. If ZEB strategies fall short diesel pathway properties are
allowed to purchase 2010 diesel buses. They only will be required to -- they will not be able -- be required to purchase near-zero emission buses unless they are commercially available for diesel.

So that's not -- that's -- that's a very low backstop to be able to purchase a 2010 diesel engine. Meanwhile, we have nine of the most polluted non-attainment zones under the federal ozone standard in the country. And Southern California just experienced the longest smog streak in 20 years. I strongly recommend that the backstop, at a minimum, for all non-ZEB purchases be near-zero buses that meet the most stringent low-NOx standard.

Finally, I want to emphasize in short Foothills and other transit agency's concern over resiliency under state-of-emergency situations. If we are subjected to an earthquake, in addition to maybe a cyber attack and someone impacts our electrical systems and we're only dependent upon electrical modes of transportation, what do we do? So the time to start thinking about that certainly is now.

Thank you.

MR. JACOBSON: Good afternoon, Madam Chair and members of the Board. My name is Dan Jacobson, the state director Environment California.
I'm here in strong support of the ICT Clean Bus Program. It was only two and a half weeks ago that Governor Brown signed SB 100. And I want to thank many of the people here on the dais for their strong support, both of the bill moving through the legislature, but also working with the Governor's office to make sure that that bill got signed. But just as important that day was the Executive Order that was signed ensuring that California will get to carbon neutrality by 2045.

Cleaning up our transportation and the carbon pollution that comes from there is going to be one of the most important things that we do, and that's why this rule is so important.

In a report that we've done earlier this year, we looked at the transit systems and the school bus systems and found that 95 percent of the school buses currently in this country are running on diesel. We've got to take steps to do that. And more than 60 percent of the nation's almost 70,000 buses are running on diesel, and 18 percent on natural gas. Only 0.2 percent on electricity. That's why this rule is so important.

I want to stress three key points going forward. The first is as is already mentioned in the staff principles, we really need to make sure that we're prioritizing the disadvantaged communities.
Two, we should be looking to speed up the process. Many of you have seen that the City of Los Angeles working with the Chair of the ARB has already put forward a program to drastically reduce the amount of pollution that's coming from its transportation sources. We should be getting cities not just in Los Angeles, but all over the state of California to look at proposals similar to that, and to figure out - and this is the third point - ways to adopt that in. So we're not just looking at the buses, but we're looking to all of the mobile transportation forms here in the State. Thank you very much for your time.

MS. RUSCH: Hi there. My name is Emily Rusch. I'm the Executive Director of CALPIRG, the California Public Interest Research Group. And we co-authored the report that Dan Jacobson just mentioned with Environment California, analyzing the benefits of electric buses around the country. We also co-signed the comments that were submitted by the Sierra Club and a number of other public health and environmental groups urging you to both adopt this rule and ensure -- strengthen it and accelerate it wherever possible.

And since I'm number 36, I will just make comments on a personal note. I live in Berkeley, California. I live two doors in from busy Ashby Avenue in

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Berkeley, which is a heavily used bus transit route with my two kids. I actually ride my bike to downtown Oakland to work on a near daily basis often leapfrogging with the 88 bus line in Alameda County transit system.

And I just, as of last month, started putting my kindergartner on a yellow school bus in Berkeley Unified taking him across town to elementary school and back.

And while I know this rule doesn't affect school buses yet, it is my great hope that the technology pushed forward by this rule will also benefit him and his younger brother as quickly as possible.

So thank you.

MR. LAWSON: Good afternoon. Thomas Lawson, California Natural Gas Vehicle Coalition. We submitted a comment letter in July, and I don't want to take up too much time.

I do want to highlight two points that we brought up in our comment letter to just drive home a point. One of the -- point number two deals with the proposed regulation should include some form of sunset date for the large and small agencies to phase out old diesel vehicles quickly as possible.

So while we're incentivizing cleaner vehicles, we should be also working on getting the dirty vehicles out of circulation.
And then lastly, the second point that I want to highlight is, you know, off-ramps. And we heard a little bit today about some modifications and we appreciate those. But we believe that waiver for those folks that are having a number of issues that may crop up that prevent them from meeting the regulation, there should be a technology standard there that they should meet. They should require the adoption of natural -- near-zero technology that meets the 0.02 standard. And those transit agencies should have that as a way to get the waiver.

And the 0.02 standard is important, because we know that there's an effort to have low-NOx engines that don't just run on one particular fuel. So we know that's coming down the pipeline.

Secondly -- or in closing, I want to talk a little bit about 1383. The author is here, and we appreciate his leadership on that. But just recently this year, we've had quite a few renewable natural gas projects come on line. And it's taken a few -- a little bit of time since the bill has become adopted. But those partnerships with dairies creating jobs in the Central Valley are important, and getting that RNG into the pipeline and in transportation is going to be key.

Thank you.
MR. JABLONSKI: Good afternoon, Chair Nichols as well as the rest of the Air Resources Board. Thank you for allowing us to speak today. My name is Paul Jablonski. I'm the Chief Executive Officer of the San Diego Metropolitan Transit System.

And I'm here today because myself and my colleagues are the ones that are ultimately going to be responsible for implementing this rule, and finding the scarce resources that we deal with every day in order to do it.

MTS is a system that carries over 300,000 people a day, the vast majority of which, 70 percent, are low income and transit dependent. I'm not here today to talk against zero-emission buses. As you heard this morning, our industry is electrifying. We, in San Diego, are implementing a pilot bus as we speak -- pilot buses as we seek. Our board supports zero-emission technology, and we support the 2040 target.

And we have long been a partner in promoting environmental -- the environmental aspects of transit.

In fact, you know, we were the first with CNG in California. We were the first with renewable gas in California. We were the first to operate the Cummins low-NOx engine.

My concern today is with the staff's assumptions
of what the costs of this regulation will be, because our
industry professionals for the last two and a half years
have been projecting much higher costs. And this
regulation also assumes significant State funding that is
not guaranteed.

If ARB staff is wrong, it is our riders, riders
with few transportation choices, and riders living in our
most disadvantaged communities that will suffer if we have
to reduce service just to buy and operate zero-emission
buses. This would obviously be extremely
counterproductive.

We are having a free ride day on Tuesday to
support ridership, increase ridership in transit. And one
of the key benefits to doing that is the environmental
benefit. And I have been saying in meeting after meeting
before boards and cities that if you -- if you try
transit, if you just ride it two times a week, then you
will save one ton in greenhouse gases per vehicle every
year. And that's what we should be doing is getting more
people on transit, not jeopardizing the service that we
diver.

The cost of buses, the range of buses, the cost
of electricity, the cost of bringing the power to our
facilities, the cost of charging infrastructure for large
urban systems that are space constrained that hasn't even
been designed yet, are all projected out 30 years in the future to come to a conclusion that it's going to save us money.

If the staff believes that those assumptions are correct, then the regulation should guarantee that to us, either with benchmarks for performance that would give us relief if they're not met, or provide for the funding that's so necessary in order to do it.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. NUNN: Good afternoon. I'm Keith Nunn, Director of Maintenance for Golden Gate Transit. First after, I want to thank you Chair Nichols and Board members for the opportunity to comment today.

We appreciate ARB's work to date in moving the transit industry on a zero-emission path. In fact, our support for the work you're doing can be illustrated by our continued participation in the Zero-Emission Bay Area Fuel Cell Demonstration Project.

We also appreciate the movement in the past year to make the transition more doable for our agency, which includes the limited exemption for over-the-road coaches in the purchase requirement. Golden Gate Transit provides service through Sonoma, Marin, San Francisco, and Contra Costa counties. To cover this geographically diverse
area, our buses must have the ability to travel 400 miles on one fueling.

This exemption allows for a viable solution to be developed for meeting our daily operational requirements. However, we believe the Altoona testing standard should be revisited, because Altoona testing conditions oftentimes fail to reflect -- fail to reflect the wide diversity and service requirements. And we want to make sure that any zero-emission over-the-road coach we buy will not fail in meeting our customers' needs.

We also appreciate the requirement of a ZEB rollout plan, the optional joint zero-emission bus group, and the deferral from ZEB purchase requirements to address circumstances beyond a transit agency's control.

We also want to reiterate our support for the California Transit Association's recommendation and the Association's alternative, namely including a benchmarking and regulatory assessment in the actual regulation.

We believe that in order to implement a responsible transition to zero-emission vehicles without imposing negative impacts on service levels and ridership, a regulatory assessment for evaluating real-world performance and costs with benchmarks established at the time the rule is adopted is important, and allowing transit agencies to use incentive funding for regulatory
compliance because existing sources are often over
subscribed.

Thank you for your consideration.

CHAIR NICHOLS: Thank you.

MR. SOLIS: Chair and members, Silvia Solis with
Shaw/Yoder/Antwih on behalf of the Santa Cruz Metropolitan
Transit District. Today, I have comments on behalf of the
CEO Mr. Alex Clifford.

On behalf of the Santa Cruz Metropolitan Transit
District, I would like to thank the Board and staff for
the opportunity to participate in the development of the
new Zero-Emission Bus Regulation. I would also like to
thank Mr. Kitowski and his staff for changes made to the
draft ICT that have been developed as a result of numerous
meetings with the California Transit Association and its
members.

I personally have participated in numerous
in-person and conference call meetings with CTA and Mr.
Kitowski and staff over the past 10 months. I've also
uploaded comments to CARB on the draft ICT, and the
revised draft ICT at least twice over this same time
period.

I have been interested and actively engaged in
this process and have endeavored to support a process that
will hopefully lead to a well-written regulation. Santa
Cruz Metro is one of the 16 transit agencies identified in the staff presentation as having committed to zero-emission buses and supports the Governor and CARB's goal of achieving zero-emission bus fleets by 2040.

To that end, in 2016 and 2017, Santa Cruz Metro obtained a Federal grant for 3.8 million to purchase three zero-emission electric buses, and cobble together several grants to purchase four additional zero-emission electric buses.

In May 2017, seven months prior to the release of the draft ICT, the Santa Cruz Metro board adopted a goal for a fully zero-emission bus fleet by 2040. Of course, this goal is heavily influenced by metro's ability to identify funding sources for the significantly higher cost electric buses and the need for the electric bus manufacturers to develop buses with an end-of-life range of at least 300 miles on a single overnight charge.

While the proposed regulation is much improved, I ask for your consideration of Santa Cruz Metro's concerns relative to excluded buses, the availability of HVIP dollars, and the need for the final regulation to include a mandatory provision that the Board create a point in time in which electric bus data is collected, reviewed, and benchmarked, and which evaluate zero-emission buses against conventional buses relative to cost and
performance measures, including the industry's progression towards increasing bus end-of-life range.

In closing, this is an unfunded mandate that will require significant public resources to fund this new and evolving technology. Costly mistakes will impact the poorest of the poor, the transit dependent, in the way of service reductions and poor performing equipment. Let us all share in the goal of getting this right.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. SHAW: Chair and members, I'm Joshua Shaw, Executive Director of California Transit Association. You've heard from some of our members. More will be following.

I want to be clear, my Association's leadership supports converting California's transit bus fleet to 100 percent zero emission by 2040. We are with you in that goal. How exactly we get there, the ultimate cost of the conversion, and the technology and infrastructure-related Challenges that we are experiencing today, of course, are the details that matter, and we want to work with you to get those right. They are getting better.

In this draft, for a fact, your staff has moved significantly closer to our position over the last six to seven months on a range of provisions that are important.
Just today, we saw two proposals. We support this two proposals for the 15-day notice period. We thank the staff for those.

This is a much better proposal today than the regulatory concept released late last year. We thank you and your staff for working with us to get us here today.

But, of course, this is not yet perfect in our view. It may never be, but we want to do some things to make it better. If we do not take some further improvements, transit riders who can least afford it, may still face diminished transit service and/or higher fares, because the proposed regulation and justifications in certain ways still rest on two hopeful and truly untested assumptions.

Of our several formal asks, I'll emphasize two here. Our letter documents some other.

First, we are advocating for modest changes to the proposed regulation that would guarantee that we move forward with mandated ZEB purchases at certain milestones only insofar as the cost and performance of the technology allows. That's our benchmarking and regulatory assessment proposal you've heard about.

Under our changes, if the cost and performance of ZEB technology hits predetermined benchmarks -- as measured during a regulatory assessment period, before an
upcoming purchase mandate is scheduled to go into effect, if we hit those marks, then the mandate proceeds unimpeded. However, if the benchmarks are not achieved in an assessment year, you would temporarily suspend, or maybe adjust, or amend the regulation to better reflect the then extent real-world cost and performance and their impact on our transit service and the folks who ride our service.

There currently is no technology performance or cost review in the regulation. Staff told you they're going to do a review we appreciate that. That's a move towards us. We think put it in the regulation. We hope you'd agree there's no downside to doing that.

And second, we are advocating that you rethink current Board policy which disallows the use of all the incentive funding you've heard about today to meet regulatory compliance. When those mandates come online, we asking for funding. Please put in the regulation provisions for funding regulatory compliance, not just incentivize our folks to get ahead. But when it's time for the folks who weren't there yet to do this, they must do it, give them the funding, please.

Remember, your staff model projects the cost of the regulations for the transit industry at a minimum of $1.1 billion for the first 20 years. It's not till the
last 10 years that it starts to turn around according to
the staff model.

   You Should commit to funding the cost that come
in higher then our current costs, or those your staff is
currently projecting. We hope you'll provide guidance to
your staff on these two critical asks that I've made
today. Thank you again for your willingness to work with
us. The chair mentioned it the outset. We appreciate it.

   CHAIR NICHOLS: Thank you.

   Having just heard from the head of the
Association, I'm about to lower the boom in terms of
timing here, because the number of speakers expanded. And
although, everybody has something valid to contribute,
we're not hearing brand new information that hasn't
already been raised. So I am going to ask from now on
that we set the limit at two minutes, rather than three,
and appreciate all of your patience. Thank you.

   Mr. Barns.

   MR. BARNES: Good afternoon, Chair Nichols and
members of the Board. My name is Doran Barnes and I serve
as the Executive Director of Foothill Transit. I've also
had the honor as serving as the past chair of the
California Transit Association, and more recently the
American Public Transportation Association.

   In the staff presentation, it was really cool to
see our bus up there as one of the very first slides. And as you may know, we have been one of the pioneers in this space. Foothill Transit was the first to deploy fast-charge heavy-duty buses. We have 1.6 million miles of service with those buses, and continue to push in to learn about this technology.

I do also want to -- you've heard this before, but I want to express my thanks to the ARB staff for leaning in, and working with us, and understanding the operational constraints that we face. That's been extremely valuable to get to this point.

I would reinforce the notion that looking at benchmarks is going to be very important. And from our perspective, as one of the early adopters and early pioneers, we've seen delays. We've learned things that we didn't even know that we would learn. And we're dealing with that even today.

We took delivery of 14 buses late last year. Those buses are still largely not in operation because of delays in the infrastructure that's required to charge those buses. Now, one could say that's a failure. I look at it as a learning opportunity, but one that has cost us much more time than what we expected. And I think as we continue to scale this technology, there are going to be other points where there may be more time, it may take
more resources to be able to deliver. So benchmarks and making sure that the performance is there to serve our customers is going to be critical.

The other thing that is going to be critical is making sure that as you look both to the rule and you look broadly, that the funding is there to be able to make all this happen. And that includes funding that's spread widely across operators, because each system is unique, each system will have its own obstacles to overcome. But also funding that goes deep to allow us to go through the kinds of learnings that we're facing right now where we're trying to get this technology and move it to scale.

The last point I'd leave you with is that as you look at all of this information, I really, really encourage you to look at the actual data that's coming out of the operators in a real-world environment. I'm often surprised about the information that isn't quite correct that we often hear. So thank you.

CHAIR NICHOLS: Thank you very much. Appreciate it.

MS. SEPULVEDA: Good afternoon. My name is Estee Sepulveda. And I'm an external affairs rep with AC Transit, which serves the 13 cities in unincorporated areas of Alameda and Contra Costa counties. I want to start by expressing our appreciation to ARB Board members
and staff for the significant time and attention spent on
the development of the ICT Rule. We especially want to
thank Mr. Corey, Mr. Kitowski, and the rest of the staff
for meeting with California Transit Association and its
members to take action with our concerns.

The proposed rule reflects considerable strides
in addressing the real-world constraints faced by AC
Transit and all transit operators. In 2002, AC Transit
began operating a hydrogen fuel cell bus. We now have 13
hydrogen fuel cell electric buses and have two hydrogen
fueling stations at our East Oakland and Emeryville bus
yards.

We will be receiving an additional 10 hydrogen
fuel cell buses and five battery electric buses. And
thanks to SB 1, we have tentatively awarded funds to
purchase an additional 45 ZEBs.

I'm proud to report that last year AC Transit's
Board of Directors approved a Clean Corridors Plan, which
identifies disadvantaged communities like Richmond, the
San Pablo corridor, and West Oakland to be prioritized for
ZEBs as we acquire them.

AC Transit's leadership in the development of ZEB
technology underscores our commitment to transitioning to
100 percent ZEB. However, AC Transit continues to have
some concerns with the technology, the uncertainty of the
scalability, and financial ability to implement this rule.

       Sixty-five percent of AC Transit's routes are
over 200 miles. We conducted a zero-emission bus study
and found only 10 percent of our routes could be served by
battery electric buses, while 90 percent of our routes
could serve -- could be served by hydrogen fuel cell
buses. Neither one was 100 percent.

       Additionally, our average cost of gasoline is
$2.25, for diesel a $1.85, and for hydrogen $7.40 a
kilogram. Cost of electricity is another concern of ours.

       On behalf of AC Transit and the members of the
California Transit Association, we thank you again for all
of the progress and invite the members to come to our
hydrogen fueling station.

       Thank you.

       CHAIR NICHOLS: I've been there.

       Thank you.

       BOARD MEMBER GIOIA: So have I. It's good to see
       it.

       CHAIR NICHOLS: We could save minutes if
everybody would just say --

       BOARD MEMBER GIOIA: Or line up.

       CHAIR NICHOLS: -- thank you for the -- yeah,
that would help actually.

       BOARD MEMBER GIOIA: Or line up. Why don't you
CHAIR NICHOLS: If we could get you to come down
to the podium, that would save a lot of time.
BOARD MEMBER GIOIA: You know what we've done at
our local air district meeting, we've asked people to line
up behind a po -- and just get ready to -- right, we've --
that saved a lot of time.
CHAIR NICHOLS: Okay.
MR. SEDORYK: Thank you Chair and Board members.
I'm Carl Sedoryk. I'm the CEO for the Monterey-Salinas
Transit District in Monterey County, and Chair of the
California Transit Association's Executive Committee.
I'm going to try to skip over things that have
been repeated by others and maybe just reinforce those
things that I think are critical for our Association. I
do appreciate the work of the staff working with CTA, a
subcommittee that I chaired, consisting of dozens of
public transit operator leaders and operating officers
comprising the most -- largest urban areas of the state
and some of the more rural areas from the central coast,
the Mojave Desert, San Diego, the San Joaquin Valley. I
have been working with Jack Kitowski and his staff to
improve this regulation.
I also want to acknowledge that you all recognize
that a critical role we play in providing mobility
services to those people in our communities that are very low income and have no other choices, but also I want to acknowledge that only through providing a convenient and high frequency service can we get people to move out of their cars, reduce VMTs, and really see a reduction in greenhouse gas emissions from private vehicles.

Any type of regulation that improves -- increases our costs will require us to reduce that frequency, raise local taxes, or decrease increased fares to our passengers, perhaps having an unintended consequence on those VMTs.

I just want to also hammer home that our largest priorities for this regulation is that we strongly want the regulation to succeed by providing establishing cost and performance benchmarks, a rigorous performance review, and funding for regulatory compliance. We support the overall goal of 2040. It just feeds to be done thoughtfully in a way that's methodical that can be repeated around the country for everybody's best good.

So as we move forward to finalize the proposed regulation, we urge you to consider the testimony today, particularly with some of our own manufacturers who are questioning the cost and the range issues that are out the today.

Thank you.
CHAIR NICHOLS: We heard.

Thank you.

MS. MONTGOMERY: Good afternoon, Board Member Nichols and the Board of -- CARB Board. Thank you for letting us speak here today. Jacklyn Montgomery with the California Association for Coordinated Transportation. We are a 300-member organization of transit agencies that specialize in rural and small transit in California. I'm here to represent their concerns and talk about their comments that we have.

I also -- we're here to support the California Transit Association's comments, and their performance benchmarks that they brought about on the ICT.

And before I get started, I really want to thank you Chairwoman Nichols, and the entire Air Resources Board, and Jack, and Tony, and Yachun, and Shirin for all the time that they've taken out to make with our members, to discuss the rule, and actually hear their concerns and listen to those, and we really appreciate the time you did that.

With that, and also for looking at the vehicles specifications, we really, really appreciate you looking at a cutaway and seeing how different they are from the regular big buses.

CalAct supports the new definition of a small
operator that was just proposed by the CARB staff, and encourage the Board to adopt this definition that is consistent with federal and State programs. The new definition would allow operators to maintain a continuity of services to vulnerable Californians who rely on transportation for access to education, employment, medical, and other life-sustaining services.

Second, we strongly support the delayed compliance for small operators adopting the rollout plans and purchase mandates. Our members are predominantly small operators, and additional time will be needed to secure funding for developing and rolling out the rollout plans.

In some cases, operators need to locate, purchase, and -- sorry -- and find adequate space for new buildings. The later purchase mandate will benefit small operators to take advantage of lower purchase prices.

Third, we strongly urge the CARB Board to support the current plan to delay the time frame when agencies must replace cutaway vehicles.

And in the reference[SCI] of time, we also encourage you to increase HVIP funding for all meeting the mandate by all things.

Thank you and appreciate your time.

CHAIR NICHOLS: Thank you.
MS. FINK: Good afternoon, Chair Nichols and the Board. I'm Tiffani Fink and I'm the Chief Executive Officer of Paratransit, Inc. here in Sacramento. We're a transit agency that specializes in senior and disabled services. We, too, want to thank staff and the Board for all the work you've done on getting us to this point in the rule. We're here specifically addressing the issue of cutaway. And we appreciate the off-ramp that's there but we again stress the need for benchmarking.

As we know, there's not a viable Altoona-tested vehicle in this classification. And unlike fixed route transit, ADA paratransit which is a requirement to complement every route in the State of California, we cannot deny service. So whether we want to go or not or there's a vehicle that's there, we're required to meet that demand for every hour of operation.

And our passengers are not only low-income, they're often going to places such as dialysis. They're going to critically important needs, which we want to get them there. So we look forward to continuing to work with you to ensure that we can meet that.

But as we meet those challenges, if those benchmarks aren't met, that we're able to enter into a discussion on how to make sure that our fleet meets the needs. It's especially important in the more rural areas,
places such as Lake County and the fires, cutaways overwhelmingly are used in emergency response to move people who cannot evacuate on their own, and we want to make sure this is taken into consideration.

Thank you.

CHAIR NICHOLS: Thank you.

MR. WILSON: Good afternoon, Board Chair and Board members, staff. Jim Wilson, Humboldt Transit Authority. Thank you for allowing us to provide comments today.

HTA is in favor of the ICT. We actually just took purchase of one electric bus Wednesday. So we are in the process of a project, solar project, and have a grant application out for charging systems. So hopefully that grant process goes through.

HTA is very rural, as some of you may know. And our -- some of our biggest concerns are funding. That's always a battle for us when we go for funding. This new electric bus purchase took us over two years to acquire. Several different funding sources.

The cutaways. On our intercity routes all of our routes are well over 250 to 300 miles. Just one direction is over 150 miles. So right now I don't think there's anything out there that is defined under cutaway to go that distance. We're yet to see what the true numbers
come out of the new bus we got. So as soon as we get it
in service, we'll -- we'll know what we've got for
charging and what routes it will be able to be used on.
The infrastructure, even though we have a fairly
decent amount of property, the infrastructure for charging
systems is going to be quite large for the small area we
have. So our biggest concern is the funding sources, and
what the bus will actually do.

Thank you so much.

CHAIR NICHOLS: Thank you.

MR. RAMACIER: Good afternoon, Madam Chair,
members of the Board. I'm Rick Ramacier, the general
manager for County Connection in Contra Costa County. And
I'm also the immediate past chair of CalAct, as well as
very active with the California Transit Association. I
was one of the GMs that has met endlessly with Jack and
his staff, I think, over -- it feels like over 100 times
in the last many months.

And I want to appreciate the efforts that's gone
into this current product by the staff. It shows a lot of
thinking and a lot of listening on both sides. And
overall, we -- I don't know if Jackie mentioned this, but
CalAct is support of the ICT with just a couple of things
we'd like to see improvement on, and those are consistent
with our agencies' wishes, and that is the benchmarks.
We support the CTA's approach on benchmarks for the reasons you've heard. HVIP, we echo MTC and Glen Tepke's comments on HVIP in the Bay Area. It's going to be critical that we can use those HVIP funds in line with how MTC and the operators in that region replace buses. And MTC controls that process. And the federal funds in the Bay Area flow through MTC first.

And again, if you buy a because with an FTA dollar, you have to keep it a minimum number of years. And if you replace it early to do something else, there's huge federal penalties in that. So we'd like to see an alignment with HVIP.

The cutaways we are very pleased with where the staff is going with those. As you heard from Tiffani Fink and Jim Wilson, those are a specialized vehicle that often serve a very specialized population. And the longer we wait to start those vehicles, the better we'll do it. If we do it early, the stakes are going to be made most likely that will be harmful to the very population they're trying to serve.

And finally, I would just like to thank the staff's proposal on the definition of a small operator that showed up in the slides today. It's very consistent with how the Federal Transit Administration and even Caltrans defines what a small operator is versus a large
operator.

A different definition from CARB on who is a small operator could be confusing and actually counterproductive.

Thank you very much for your time.

CHAIR NICHOLS: Thank you.

MR. WIRAATMADJA: Good afternoon, Chair Nichols and members of the Board. My name is Vincent Wiraatmadja with The Weideman Group on behalf of BYD Motors. We just wanted to say thank you for the opportunity to provide comments and we would especially like to thank staff, like Tony, Yachun, an Shirin for all their work over these years, and their productive engagement with the California Transit Association.

As you know, BYD headquartered itself in California because of the state's forward-thinking policies on climate, like a rule like this. As a result of these policies, we've grown from 35 employees just a few years ago when I first started in this industry to more than a thousand as of today.

And we are committed to continuing to increase the number of green jobs in the state in partnership with our colleagues at SMART and Jobs to Move America.

And while BYD is supportive of the rule, we do believe that the State should continue to provide at least
some of the resources to make this rule successful. As stated in our letter we believe that the transit agencies should be able to continue to tap into programs like HVIP to reduce the cost of purchasing buses needed to comply with the rule.

Given the important role that transit agencies play in reducing vehicle miles traveled, while also serving disadvantaged communities, we must ensure that they have the resources needed to be successful in lowering greenhouse gas emissions.

Thank you for your time.

CHAIR NICHOLS: Thank you.

MS. JACQUES: Good afternoon Chairman Nichols and Board members. I'm Karen Jacques. I'm a member of the action team of STAR, which stands for Sacramento Transit Advocates and Riders. We advocate for policies that will increase transit use, that will reduce greenhouse gases, and that will address environmental justice issues. And we think that the ICT will go a long way toward helping our local Sacramento RT achieve the goals that Mr. Longergan talked about earlier today.

Also, on a personal note, I'm here in memory a friend who died of an asthma attack on one of our very bad air days. So every thing that we can do to get the benefits -- the health benefits of cleaner air is
important. And lastly, thank you for just being here and listening to all of us in such a long hearing.

CHAIR NICHOLS: Thank you.

MS. TUTT: Hi. Eileen Tutt with the California Electric Transportation Coalition. Thank you very much for your time today, and good afternoon. I'm here in support, wild support, for the staff's proposal. I especially want to commend the staff in trying to balance the need to increase -- increase the effectiveness and availability of transit, while also protecting our clean air and climate change goals. I think they found a very good balance, and they continue to be very open and available and work with us.

I do want to say we submitted comments, so please refer to our comments. I'm not going to repeat what's in there. I want to just make a reference to some of the things we've heard today about the cost associated with electricity. I will just tell you that all of the utilities are ready to serve this load, and eager to serve this load. And, in, fact they're all working on rate -- rate structures that will benefit transit authorities. So they are very concerned about this. They are with it. They are on top of it, and they will address these issues. Electricity will continue to be one of the cheapest alternative fuels that's available. And I can
guarantee you that, so I don't want to -- I hope you will
not buy into any of the stories about how expensive it is
or how unreliable it is. It's -- I just don't -- I don't
see any merit in those arguments.

So thank you.

CHAIR NICHOLS: Thank you.

MR. LEVIN: Chairman Nichols, members of the
Board. Jaimie Levin with the Center for Transportation
and the Environment. We're a non-profit that is presently
managing zero emission bus procurements for over 80
transit agencies. We're working on planning transition to
zero-emission bus with AC Transit, San Diego MTS, soon to
be with Los Angeles Metro.

Clearly, these -- the Innovation Clean Transit
Regulation we support that. The 2040 target we think
makes sense, but there are definite roadblocks related to
scalability, related to funding, and related to technology
readiness. You've heard about some of the advantages with
fuel cell buses, as well as batter electric buses. We are
recipients of funds from this board for several big
projects on the fuel cell side.

But clearly, one of the biggest challenges is
scalability. It's not enough to just provide one, two,
three, five or 10 buses, but how does a transit agency
manage 100, 200, 300 buses in a division. How do we fuel
those buses? How do we recharge those vehicles? This is
the challenge that has to be addressed. And it really
falls on the State legislature to work with CARB to fund
pilot projects that can benchmark the success of these
technologies to make them viable, and to continue the
financial support by continuing HVIP funding beyond once
the regulation is adopted. That is the need to help
transit agencies scale up to manage their entire fleets.

Thank you.

CHAIR NICHOLS: Thank you.

MS. McGHEE: Good afternoon. Lisa. San Diego
Air Port Parking Company.

I'm highly supportive of ZEB technology. But
like you've echoed from other fleet operators, there are
concerns related to the readiness level. For example, the
commercial scalability of sales produced in California via
the HVIP mapping tools as of 8/1/2018 for the bus sector.

BYD has 42 sales, nine years; Lion Bus, six;
Motiv Power is five; Phoenix Motors, four -- 40, Proterra
is 23 and Zenith Motors 39. That's 155 buses in the HVIP
program.

The incremental cost is real. I purchased three
electric buses in 2015 at 10,000 additional incremental
cost. Today, that same bus is $60,000 more for my
incremental cost.
The efficiency related to the vehicle and the weight of the batteries is a factor that we certainly have the ability to control, if we have benchmarks and performance standards that you can comprehend as it relates to these different gross vehicle weight vehicles as well as being loaded.

I challenge you to live the life of a fleet operator on August 15th on the hottest day in an electric vehicle, or maybe on Christmas week or Thanksgiving week when congestion is high. These -- we need to plan for these vehicles to be available on worst case scenarios, not on a best case day.

The medium-duty cutaway certainly has its challenges, like you've heard here today. So I do support the rule for leniency on that particular class vehicle. Electricity cost is very complex. It's not just about electricity of a kilowatt hour. You also have demand fees and taxes which are not advertised in your kilowatt hours. So that's not the same as miles or gallons of fuel.

The emissions benefits and infrastructures are certainly challenges. And learning about the power level can certainly unlock the flexibility for the range. We are limited in the range of this vehicle. And if we unlock the power level, by making it a requirement I think you can find yourself with a range increase.
I have one last point. May I make it?

CHAIR NICHOLS: Thank you. Quick. Say it.

MS. McGHEE: If we also provide a rule for renewable battery storage, that can also unlock some other advantages.

CHAIR NICHOLS: Agreed.

MR. ZOBEL: Good to go. Good afternoon, Chairman Nichols, Vice Chairman Berg, members of the Board. My name is Bill Zobel I'm the vice president of Business Development and marketing for Trillium. Trillium is the alternative fuels brand for the Love's family of companies. For those that have traveled the highways and byways of the U.S., we have 450 truck stops nationwide. And Trillium is in the business of building out alternative fuel infrastructure for Love's family, in particular here in California.

We build out electric vehicle charging infrastructure. We build out hydrogen refueling infrastructure, and we build out renewable natural gas fueling infrastructure.

We're here today to support our customers, the transit industry. We are committed to building innovative infrastructure solutions needed to help this state achieve its decarbonization and clean air quality goals, including the deployment of zero and near-zero emission buses. We
welcome the opportunity to provide CARB technical
assistance and collaboratively participate in the process,
and its eventual implementation, including any potential
infrastructure and technical working group that might
evolve as a result of this process.

I'll get right to our ask. It's much like
those -- that ask of the transit industry. We support
their ask, which is we believe this regulation should
require a review by this Board periodically to evaluate
the technology and the cost to see where we're at. The
fact is we don't know what we don't know.

Many of the assumptions that were used here is
the basis for moving this rule ahead. And the industry
will tell you, if it -- there are any deviations in those
assumptions, it has a big impact on their operations. And
you've heard that from several of our customers today, so
I won't reiterate it.

But again, we believe a periodic performance
review based on experience should be required in the
context of the rule. Again, we welcome the opportunity to
work with the agency and its staff and navigate the road
together to our mutual end-game in mind that of clean air
for all Californians.

Thank you.
MR. AHN: Good afternoon, Board members. Eddie Ahn, Executive Director of Brightline Defense, a community based organization, based in Bayview-Hunters Point -- excuse me, working for Bayview-Hunters Point but based in San Francisco.

We've done everything from stopping Fossil fuel power plants, to promoting energy efficiency and solar for low-income communities, to more recently zero-emissions vehicles and buses. And we strongly support the proposed ICT regulation, which will spur a statewide transition to zero-emissions buses for really two reasons.

First, you've already heard extensively about this. It impacts not only the health of all Californians, but specifically low-income communities. Environmental Justice communities are located near one or more buys routes. And, in fact, SFMTA in San Francisco has adopted the approach of aligning green zones with particularly environmental justice communities in an effort to promote more equity.

And secondly is just jobs, making sure that we create clean energy jobs that are good. You've heard a number of comments today from IBEW as well, as well as Jobs to Move America, which go to this point. And co -- coupled with local hire, it makes for a very powerful argument to adopt this regulation.
The final point is really supporting an earlier comment by MTC and SFMTA, which is really about the transition from electric vehicles -- excuse me, from trolley buses ultimately to zero-emission buses, and just making sure that there's an appropriate transition involved.

Already, the -- San Francisco is in a unique position. A lot of infrastructure has been invested in to make the trolley buses a success, and making sure that there's a synergy between the two. The technology is often interchangeable, as you've heard earlier, and has been provided in written comment. And there seems to be a good amount of flexibility in determining how much in bonus credits can be basically granted to SFMTA.

Whether it's partial credit or a timeline attached to that credit, we can all work together collaboratively between the advocates, as well as the City and County Of San Francisco to make sure that there's a successful implementation of this rule.

Thank you.

CHAIR NICHOLS: Thank you.

MS. KAPOOR: Good afternoon, Chair Nichols and members of the Board. Nina Kapoor of the Coalition for Renewable Natural Gas. We are a non-profit organization based in California representing all sectors of the RNG
industry across North America, including the organized labor, utilities, fuel producers, and fueling providers who deliver over 90 percent of the RNG participating in the LCFS today. We must disrespect -- or we must respectfully disagree --

(Laughter.)

MS. KAPOOR: -- with CARB's assertion that achieving California's long-term goals will require a transition to zero-emission technologies only in the transit sector. In fact, we believe that such a transition is not only unnecessary, but in some cases, it's not even the most efficient or effective way to achieve those goals.

A transition to zero-emission technologies is clearly not the most effective way to meet our climate change goals. Your own website notes that RNG is the lowest carbon intensity fuel that exists today. A transit vehicle powered by dairy RNG can achieve a carbon intensity as low as negative 272 grams per megajoule.

This is better than an electric transit vehicle powered by 100 percent wind or solar. Furthermore, eliminating the single largest commercial market for RNG in California will significantly impact our ability to meet the state's short-lived climate pollutant goals set forth in Senator Lara's SB 1383. This would be making a
huge step backward in meeting our climate change goals. A transition to zero emission technologies is also not an efficient way to meet our air quality or public health goals. California's own University of California found that ultra low NOx engines powered by RNG perform at 99.8 percent clean, finding that there is no statistically significant difference with respect to air quality and public health outcomes between a zero-emission vehicle and ultra low NOx vehicle at a fraction of the cost.

This eventual ban on RNG-fueled vehicles will also cause us to forego the significant local air, soil, and water quality benefits that RNG production facilities provide upstream in the quality -- in the communities where they operate. Instead, this regulation would favor electric generation that has potential to shift emissions away from the communities near transit corridors, but around the power plants that are fueling the vehicle.

Thank you.

CHAIR NICHOLS: Got it.

MR. SAWAYA: Chair Nichols and Board members, thank you very much for your time this afternoon. My name is David Sawaya here on behalf of PG&E. PG&E is committed to working with all of our customers to help them transition to clean transportation fuels, including
electricity, natural and renewable natural gas, as well as hydrogen.

Over the past five years, we've substantially expanded our portfolio of offerings to our customers related to clean transportation. And I'd like to just highlight three of those today that are of relevance to electric transit.

First, in January of this year, the California Public Utilities Commission approved a transit customer demonstration for PG&E. This is a $3 million project. We're working with San Joaquin Regional Transit to implement that. This project is aiming to help support them in expanding their current electric fleet, as well as installing behind the meter battery storage for them to help with load management with a view towards full electrification of their fleet in the 2030 time frame.

Secondly, in May, we received approval for a larger fleet-ready program, which provides $236 million over five years for make-ready infrastructure for fleet customers in our service territory. This is all of the electrical infrastructure needed for electric vehicle charging, including that on the customer site, except for the actual charging station itself.

Fifteen percent of that program's budget is dedicated -- a minimum of 15 percent is dedicated to
transit agencies. And in addition for transit customers, we have a rebate on the charging station itself to support them in their move towards electrification.

Finally, as noted by Eileen Tutt of CalETC PG&E is taking very seriously the need to support our fleet customers and commercial electric vehicles stations with rates that are adapted to their operations. We've committed at the Public Utilities Commission to present a rate to them in the near future, and we're in the process of designing that rate.

The goal of that rate is to substantially provide electricity at rates that are substantially cheaper than gasoline or diesel, and structured in a way that's conducive to fleet operate operations.

Thank you very much for your time.

CHAIR NICHOLS: Thank you.

MS. DE LA CRUZ: Good afternoon, Chair Nichols, members of the Board. My name is Carlo De La Cruz. I'm here today speaking as one of the members of the Los Angeles Electric Bus Coalition. Several of our members are here today, and you heard from many of them. I'll be very brief in my statements.

As staff already noted, 16 transit agencies have already committed to transitioning to zero-emission buses, including seven small transit agencies across the state.
from Humboldt to Union City, from San Joaquin to the
Antelope Valley.

These -- and these transit agencies make up about
50 percent of the buses.  Our number said 40 percent, but
your staff said 50, so I'll take 50.

Each of these agencies came to their decision
after due consideration for how zero-emission buses would
affect service, performance, cost consideration, and their
ability to provide the core service, which is affordable
mobility for the great public.

And ultimately, all these 16 agencies made their
own decisions about how this would affect.  And I think we
should not only respect their autonomy, but recognize that
all these -- many of these agencies have committed to a
timeline of 2030 well before this rule would take effect.

Lastly, I want to represent one of the transit
riders.  As someone who has been car free for the last 13
years, there is a large population that's dependent on
transit.  And I think, as Jimmy O'Dea already said, the
bus is really the people's car.  I think the people's car
deserves an upgrade -- people's vehicle.

Thank you.

MR. PINGLE:  Good afternoon, all.  My name is Ray
Pingle, and I'm the lead volunteer with Sierra Club
California working on this issue.  I'm going to confine my
remarks to today to some technical issues that support
adoption of the rule.

The time is right for transit agencies to adopt
ZEBs now for several key reasons. First, over the life of
the vehicle, ZEBs will cost transit agencies less than a
carbon-fueled vehicle. That is, they have a positive
total cost of ownership for the transit agencies. CARB's
total cost of ownership study that I participated in over
18 months as part of that subcommittee will cost -- showed
that in aggregate transit agencies in aggregate would save
2.6 percent, or $580 million by buying ZEBs compared with
a business-as-usual case.

The UC Davis Institute of Transportation Studies
report entitled, *Exploring the Cost of Electrification for
California's Transit Agencies*, concluded that when HVIP
and LCFS incentives are included, the cost of electrifying
the entire fleet in the current period, which means now,
is not statistically different from business-as-usual
costs. So that's an outside independent study.

Second, 56 percent of daily transit routes in
California are 150 miles or less. The range of electric
buses has more than doubled just since it -- in the last
three years as this rulemaking has been going on. And
now, electric buses from the top three makers have ranges
of at least 250 miles, one with more than 350 miles.
Third, similar to the dramatic reductions in solar costs, EV battery costs have declined 77 percent from 2010 to 2016. So again, bus ranges are continuing to increase, battery costs are continuing to decline, and battery weights are getting lighter all at the same time.

Finally, in just the last year, LCFS and HVIP incentives have increased significantly, and infrastructure charging costs have decreased.

Thank you very much. Appreciate it.

CHAIR NICHOLS: Thank you appreciate your testimony.

Kathryn.

MS. PHILLIPS: Hi.

CHAIR NICHOLS: And Ryan Kenny, if you're here, you will be our last.

Okay.

MS. PHILLIPS: Kathryn Phillips with Sierra Club California. Thank you for the opportunity to speak today and thanks for getting this rule this far. It's been a very slow process, and frankly the rule that was sort of discussed a couple of years ago was more aggressive, more assertive. It would get us to where we needed to be faster and is frankly something that I liked better.

But we have come to the table, we have compromised, we have worked with the staff and we have
worked with, and even talked to, the transit agencies
around the state.

We have a few things that you've already heard a
couple of points made about things that we would like to
still see changed. But -- and I'll just focus on one of
those, and that is the need to move up the date for the
small transit agencies to submit plans. Right now, it's
2023. We're not suggesting that they change the
compliance date for small agencies, just the planning date
should come sooner, while we know there are incentives.
We want to get them in line to start thinking about those
incentives.

And speaking of incentives, I do want to respond
to a number of folks who keep raising the idea that
compliance incentives should be allowed through and
include compliance. It's not unusual for regulated
entities to call for funding for compliance. However, the
point of incentives is to capture early benefits for the
public. And I think that's where we need to continue to
focus when we think about incentives and encourage these
entities to get in line soon, and use those incentives,
get early adoption, and get us early reductions.

Thank you.

CHAIR NICHOLS: Thank you.

MR. KENNY: And I'm last. The danger of being
last is my testimony has pretty much already been mentioned, so I'll just make one quick point.

   My name is Ryan Kenny with Clean Energy. We've heard obviously about all of the numerous challenges that remain to be addressed. And our position is that we do support electrification, but also there should be more than one strategy. And if the problems do persist, we do propose allowing near-zero buses, as long as they meet a 0.02 NOx performance standard with renewable fuel.

   The only point I'd like to add is that RNG buses, as far as costs go, are a $1.122 per less -- per mile less than battery electric buses based on purchase and maintenance. This includes capital, fuel, maintenance, infrastructure and mid-life overhaul. So as cost is considered, we do ask that this be included for your deliberations.

   Thank you.

   CHAIR NICHOLS: Thank you.

   Okay. That completes the testimony, and I'm going to close the record. I think everybody knows that according to our process, whatever we do today is not the end of the story. It is moving it along towards a final rule, which would then come back to the Board, we hope, as early as possible, but no later than the end of the year.

   This has been hanging fire for a long time. And
I was myself a little taken aback when I was reminded by Bill Magavern that actually we are behind our own schedule in our own SIP for adopting this rule. So we can't -- we can't punt just to wait on the Theory that it might get easier.

It is difficult. There's no question about it. We have really, as I see it, four major constituencies that we're dealing with here, obviously, the transit agencies, but also the bus industry. The people who make buses and need to make the buses that are going to work and be attractive, and that are going to achieve our environmental goals.

The fuel suppliers. I don't think I've ever seen anything quite as ferocious as the first that the natural gas industry is putting up to say in the game here. But I understand why, because they think they have a really good product, and they've invested a lot in, you know, making themselves -- getting engines that are, as they say, near zero, and they see this as perhaps a life or death matter.

And then finally, of course, we have the people who have to breathe the air, and they are at least somewhat, we hope, overlapping with the people who ride the buses, or people that we want to ride the buses anyway.

And we're trying to look at all of these
different -- different interests really and come up with
the best solutions. Like a lot of people who have worked
in this area, I don't -- I prefer performance mandates
myself. I would like to be able to set a simple goal and
then just say, you know, may the best combination win.

But there's a problem with that in this case,
which is that we need zero. There's just no -- you know,
we may need it in different ways, we may not be thinking
about everything as completely and fully as we should.
But the fact is, if we can't get to zero emissions out
there from pretty much every part of the transportation
world, we are not going to meet our air and climate goals.

So I think we have to set the long-term goal.
There may be points along the way where we need to take a
look at whether the technology is evolving as we hope it
will, and be prepared to go with other alternatives. And
there may be ways in which the overall alternative
industry -- alternative fuels world can get itself to be
truly zero, in the light of our overall goals.

But as of what we know today, which is what we
need to act on, I really don't see any alternative but to
putting a stake in the ground and saying by a date
certain, in this case 2040, buses will be zero.

Now, the question is how can we help get there?
Because right now, as we have heard and seen
really, the transit industry isn't all that prosperous. They're not well funded. There may be ways we could -- you know, they could be more efficient. But the fact is that we are, in effect, becoming their partners, and we need to be. I'm stealing some of Dan Sperling's language here. But if we aren't more deeply involved in actually helping to get more people onto these buses, and to help the agencies be more financially secure, we are not doing our job. We cannot just sit back and say, you know, you meet our goals, and then everything is going to be okay.

I don't have all the answers as to how that is to be done. But one thing that seems pretty obvious is that the incentives that are out there are scattered. They're not well focused. We clearly need to be working with the legislature, and we're fortunate that we have good ties with the legislature these days to come up with a better way to make sure that the funding is there to make it possible to do the kind of fleet turnover that we need to do.

So those are some initial thoughts, but I know people have -- people on this Board have deadlines of their own, including me, for planes that they have to catch.

So I just thought it would be easier if I kind of -- instead of waiting till the end, if I put some
thoughts out there to be begin with. And I know we have
several people who want to talk, but I saw John Gioia
first and then I'll turn to Ron.

BOARD MEMBER GIOIA: Okay. And let me say, I
heartily endorse, I strongly endorse the sentiment you
express, which is setting a stake in the ground, being
bold, setting a goal, but also understanding how we check
in along the way. Last thing we want to see are transit
fares go up as a result of something like this. We all
know we want to help transit. We want to support transit.
We want to look at what incentive funding, even today, how
do we maximizes that. So I just wanted to express that.

I do think thought it -- we do need to be clear
about the goals we set. So I had a couple of questions
and some comments on a couple of items. One is because
this is helpful in understanding regions, the slide
transit may comply joint -- may comply jointly and meet
targets collectively in an MPO or in an air basin. Can
you talk a bit about that, because there's an opportunity
here, to the extent that there are agencies along the way,
which some are lagging and some are doing better, but
the -- but air basin or the Metropolitan Planning
Organizations is achieving a collective goal.

So I'd like to hear -- that was an interesting
idea, hear more about that for a second before making some
other comments.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
Sure. Let me. This is Jack Kitowski with the Mobile Source Control Division. Let me jump in on that. The concept of this actually came out of the very first transit regulation, where there were demonstration programs, and in the Bay Area, they collectively came together to advance the fuel cell technology. They did that quite effectively. We thought it worked really well. So this was a concept where we put together where transit agencies could combine together --

BOARD MEMBER GIOIA: Um-hmm.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
-- and they would basically be adding their numbers together and combine -- and comply as a group. And --

BOARD MEMBER GIOIA: And they would do this voluntarily.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
They would do this. It is entirely optional. They would do this voluntarily. Now, it's one of those things that we actually -- very honestly, we do need to monitor, because you will have some fleets that have been transit districts that have come here and mentioned that they will be in front of the rule.
BOARD MEMBER GIOIA: Right.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI: We don't want this to be abused in such a way that there are a lot of extra credits floating around.

BOARD MEMBER GIOIA: Right.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI: Then some people don't have to do anything.

BOARD MEMBER GIOIA: Right.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI: But it's an opportunity to share and learn.

BOARD MEMBER GIOIA: So I think this is an idea that's worth exploring more is this collective -- at least for along the way. Obviously, when we get to the 2020 -- if it's a 2029 target of 100 percent all new electric buses, I mean, that's -- we would want that going forward, but possibly along the way. So I think this deserves to be fleshed out more. And I think there's some promise to that, because I think in the nature of things there will be agencies that will have an easier time and some will have a tougher time.

My own personal editorial remark, not really the subject of this regulation, is that there are too many transit agencies, too many small transit agencies. And there's many in the transit world who believe that if some of them -- I'm not saying all of them in a region, but if
some of them consolidated, we would have more efficiencies, better scheduling. But, you know, that's a separate issue for another time. But -- so spending some time on this sort of regional compliance.

Second, I do think as we move forward here, we need to think about how this is linked with positive worker benefit. And there was a letter presented by a coalition that included labor unions, Blue Green Alliance, CEJA, Sierra Club, Coalition for Clean Air, and others that really, I think, lays out some interesting concepts and thoughts that I would like to see the staff look at, realizing these are more policy comments, some of them in the statement reason dealing with job creation, quality of jobs.

I would like to see us spend some time looking at how we incorporate policies and concepts into the rule as appropriate. I don't know if staff has any initial remarks on this, but I would encourage --

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI: No, we're happy to take a look at that.

BOARD MEMBER GIOIA: Yeah, I would encourage that to be part of the discussion and analysis.

San Francisco -- oh, San Francisco raised a couple of issues that also seem to deserve some merit in addressing. One is a -- one is simpler, and it dealt with
the -- there's already in the proposal an opportunity for -- if a transit agency's daily mileage can't be -- daily mileage needs can't be met by the existing technology, that there was -- they could defer purchase. And San Francisco, I'm sure this may apply to other agencies around the state, wanted to add the great -- a great ability requirement, because of terrain. And if -- so if the tech -- if we're looking at a mileage -- a deferral for mileage reasons, it seems it's reasonable to think about the great ability requirement as well. You've seen that request. They've talked to you about that?

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
Yes. And we're happy to incorporate that. We agree with the concept.

BOARD MEMBER GIOIA: Yeah.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
It's just a matter of looking at the language and getting it right.

BOARD MEMBER GIOIA: And then they talked about another issue. And it sounds like the Vice Chair may have some ideas too on this with regard to, you know, how do we take into consideration this issue of their having ridden those a kid in San Francisco. I was living there. The electric trolley buses, right, that -- with the overhead lines, you know, given that they're replacing a fair
amount of them. I'm not sure it's a one-for-one credit, but there -- what opportunities exist on at least considering that. So I'll just park that out there for -- there.

And the -- and the other -- a couple other comments. I don't want to stack additional requirements on transit, but there was some mention of to the extent agencies implement ZEV buses, how do we also ensure, because this -- this is -- it's is going to take years for this to totally get implemented, to put some -- the zero-emission buses on lines that serve disadvantaged communities to ensure where there is already an air quality issue in a community, that they're prioritizing. I realize, you know, they're going to have enough challenges incorporating all of this, but with -- so without layering a big burden, at least how to prioritize the zero-emission buses in communities that already have air quality issues in disadvantaged communities. I think that would be, to me, an important issue to think about.

Finally, just more as -- well, more as a general comment, I realize a lot -- what I heard from a lot of transit agencies is concern of where the technology and cost is today. I think we fully expect technology and cost are improving dramatically, exponentially over time. And so it's not -- I don't think it's fair to
assume that the technology or costs that exist today are
what are going to exist in 10 years. And I've heard from
some agencies, I think they understand that, but they're
basing some of their concerns over -- over where
technology exists today. And I think as our Chair pointed
out, we're going to have a chance to check in on this over
time to look at cost, look at technology, and ensure that
this -- this is going in the right direction. It remains
to be cost competitive, right?

    In fact, the advantage of setting some
requirements like this is it gets the bus companies who
are here to invest, right, and ramping up research and
manufacturing and technology improvements to -- so it's
sort of chicken and egg thing. If we have -- if we set
some specific standards, they'll know that the demand will
be there, and they will make the invest -- sizeable
investments they need to make to improve the technology,
and continue to have the lifecycle cost of this -- of the
buses to be competitive. So I think that's a factor we
need to think about here.

    And so that's why setting a requirement and a
standard that's appropriate I think is important.

    CHAIR NICHOLS: Okay. We have several people who
are really anxious to get out of here, but the most
anxious is Dan, and then we'll -- so Supervisor Roberts
has agreed to let him go first.

BOARD MEMBER SPERLING: So, Chair Nichols kind of set me up a little while back. This is probably the one program that I've been most troubled with my whole career here at CARB, and it comes down to the fact that we're treating, and heard this phrase, transit as a regulated party, and that just can't be.

These are basically local government agencies that have been starved for resources forever. They don't have much capacity of, you know, pretty much any -- of -- you know, in terms of capital. The product they deliver is 80 percent subsidized. When you pay a fare, you're only paying 20 percent of the total cost. So what we're doing -- so the staff did a great job of trying to come up with someway of accommodating that. And they came up with responsive to every, which means it's a hugely complicated regulations with all kinds of, you know, accommodations, and off-ramps and -- but at the end of the day, we have -- we face the risk of unintended consequences of a very serious nature, if we treat it as a regulation.

And there's so many uncertainties into it, before we get, you know, the electricity -- no one even talked about electricity prices. The truth is -- or there were some mentioned. Electricity prices are actually comparable or higher than the diesel, because of the
demand charges and how it's work -- you know, and how
regulations work. And I know the utilities have talked to
them. They're trying to figure out how to fix that, but
that is the reality.

So there's all of these uncertainties. And we're
dealing with agencies that are in big trouble basically.
Thirty-one -- nationally, 31 out of the 34 major metro
areas have lost bus ridership the last few years. And
they're in the situation where it's not just a matter of
worrying about cost fare increases, as someone mentioned,
we're talking about an organization where we're asking
them with very scarce human resources, never mind
financial, to divert their attention to electric vehicles
when they need to figure out their survival. And they're
playing a key role in our society.

So, you know, what does that all mean? I really
struggle with what exactly it all means, but I think one
is we've got to make sure the Executive Officer has huge
discretion in dealing with all of these as going along.
We should stick with the -- I agree, we stick with the 24
target absolutely. But how we get there, we should be
really flexible, and that -- and I think part of it is if
a bus operator doesn't -- there has to be money available.

And even if there -- the problem is when the
regulation takes effect, then they can get incentive
money. We've got to get -- either get rid of that requirement, or waive it, or somehow not enforce it. We've got to provide a lot more flexibility. These are -- many of them are very weak organizations. You know, I hate to, you know, impugn some of the transit, but it's because they've been starved for so long.

BOARD MEMBER GIOIA: That's why they should consolidate.

BOARD MEMBER SPERLING: It's a societal problem. It's a -- you know, that we've cut back our, you know, government, and resources, and how many has gone to transit.

So I do have to run. So I just advocate for, you know, bending over backwards, not treating them as regulate parties, treating them as partners at where we're going to help them get the money, and -- you're going to agree with me, right?

CHAIR NICHOLS: Yes.

BOARD MEMBER SPERLING: Okay. Good.

CHAIR NICHOLS: Ron says ditto.

BOARD MEMBER ROBERTS: I can't believe this. He took all my notes.

(Laughter.)

BOARD MEMBER ROBERTS: But let me -- okay.

That's the last time you go first.
(Laughter.)

BOARD MEMBER ROBERTS: Let me -- I hate to say I'm in agreement with Dan, but let me --

(Laughter.)

BOARD MEMBER BALMES: Every once in a while.

(Laughter.)

BOARD MEMBER ROBERTS: Yeah. Let me embellish a little bit. First of all, his reference to, you know, predicting the future is difficult. Let me give you one example, and he high mentioned it. Many -- all the way across the country you talked about the biggest 34 transit agencies. Transit agencies all over this country of all sizes have lost ridership. What makes that unique? I don't know. I've been involved with public transit for over 30 years. I don't ever remember when the economy is going in a positive direction that this has happened.

Somebody may remember that, but I don't. And it -- usually, we predict our ridership based on what the economy is doing. There's something going on right now. And I just came back from a national conference in Nashville, and I learned about from some of the operators of electric buses some of their concerns. But I didn't hear anybody that has an explanation of what is affecting the industry across this whole country, where ridership is declining. You know, I don't -- maybe the scooters are
doing a lot better than I thought, or the -- you know, or
the -- you know, the bikes or the roller skates or
something. Nobody has a -- there's no clear explanation.
Maybe it's Uber. Maybe it's -- you know, it -- nobody can
say right now why is this happening at a time where we
would have predicted just a few years ago this wouldn't
happen.

So predicting the future that -- and the further
out you try to predict it, the foggier that crystal ball
gets. So -- but that is a concern. And you don't even
have to look out very far. We're going to have an
election in this state shortly.

I'm going to tell you this. SB 1 that is
absolutely critical for the transit agencies, is --
there's uncertainty in that. I don't want to make
predictions one way or another, but I tell you there's a
great deal of uncertainty in it. That goes -- there's not
a transit agency in this state that's not going to feel
that pretty significantly.

So that's a concern. And those -- see that's
a -- that's not 2040. That's 2019 and 2020 we're trying
to figure out. If you try to manage one of these system,
you have to really deal with a whole lot of complexity.
The predictions don't predict that the cost of a bus is
going to decline like a computer did. If you get into
that game, you're dead in the water. You know why, first
of all, you've got to build the bus. Forget what you're
going to power it with. In the industry, they call it a
glider. That's -- that's before you put the engine in.

There's no reason to think that basic cost of the
structure is going to go down. It's like saying the cost
of housing is going to go down, because we're using LEDs.
Okay. It doesn't work.

We would be probably in good position if the cost
doesn't go up too fast, rather than come down, because one
of the things you're going to need is more -- more
batteries to get more range. And that's going to -- the
added weight and everything else, the complexity and this
it's not as easy as it would appear.

We have to have something -- we've got to have
some flexibility. I mean, we heard speaker, after
speaker, after speaker saying we've got to have some kind
of an off-ramp. I don't know if it has to be a hard
number, but there's got to be some -- we've got to be
flexible as an organization. And that would be one of my
concerns, my major concern.

These are our partners. The transit agencies
aren't our enemies. These are our partners. And I can
tell you from the agency I'm involved with, we're heavily
into electric. We're spending right now at $2 billion to
extend one of our trolley lines. Two billion dollars.
The last time I looked that was all electric.

And so, you know, I think -- the other thing I heard -- everybody, there's nobody against wanting to do this. 2040 is a great goal. There's no question about that. I don't -- I don't think anybody has questioned that. It's just the concerns of what happens to us on the way to that goal. We want these people to succeed. We want the ridership not to go down. We want the ridership to go up in the -- in -- so -- and there is no guarantee in terms of funding.

Okay. It's -- I hate to say it's the economy. It's all about the funding. You know, these are -- the buses are far more expensive. Not a little more expensive. The operations are expensive. This -- the changeover for infrastructure is expensive. And if you lived in San Diego, I'll tell you the electricity is really expensive, and plus they put a premium on top of it.

These are all concerns that I think a transit agency has to have.

I also - and I'll finish up, that I was really focused on the paratransit testimony that we heard, you know, because there aren't any paratransit units. I don't think that exists anywhere right now that are electric,
and especially if you're serving a rural area and you've
got to go out and you've got to get somebody out in an
emergency. And believe it or not that happens. And
you've got to make sure they have the opportunity to have
a vehicle that does that. And right now, there is --
there's nothing on the horizon that I'm familiar with.

We just saw it back on the east coast, they sent
a bunch of buses with this -- with this hurricane to get
people out of there. They couldn't have done that if they
had to send electric buses in, because those buses came
from long distances to help out. I think it was over
1,000 buses that came in.

In California, these are things you need to be
concerned with. Yes, we -- you know, when the range gets
out there at 300 milles, it becomes less of a problem.
When the real range gets out there, because I know we test
these things, but they don't run up and down hills and
stop every few minutes and do the things that a real route
costs you to do.

So you've got cost. You've got range. You've
got infrastructure. If that doesn't suggest that we need
a great deal of flexibility as we move forward on this,
you know -- then, you know, we need -- we need a rude
awakening.

CHAIR NICHOLS: Well, I think what Dan is saying
is we need to rethink the whole system. I mean, it's the number of agencies. It's the size of the buses. It's the way they conceptualize the business they're in. You know, it's the sunk cost that they've got. I mean, there's -- it's like if you were to just -- if you could eradicate the system, which I'm not at all suggesting we would do, and start over again to try to figure out what should the public be paying for to get people from place to place and need to get from place to place, I don't think you'd design it the way it exists today.

BOARD MEMBER ROBERTS: Well, and I don't know -- I don't know any other industry that you would either. Okay.

CHAIR NICHOLS: Well, I'm not advocating that Google --

BOARD MEMBER ROBERTS: No, I -- I agree.

CHAIR NICHOLS: -- be given our transit system, if they don't want to be there.

BOARD MEMBER ROBERTS: But I can't think of anything in this country that if you didn't -- if you had an opportunity to redesign it, you wouldn't do it, and improve it. But you've got -- you've got -- you know, you've got a history of why these things are being done, and you can't assume that those are going to be -- that's not going to change dramatically overnight and maybe even
long term.

    But you've got -- here, you've -- we're talking about people that want to do the right thing, and want to be our partners. Okay. They're not arguing with us. They -- they -- they're not even saying they want to negotiate. They want you to be aware here's the problems they have to solve. And if you could figure a way that, yeah, there's federal or state funding that's going to take care of all this, I think they'd all sign up tomorrow. Not likely that's going to happen, but I think they would. So that's all I'm saying.

    I want us to succeed on air quality. I want them to be a part of that success. And the way you're going to do that is to have some flexibility. And whether it's benchmarking -- there's got to be something that's got to happen that causes this Board to really take a look every few years at what's going on, and make whatever adjustments are needed.

    CHAIR NICHOLS: I think -- I think everybody has heard that.

    BOARD MEMBER ROBERTS: Okay.

    CHAIR NICHOLS: Okay. Judy down at the end there.

    BOARD MEMBER MITCHELL: There. It came on.

    Okay. Yeah, some very good points have been
made. Certainly in the L.A. Metro area, we know that ridership has gone down, just as Ron explained, and car ownership has gone up, so -- and we also see our most underserved communities are the ones using transit. So if fares have to go up, we just haven't served the purpose.

But I do think that what was interesting was all our transit agencies came to the -- came to talk and were in favor of this. I mean, they recognize the obstacles in it and the problems, but they are willing partners. And so I think flexibility is the answer. They all asked for benchmarks. And I think maybe not benchmarks, but very regular periodic review of where the technology is, where the costs are, how the service and performance of the various fleets are doing, because some of them might be in mountains and so their battery demands are going to be different than somebody in -- in a flat area. We need to be paying attention to that.

There was suggestions about the rollout date, that they want to move it up for the smaller fleet transit agencies, and they want to move it out for the bigger ones. So somebody suggested 2021 for large fleets and earlier for the smaller fleets. I don't know what the staff thinking is on that. That might be interesting to hear where you are.

The other thing that has been concerning to me
over the past couple of months is what are we going to do
with natural gas? I mean, we have huge reserves of
natural gas. It's low cost, but we're moving to all
electric vehicles. So how will we use natural gas?

I mean, one thing that Supervisor Roberts brought
up was that for your emergency fleets, we need diversity
in the fleet. I mean, what if your electric system goes
down, and we don't have any kind of other fueling
capacity? Certainly, for the fires we've had in
California, the fire -- CalFire uses buses to get their
firemen up there. So we need to be thinking about how
the -- how we -- how we respond to emergencies.

The cutaway buses, I just read a short piece last
week that a company called Lightning has come out with an
all-electric cutaway bus. So we may see some of those in
the near future that we can start using at -- for a lot --
some of these smaller fleets use cutaways.

But I do -- I'm very pleased that we see the
low-NOx option here in 2020. And I'm wondering about
renewable natural gas. Yes, you have negative carbon, but
you still have a -- you know, we still have a NOx and an
internal combustion engine. So I think we just need to
think about those things and the big picture.

If you can decarbonize natural gas, and then you
you've got hydrogen. So -- and I know we use natural gas
to convert to electricity. That's our main source of
electricity. But how are we going to deal with this in
the big picture? I'm just starting to think about that
and hope some of the rest of us are thinking about it too
with abundant sources of natural gas that is inexpensive.
How will we be using it?

And also then natural -- you know, the conversion
of waste into renewable natural gas. That's part of our
whole scoping plan, our plan for the state. So how do we
really integrate that into some of the other things that
we're doing?

But, for now, I think we're -- this is heading in
the right direction. Our transit agencies are wanting to
work with us. And so I would say, like Supervisors
Roberts, we need a lot of flexibility, a lot of
checkpoints along the way where we look at what is
happening out there among the transit agencies, what's
happening with the fueling infrastructure, and make
adjustments if needed.

Thank you.

CHAIR NICHOLS: Okay. Let's hear from Diane.

We're moving sides. I know everybody wants to speak, and
some of us are literally about to walk out the door, so...

BOARD MEMBER TAKVORIAN: Okay. I'm not walking
out the door quite yet. And so thank you to everybody. I
won't go through the list. The time is now. I feel like everyone has said it, but it's technology, it's infrastructure investments, public health, respiratory disease is critical. Climate change, we're not going to make the scoping plan our goals. Transportation emissions have increased. We really need to act now, and I think this is a perfect example of just transition.

I mean, nobody really wants to change. I know everyone is saying yeah, yeah, we want to do it, but there's all these obstacles in the way. But just transition is what it's about. And it's never going to be easy or smooth, but it's what it's about. It's better jobs. It's cleaner air. It's more accessibility for people in environmental justice communities to get to their jobs, to get to school, to get to shopping, because this, as someone said, is the people's transportation system. So we have to make it better. And the importance of this for environmental justice and impacted communities cannot be overstated.

They are the primary customers. So to talk about cutting service and increasing rates for those communities is just not acceptable. So we really have to figure out how do we make this work for all the constituencies that Mary talked about, because it's critical that our communities have access. They are not the ones who are
reducing in ridership. They are not the ones who are
getting on Uber and Lyft and all off that. And they are
the ones that are the most impacted by the emissions.

And we can't -- I'm trying to figure out a short
way to say this, but really we cannot say that we're all
in favor of really moving forward with AB 617 like we did
yesterday -- we spent eight hours on that, talking about
how we're going to reduce emissions, and how we're going
to really clean up these communities. We can't do that on
one day and on the next day, say, yeah, but we're not
going to do it here. We have to do it here. We have to
do it in each of these decisions that come along to us
as -- as we go along. Otherwise, that big decision
doesn't mean anything.

And so this is what folks were talking about
yesterday from Environmental justice communities is these
are the on-the-ground decisions that we have to make. And
we have to make it right for everyone, but we can't punt
on something like this. I think it's really, really
important.

So that's -- we -- I really want to work together
with everyone to make this happen. And one of the key
things, and I think we've said this, and Supervisor
Roberts just said it as well as others, that we have to
work on the electricity rates. San Diego does have super
high rates, and we need to figure out how we can work with
CPUC to reduce those, and to really provide either the
incentives, or the structure that will make it work.

More to say, a but I will stop there.

Thank you.

CHAIR NICHOLS: No, that's great. Thank you.

Hector, quick.

BOARD MEMBER DE LA TORRE: Two very brief
comments. One, 22 years. It's quite awhile. So I think
that's plenty of time for us to figure this out.

Number two, it came up in the comments, the
school buses. We have brought this up numerous times.
Can we please have an update, not today --

(Laughter.)

BOARD MEMBER DE LA TORRE: -- on where we are on
the school buses and the swapping them out? We emphasized
it was a priority. I want to know where we're at

Thank you.

CHAIR NICHOLS: Thank you. Yes.

BOARD MEMBER SHERRIFFS: Yeah. Thank you.

I -- all the cautions we've heard, but I have
some optimism. A very different tone than the last time
we were talking about transit. And much -- there is a
strong sense of partnership and ownership of this. And
that's huge. So things have changed. And partly, it's
been the responsiveness of staff. So thanks for that.

Some -- I echo the opportunities and concerns
about low NOx. And so we need to continue to work on
that. Critical for South Coast and Central Valley.

And unintended positive consequence of all of
this that we need to remind ourselves, I think, is how
this actually has driven technology not just for what we
focused on, which is transit, transit buses, but clearly
industry is using what they're learning to increase the
opportunities in trucking. And I'm also presuming,
although we didn't hear, that applications in farming must
be part of this development. So unintended positive
consequences. How refreshing.

CHAIR NICHOLS: Yeah, that's a good one.

BOARD MEMBER SHERRIFFS: The question about
charging standards came up, and I could go on for many
hours about the electronic medical record and what a
disaster that has been. But one of the disasters --
(Laughter.)

BOARD MEMBER SHERRIFFS: -- has been the
inability of systems to communicate. And Fresno has four
hospital systems, over six community clinics, multiple
IPAs. Not a single one can communicate with the other,
because they are different systems. Or even if they have
the same system, the systems are different, and there are
fire walls between them, and nobody will pay to cross the firewall.

So I don't know that it's -- that we have -- I don't know what we can do to encourage the manufacturers to, in fact, have one standard in terms of interoperability of these, again cause infrastructure is such an important aspect of this. We don't want the plug standing in the way of moving forward on this.

We're committed to 2040. So I wonder if people rollout their plans in 2019 or 2020, 2024, does it matter? How important is one -- a career one way or the other in terms of when transit agencies come up with their plans, because --

CHAIR NICHOLS: I think this is keyed to how long the buses last, and how long it takes to order them. I mean, it's going to be a slow transition no matter what we do, even if we said do it tomorrow.

BOARD MEMBER SHERRIFFS: Well, but it's understood 2040 is when, you know, there are no more internal combustion buses in transit.

CHAIR NICHOLS: That's not true.

BOARD MEMBER SHERRIFFS: Well -- buy that's -- that's the goal.

CHAIR NICHOLS: I mean, I know, but let's just say that's -- it needs to be a very strong goal.
BOARD MEMBER SHERRIFFS: Yeah.

CHAIR NICHOLS: It needs to be a very strong goal.

BOARD MEMBER SHERRIFFS: We hear over and over incentives important, but my understanding, the incentives roll along. Because if you have to have 25 percent by 2023, well, you've got three years, 2026, before it's got to be 50 percent. So as the regulation said, you can't use incentives, if you exceed what you have to have achieved. So I think incentives are available through this. That doesn't answer the problem, but it's a reminder that there is money ongoing to support -- support this.

Thank you.

VICE CHAIR BERG: Thank you. I'm going to be in charge of wrapping up today. And we do have one public comment person. So what I heard was 2040 -- oop, I'm sorry. I'm not quite wrapping up yet, because -- oh, thank you so much, but we're going to go to John Balmes. So sorry. Please.

BOARD MEMBER BALMES: Well, I don't want to -- I don't want to reiterate what other people have said. But I didn't want to put my support for trying to have some kind of credit, not necessarily one for one, for the San Francisco Muni elect trolleys. As somebody who works at
San Francisco General Hospital, now Zuckerberg San Francisco General, and have worked there for many years, I have to use Muni. And, you know, I think that the system -- I get to use it, yes.

And, you know, the system has enough problems as it is. And I think they are truly committed to clean -- clean transit system. And, you know, the electric trolleys have to be replaced. They're clean. And it's a heavy lift. So I just -- I think Supervisor Gioia has already talked about this, and maybe Vice Chair Berg as well. So I just want to add my two cents in support of that.

VICE CHAIR BERG: Thank you.

Senator Florez.

BOARD MEMBER FLOREZ: Thank you. Just two questions of staff. First and foremost, we are talking about a goal of, is there a way to codify this, so it's not kind of best efforts, but it's actually completely codified, Jack?

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:

Well -- again, this is Jack Kitowski with the Mobile Source Control Division. The regulation has a couple of aspects that lead to that. The first is the rollout plan where the transit agencies will have to have a plan on how they would get to 2040.
But then what the purchase requirements do is they put in place different percentages at different times.

BOARD MEMBER FLOREZ: Um-hmm.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
What we do recognize is the -- some transit agencies hold on to their buses a little longer, and that we do have safeguards in there for people to buy combustion buses, if a zero-emission bus cannot meet their needs, and we think those are important to maintain, so as we get to the end, 2040, you know, it's not likely to be -- it may not be 100 percent. It may be 95. It may be 97. But the regulation will have drivers in there in terms of their percentages that will drive that to a very high number.

BOARD MEMBER FLOREZ: Okay. So maybe the answer to the question, is it -- there's no codification in this or --

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
The regulation does not require transit agencies to retire buses early if they still have combustion buses.

BOARD MEMBER FLOREZ: Okay. Understood. The last question. In terms of the small districts versus large districts, there's a two-year window. Why? And couldn't we just make it one window? I'm not -- I'm not
saying small districts can't get up on the learning curve
as much as anyone else. But I look at Porterville, for
example, or some of these other places, and, you know,
they -- it's a matter of will as opposed to capacity.

So how do you look at that in terms of the
two-year window? Why is that, and does it need to be two
years or could we just move it to one standard?

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
Senator, are we talking about the rollout plan?
BOARD MEMBER FLOREZ: Yeah.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
So, you know, it's actually a three-year window.
BOARD MEMBER FLOREZ: Three-year window.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
So it makes your comment even stronger.
BOARD MEMBER FLOREZ: Yes.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
Quite honestly, there's no -- you know, there's
no magic reason for the three-year time frame. I will say
we visited a number of transit agencies, the smaller
transit agencies, we've talked to CalAct, and these folks
do amazing things on shoestring budgets.

BOARD MEMBER FLOREZ: Yeah.

MOBILE SOURCE CONTROL DIVISION CHIEF KITOWSKI:
And we thought it was important to have a lag
time in there to recognize they -- they desperately need
to learn from the large guys on how they do some of that.
Three years was -- you know, was what we put in the
proposal for that.

BOARD MEMBER FLOREZ: Okay. Thank you.
VICE CHAIR BERG: Thank you.
Assembly Member Garcia.
ASSEMBLY MEMBER GARCIA: Thank you. Thank you.
I want to just to talk a little bit. The
Chairwoman talked about four different constituencies that
we were trying to address concerns with. I wanted to add
like a subcategory to the fourth. She talked about the
public and those who depend on public transportation. And
before I get into those remarks, I want to say AB 232 and
SB 32, right, we think of as goals and objectives that
we've set forward for greenhouse gas reductions.

But when you look at those legislative mandates
now, there's a whole lot of other content in there that
talks about ensuring that we are bringing forward
co-benefits, as a result of our efforts.

Just two weeks ago, I got to spend some time at
the Global Climate Change conference, and I spent some --
a number of hours at the UC Berkeley labor studies school,
where there were a number of different folks talking about
how do we here in California address these -- this issue
of economic disparities up and down the state of
California via our climate change policies?

And I think, you know, earlier the comments were
about predicting the future and what will or will not
happen. I think it's fair to say that what will happen is
that there will be a displacement of a certain type of
technology. And that also comes with a displacement of
people and making a living, financial living, jobs, right.

And so one of the things that I'd like for us to
really hone in on, and focus on, and it's been mentioned
quite a bit here is the training aspect of this new
technology. We are covering the issue of the transit
agencies. We are talking about the fuels, the bus
producers or manufacturers, we mentioned the public as I
prefaced my comments.

But, you know, there has to be a strong component
to this as it relates to training and developing this
workforce that's going to facilitate us getting to these
goals and objectives. And I think place matters.
Geographic locations are extremely important when we're
talking about investing in disadvantaged communities as
the initial part of the rollout is how do we then -- we're
talking about a mandate here, right? We're talking about
somewhat of a mandate moving forward. How do we also
mandate that there is a key piece to all this that's kind
of pushing on the workforce training and development?

I would like for us to move in that direction.

We heard comments aligned with that. And I think ARB should be aligning its efforts there as well. Supervisor Gioia touched on that. But I think we've got to be paying more attention to that than we, I think, have put out there today in this conversation.

I represent a region that's got, on a bad, and I've said this before, 28 percent unemployment. On a good day, it's 18 or 19. Highest in the state of California. How can we look at them and that region and say, our climate change policies are improving California's economy, but just not in your area, right? It's an area that we're dependent on public transportation. It's an area that I think we can see kind of a dual opportunity here right, co-benefits is the word, of making sure that we're moving in the direction of cleaning up the air in that region. That also, by the way, and by no surprise probably, right? If it's highest unemployment, it probably also has a tremendous amount of environmental problems as well, and you heard that yesterday – communities adjacent to the border – as it relates to the air quality in that region.

So we're all on board with these objectives, but we have to really, I think, emphasize about this just
transition. And that's the way it was being framed at the climate change conference in these discussions, a just transition in these economically disadvantaged communities that are disproportionately impacted by continuing to push forward -- you know, just fossil fuel bus -- buses driving around these communities.

So I want to emphasize that. And I think that, you know, we have some transit agencies that are a perfect example, some of them are here today, some of them spoke today, and making sure that we are capitalizing on those best practices. Yes, we know who's building the buses. We know who's driving the buses, but we also have to figure out how we prepare, how we train the folks to maintain these buses, so that there's some longevity -- there's some longevity to these investments that we're making.

Otherwise, 20 years from now we'll be talking about what the new buses look like, and the folks that drive them and the folks that make them. But what about the folks that depend on, you know, the jobs that we are actually kind of displacing as a result of the policies that we're pushing here?

And it's the same argument that we hear from my colleagues in the legislature who represent districts that are dependent on a fossil fuel economy. That the only
jobs that are available are the oil industry jobs. You know, they tell a very compelling story when, in my office, I'll have a young Chicano or Chicana who comes in who was formerly incarcerated, right, and the only opportunity that they were given to reintegrate back into the workforce was in the oil industry, right.

And so they're sitting there looking at me saying, hey, bother, I mean, just be mindful of the policies that you're pushing and adopting, because folks like me depend on this for a living, right?

And so I want to bring it back to the conversation we're having here in the context of transportation for the public and the manufacturers, and all of those other stakeholders involved that we need to really be mindful of that. And I think that we have an opportunity here to bring forward, you know, what again the just transition is referring to, and making sure that we see those co-benefits in regions of the state of California that deserve to see economic opportunities for the people that live there as well.

So those are my comments. I think we have some great opportunities before us. We have some great partners, once again, that are here, that are not. But I think the comments we ought to begin to look at aligning our policy direction now with making sure that those
investments bring forward those opportunities as well.

Those are my comments.

BOARD MEMBER GIOIA: Amen.

ASSEMBLY MEMBER GARCIA: Thank you for your attention.

BOARD MEMBER Balmes: And I also, in my rush to get us done quickly, forgot to bring this important issue up. So thank Assembly Member Garcia.

ASSEMBLY MEMBER GARCIA: I want to go home too, but I can't leave --

(Laughter.)

ASSEMBLY MEMBER GARCIA: -- without making sure that I make those comments.

BOARD MEMBER Balmes: Yes. And I thank you for those comments.

ASSEMBLY MEMBER GARCIA: Thank you.

VICE CHAIR BERG: Thank you all.

In wrapping up --

BOARD MEMBER GIOIA: I think there's two -- he wanted to say something and I wanted to make on last -- I forgot to make a comment.

School buses. You did say the school bus.

So real quick, I failed to mention if we're going to look at this, we need to look at large fleets like the Google bus fleet in the Bay Area. As in other parts of
the state, there are large bus fleets that are not
publicly operated and they can't get off scot-free on
something like this.

You know, where -- and so we should be maybe look
at fleets above a certain size, just like we do truck
rules. So I just -- I would like staff to look at that in
the mix of this transit rule.

VICE CHAIR BERG: Thank you very much.

So just to remind the Board there is no voting
this afternoon. We're just -- this is one of two
hearings. And I would just like to wrap-up this segment
with what I've heard today, 2040 is the goal. And these
are our partners. And so going back and looking at a
broad executive authority. What I really have heard from
the group and I also like about this plan is we are going
to have a rollout plan. And it should be within the
Executive Officer's authority to accept that rollout plan,
if it's going to meet the goal. That type of flexibility
gives you an ability to have a partnership.

Incentive funding. Maybe we need to bring the
incentive funding department -- people in Scott Rowland's
group to really think about how we could look about our
existing funding, as well as what additional funding we
could secure, and who we need to go after to increase
that. Also, there is some talk about aligning, understand
the federal funding. And so we could take a look at that. Certainly, we've heard a lot about benchmarking. And it's the same concern that we've had in so many regulations that both Jack and Tony are so familiar with. And so looking at that technology and giving this Board a level of comfort that we won't take our eye off the ball, and how we're going to do that, I think is critical.

And absolutely the co-benefit plans, and how we see that all fitting together. There are training grants today for people like bus manufacturers. In fact, my company takes advantage of the employment training panel. And so getting that information out it is a great program. And so we can do things like that as well.

So I think if we have captured that, we'll go ahead and close this section for this agenda item. And as I said, we have one public testimony and -- I'm sorry?

We have one person -- no, no, there's no voting today.

BOARD MEMBER DE LA TORRE: I want to vote.

(Laughter.)

BOARD MEMBER SHERIFFS: We can vote. We can vote. We just press either one of these buttons.

VICE CHAIR BERG: Yes, that's right, and we'll record it.
BOARD MEMBER GIOIA: You're in a scolding mood.

VICE CHAIR BERG: No, no, we -- no you're voting, and very positively, but we will do that in December. We'll be coming back December, no later than January -- in January.

Okay. So our last point, we have three minutes, Brian for public comment and welcome.

(Thereupon and overhead presentation was presented as follows.)

MR. KOLODJI: Thank you, Vice Chair Berg.

Starting with a tribute to -- to the -- on the top of my slide, there's the -- its about breath we talked about earlier. And it's the breath of God that gave us life, so I give that tribute first.

Chair -- Vice Chair Berg and Board members, I'm grateful for you being here, especially -- I hate to say, it, but especially the legislators, because I've -- I also want to thank California Department of Food Agriculture Karen Ross, and the Commissioner of the California Energy Commission, and their staff and your staff Emily Weinberger[SIC] encouraged all -- Karen Ross and Commissioner Weisenmiller, and Emily encouraged me to be here today. So I blame it on them.

This technology is able to beat the Governor's recent Executive Order issued, which requires removal of
300 million tons of CO2 or more from the -- sending
into -- from sending into the environment by 2045. But
this technology actually removes it by 2025. That's two
decade earlier. So I hope you'll pay attention.

My name is Brian Kolodji and I'm with Black Swan,
a California company and the only -- and I'm presenting
the only plan to accelerate and beat Governor Brown's
Executive Order B-55-18 with carbon -- with, you know, a
technology called carbon enrichment. The biology -- let
me see if I can use this slide presentation -- how do I --
ookay. There we go.

--o0o--

MR. KOLODJI: The technology uses the power of
breath, and biology and chemistry already well known. And
it -- this technology has been vetted with again Karen
Ross's CDFA Scientific Advisory Panel. And what we do is
we take the emissions from the power plants and from
industry and feed it directly to crops we condition it,
cool it, and dilute it to where the crops actually double
the growth rate and yield.

It's a technology that has been around for over
100 years in greenhouse. And what we do is we use it to
turn basically deserts into forest -- into crop land. We
can -- with this technology, because we reduce the water
utilization requirements of crops, and we double the
yield, and double the biomass. And all of this leads to biosequestration.

And it's been proven with pilot plants -- with, again, technology that's been around for over 100 years in greenhouses and in pilot plants in Kern County.

--o0o--

MR. KOLODJI: We're losing -- this slide here that I'm showing demonstrates how we're losing the battle. I beg to differ with Chair Nichols, she says we need to get to zero. Actually, if you look at the numbers up here, you can see that we really need to get negative. Okay. Going back to the slide, you see that 400 parts per million in the top left corner, that's what our air is today, and that's totally abnormal. It should be 300 parts per million. Only in the last 100 years has it gone up to 400, and we haven't seen this in a million years.

So we need to -- we need to not only stop, arrest the carbon going into the environment, we need to reverse it. And there's no technology out there today, other than using biology and chemistry, which -- in crop enrichment.

And as you can see, we're losing the battle here, even throughout the globe. It's accelerating at 0.81. And California -- I mean, only a couple people in Europe have gone to 0.02 -- minus 0.02. China is at plus 0.63. They're absolutely going the wrong way. And --
CHAIR NICHOLS: Okay. Brian, so I've let you go over about a minute sorry. And I know that you've given us a lot of information here --

MR. KOLODJI: Can I go to the last slide?
CHAIR NICHOLS: Last slide.

MR. KOLODJI: Okay. This is the last slide showing what we need from CARB. Okay. This is -- carbon enrichment makes a profit by conditioning CO2 from stat gases and feeding to agriculture, and direct air capture also does the same.

Unfortunately, the CCI, the climate -- California -- CARB's Climate -- California Climate Investment Program grants do not -- do not recognize these technologies. CDFA's SWEEP program, CDFA's HSP program, CEC's REAP Program don't provide any funding for these types of projects, because this innovation is -- has just -- has just been presented. And we don't get any funding. No money allowed, because it's not renewable energy. It's not efficiency. It's not ZEV, zero-emission vehicles. It's new --

VICE CHAIR BERG: Okay. Brian. So I really appreciate you coming, but this Board, the -- we can make no decision today as you can imagine. So this will go down to staff. I've -- I understand that you did meet with Mary Nichols earlier.
MR. KOLODJI: Briefly.

VICE CHAIR BERG: Okay. And so we will turn this back over to staff, and staff will respond. And thank you very much for coming today.

MR. KOLODJI: You're welcome. Thank you very much, Vice Chair Berg.

VICE CHAIR BERG: You're welcome.

Okay. That does it, and we are adjourned.

(Thereupon the Air Resources Board meeting adjourned at 3:11 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 13th day of October, 2018.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063