MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

CALEPA HEADQUARTERS
BYRON SHER AUDITORIUM
SECOND FLOOR
1001 I STREET
SACRAMENTO, CALIFORNIA

THURSDAY, JULY 25, 2019
9:06 A.M.

Michelle M. Wilson, CSR
Certified Shorthand Reporter
License Number 14303

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APPEARANCES

BOARD MEMBERS:
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Mr. John Eisenhut
Supervisor Nathan Fletcher
Senator Dean Florez
Supervisor John Gioia
Ms. Judy Mitchell
Supervisor Phil Serna
Dr. Alexander Sherriffs
Professor Daniel 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. Veronica Eady, Assistant Executive Officer
Ms. Annette Hebert, Assistant Executive Officer
STAFF:

Mr. Michael Benjamin, Division Chief, Air Quality Planning and Science Division

Ms. Analisa Bevan, Assistant Division Chief, STCD

Mr. Ian Cecere, Attorney, Legal Office

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

Mr. John DaMassa, Branch Chief, Modeling and Meteorology Section, AQPSD

Ms. Nicole Dolney, Branch Chief, Advanced Clean Cars Branch, STCD

Ms. Catherine Dunwoody, Division Chief, MLD

Mr. Wesley Dyer, Attorney, Legal Office

Mr. Dave Edwards, Assistant Division Chief, AQPSD

Mr. Jennifer Gress, Division Chief, STCD

Ms. Donielle Jackson, Air Pollution Specialist, Vapor Recovery Regulatory Development Section, Monitoring and Laboratory Division

Mr. Jack Kitowski, Division Chief, Mobile Source Control Division

Mr. George Lew, Branch Chief, Vapor Recovery and Fuels Transfer Branch, MLD

Mr. Dar Mims, Air Pollution Specialist, Meteorology Section, AQPSD

Ms. April Molinelli, Senior Attorney, Legal Office

Ms. Claudia Nagy, Senior Attorney, Legal Office

Ms. Anna Wong, Staff Air Pollution Specialist, Advanced Clean Cars Branch, Sustainable Transportation and Communities Division
APPEARANCES CONTINUED

STAFF:
Ms. Merrin Wright, Manager, Vapor Recovery In-Use Section, MLD

ALSO PRESENT:
Mr. Steven Brooks, Iwatani
Ms. Janet Dietzkamei
Mr. Bill Elrick, Ca Fuel Cell Partnership
Mr. Helge Eng, Deputy Director, Resource Management, California Department of Forestry and Fire Protection
Mr. John Exline, Director, Ecosystem Management, Southwest Management United States Forest Service
Ms. Genevieve Gale, Central Valley Air Quality Coalition
Ms. Katherine Garcia, Sierra Club California
Ms. Hannah Goldsmith, CalETC
Ms. Julia Jordan, Leadership Council for Justice & Accountability
Mr. Ryan Kenney, Clean Energy
Mr. Bill Magavern, Coalition for Clean Air
Ms. Joanna Mai, American Lung Association
Ms. Anabel Marquez
Mr. Paul Mason, Pacific Forest Trust
Ms. Denise McCoy
Mr. Alex Mitchell
Ms. Jennifer Montgomery, Director, Governor's Forest Management Task Force
Ms. Cynthia Pinto-Cabrera, Central Valley Air Quality Coalition
APPEARANCES CONTINUED

ALSO PRESENT:

Mr. Daniel Porter, The Nature Conservancy
Ms. Breanne Ramos, Merced County Farm Bureau
Ms. Erin Rodriguez, Union of Concerned Scientists
Mr. Mark Rose, National Parks Conservation Association
Ms. Byanka Santojo
Ms. Jane Sellen, Californians for Pesticide Reform
Mr. Greg Suba, California Native Plant Society
Mr. Craig Thomas, The Fire Restoration Group
Ms. Felipe Trujillo
Mr. Erik White, President, California Air Pollution Control Officers Association
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ADJOURNMENT

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REPORTER'S CERTIFICATE

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CHAIR NICHOLS:  Good morning, everybody.  The July 25th, 2019 public meeting of the California Air Resources Board will now come to order. As you can tell, there's a lot of good news up here, good conversations, but it's time to start the meeting.  Is the sound working?  Okay.  Okay.  We're good to go.  The meeting will come to order, and we'll begin with the pledge of allegiance.  Everybody, please rise.

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

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

BOARD CLERK JENSEN:  Dr. Balmes?  Mr. De la Torre?  Mr. Eisenhut?

BOARD MEMBER EISENHUT:  Here.

BOARD CLERK JENSEN:  Supervisor Fletcher?

BOARD MEMBER FLETCHER:  Here.

BOARD CLERK JENSEN:  Senator Florez?

BOARD MEMBER FLOREZ:  Here.

BOARD CLERK JENSEN:  Assembly Member Garcia?

Supervisor Gioia?

BOARD MEMBER GIOIA:  Here.

BOARD CLERK JENSEN:  Ms. Mitchell?

BOARD MEMBER MITCHELL:  Here.
BOARD CLERK JENSEN: Senator Monning? Mrs. Riordan? Supervisor Serna?

BOARD MEMBER SERNA: Here.

BOARD CLERK JENSEN: Dr. Sherriffs?

BOARD MEMBER SHERRIFFS: Here.

BOARD CLERK JENSEN: Mr. Sperling?

BOARD MEMBER SPERLING: Here.

BOARD CLERK JENSEN: Ms. Takvorian?

BOARD MEMBER TAKVORIAN: Here.

BOARD CLERK JENSEN: Vice Chair Berg?

VICE CHAIR BERG: Here.

BOARD CLERK JENSEN: Chair Nichols?

CHAIR NICHOLS: Here.

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

BOARD MEMBER BALMES: And Dr. Balmes is here.

CHAIR NICHOLS: Thank you very much. I have to make a couple of opening announcements. One is about the exits from this room, which we're to use in the event you here a fire alarm; two in the back, one on either side of the dais here, and we are to leave the room immediately if we hear the alarm and go down the stairs, not the elevator, and wait until we here the all-clear signal before we return.

Also there will be a three-minute time limit
imposed on all of our items today, and we, as usual, will
ask that people speak when they come up to the podium
informally, and then, if you have written testimony, that
you submit that, and it will be in the record as well.

Before we begin our regularly scheduled agenda here, I do
want to just say a couple of words about something that
happened today that was the culmination actually of about
five weeks worth of work.

As I think everybody knows, California has been
in a dispute with the federal government for over a year
now about the attempts to rollback the emission standards
for greenhouse gases for light-duty trucks and
automobiles, and we have been working diligently to try
to persuade the administration that they didn't need to
and should not be making this attempt to undermine
progress that was already underway. And, at the same
time, we've had quite a bit of support from auto industry
in terms of saying that they also did not want to see the
kind of roll-backs that the Trump Administration is
proposing, even though they are the ones who triggered
this whole review that's going on in the first place by
asking for assistance when the administration first came
into power.

So it's been a long and -- a long and difficult
situation, and it is not finished yet. But we, I think,
have achieved a major milestone in having four of the major auto companies that do business in the United States -- and they're responsible for about 30 percent of all the automobiles and light trucks sold in this country -- coming to California and saying that they want to work with us, that they support our continued right to adopt standards, and that they are willing to agree to a commitment, that they will continue the progress that is called for with a slight delay in terms of the phasing in of the new standards so that the program rolls out until 2026, until 2025 -- instead of 2025.

I think we all recognize that this is not what we need in terms of the kind of transformation of the fleet that we have to have to achieve our goals in climate or air quality, but it represents an important baseline and particularly helps to ensure that, with respect to the internal combustion engine vehicles that will continued to be sold, that they don't backslide but continue on the path towards improvements that has been underway for a while.

So it was gratifying that we were approached by individual companies outside of their trade associations, and that we were able to sit down and work on a, I think, a very constructive and positive agreement with them.

But there has been a lot of concern, I think, on the part
of many people who wished success of us that if it all
broke out prematurely before the last I was dotted and T
was crossed, that we might not actually be able to make
this agreement public, and, frankly, there was fear on
the part of the companies of retaliation because of what
they've done. It was not -- not the easiest thing for
them to do.

But Ford and Honda and BMW and Volkswagon were
willing to step forward and be the first, and it's great
that they represent companies that do a lot of
manufacturing in the United States, that are responsible
for a lot of jobs in the United States including states
that are not 177 states. And so now we have clearer
proof to put forward that we can work with the industry
to give them some flexibility that they believe they
need, and, at the same time, to achieve our public goals
as well.

So anyway, we put the release out this morning.
We had Governor Newsom was on the phone with me this
morning with 47 reporters, which I don't think I've ever
been in a press conference with that many. I didn't know
there were that many covering us, but there were. And
his support for ARB and for the program and his comments
about California's leadership and determination could not
have been more supportive.
It was just great to have him there as the political leader and, you know, to be able to back that up with the great work that was done by our staff. I want to especially call out Richard Corey and Steve Cliff, Mike McCarthy, and there were many others, but those guys were on the early morning and late night calls and locked up in rooms going over drafts, et cetera.

So that's -- I just wanted to share the good news with my fellow Board Members. I wish I could have had you all along for this ride, although you're probably just as happy that you weren't, but I hope I can answer any questions that you may have either now or later and just want you to know how proud I am of the organizations.

Thank you.

BOARD MEMBER SPERLING: Mary? So one thing. So I've already had many calls from many of those reporters, but I think one message that we should be getting out that this is true is that this will accelerate the introduction of electric vehicles, because the way the provisions are written it really gives a lot of extra credit to EV's. So some say, "Well, doesn't this affect the emissions, you know, difficulty of California meeting its goals?"

Well, you know, there might be a small effect in
the near term and in California, but the long term is,
you know, a much -- an accelerated introduction of EV's
and, therefore, in the longer term -- you know, longer
term being even five years -- much greater reduction in
greenhouse gases in California and in the U.S.

CHAIR NICHOLS: Yeah. So just for those who
haven't had a chance to read all the fine print, the
agreement allows for up to one percent credit for
introduction of electric vehicles over and above what's
already taken place, and, in order to take advantage of
that full credit, a company would have to sell about
seven times more electric vehicles than they're selling
today.

Of course right now electric vehicle sales
nationally are under one percent. So this would be huge
step forward in terms of the national roll out of
electric vehicles, and that's important for the country
as a whole. And if a company doesn't want that, they
don't have to do it, but I think there will be companies
for whom that will be an extra incentive, as you say, to
keep up the good work and do better in terms of rolling
out EV. So it's a very good point.

BOARD MEMBER SPERLING: Any chance of more
companies coming in?

CHAIR NICHOLS: Yes. I think it's very likely
now that this agreement has been published that companies
that might have been reluctant to step forward will
decide that they need to. I've already seen some traffic
online from individuals and groups calling out other
companies, especially General Motors and Toyota, to step
up and join. So hopefully they will be heard.

Okay. With that, we can -- I'm sure there will
be more in days to come. This doesn't -- doesn't end the
debate, but at least it moves us, I think, a good step
forward.

So first item on the agenda, Item No. 19-7-1,
this is the proposed amendments to the certification
procedures for vapor recovery systems for aboveground
storage tanks at gasoline dispensing facilities.
California's Vapor Recovery program is one of
California's oldest stationary source emissions control
measures. What does it say about me that I was here when
we adopted it the first time? Thank you for whoever
wrote that.

(Laughter.)

CHAIR NICHOLS: But it was -- this regulation
was first adopted by the Board about four decades ago,
and the program not only serves to attain and maintain
ozone air quality standards but also to reduce public
exposure to benzene, which is a seriously toxic air
contaminate. So while we're working to reduce gasoline consumption, we know that gasoline is going to be with us for some time to come, and thus we need to ensure that we continue to protect public health while also making our regulations as cost effective as possible is critical.

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

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair Nichols. As stated, the Vapor Recovery Program is over 40 years old, and, over the last few decades, the Board has periodically adopted new performance standards and amended existing standards designed to control hydrocarbon emissions associated with the storage and transfer of gasoline during marketing operations, such as service stations and loading terminals.

At the April 2015 meeting, the Board approved a staff proposal to improve the cost effectiveness of the regulation governing the transfer of gasoline from fuel trucks to aboveground storage tanks, or ASTs. At this meeting, staff told the Board that we'd be back to propose amendments governing the transfer of gasoline from ASTs to vehicles, known as Phase II. Today, you'll hear staff's proposal to amend the Phase II requirements for ASTs.

So, with that, I'll ask Doni Jackson of the Monitoring and Laboratory Division to give the staff
presentation. Doni?

(Thereupon an overhead presentation was presented as follows.)

AIR POLLUTION SPECIALIST JACKSON: Great. Thank you, Mr. Corey. Good morning, Chair Nichols and Members of the Board. Thank you for the opportunity to discuss staff's proposed regulatory amendments to the Enhanced Vapor Recovery requirements for aboveground storage tanks.

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AIR POLLUTION SPECIALIST JACKSON: In response to a request from the California Air Pollution Officers Association, the Board in 2015 amended regulations to improve the cost effectiveness of controlling vapors during fuel delivery to aboveground storage tanks, or ASTs.

Today, you will here a proposal that will improve the cost effectiveness of controlling vapors during vehicle refueling at facilities with ASTs. The proposal will set a throughput threshold, below which AST owners will be granted additional time to upgrade their equipment. This will provide economic relief to some AST owners but maintain a majority of the emission benefits.

This proposal fulfills a commitment CARB staff made to local air districts and the Board in 2015 to
optimize cost effectiveness.

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AIR POLLUTION SPECIALIST JACKSON: When you go to fuel a vehicle, you're likely going to a gasoline dispensing facility, or GDF, with an underground storage tank. There are approximately 10,000 GDFs with underground storage tanks statewide, and most resemble your typical gas station.

Today, we are talking about ASTs, which may be a typical gas station, or, as is more likely, be found at a private business, a government facility, or even on a farm. There are only about 2,800 AST GDFs that are subject to vapor recovery requirements, and they dispense less than 1 percent of gasoline consumed in California.

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AIR POLLUTION SPECIALIST JACKSON: In 2008, CARB staff adopted Enhanced Vapor Recovery, or EVR, requirements for ASTs including standing loss control and Phase I and II in EVR standards. These performance standards were to be applied to all ASTs in state once CARB-certified equipment became available, with varying compliance deadlines for new and existing installations.

Standing loss control limits the amount of gasoline evaporation due to solar heating and is unique to ASTs. It was fully implemented for new and existing
systems as of April 1st, 2013.

Regulations covering vapor recovery during fuel delivery, called Phase I, were modified in 2015 to allow for more time for AST types to upgrade. Today's proposal addresses emissions during vehicle refueling, called Phase II.

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AIR POLLUTION SPECIALIST JACKSON: The first Phase II EVR system was certified under Executive Order VR-501 on March 13th, 2015 and has remained the only system certified today. This system manages internal AST pressure through thermal oxidation and is limited to protected ASTs with remote dispensing.

Per our regulation, all existing ASTs with this configuration must upgrade by March 13th, 2019. As this deadline has passed, CARB staff has informed air districts that they could exercise their discretion to enforce the deadline pending the outcome of this rulemaking.

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AIR POLLUTION SPECIALIST JACKSON: Here are some examples of what we mean when we talk about an AST being protected or having remote or non-remote dispensing. Protected ASTs generally have an inner and outer wall with some sort of insulating material between them. All
new AST installations in California must be protected.

Dispensing configurations can either be remote or non-remote, effecting the return of gasoline vapor condensate back to the tank, and the control equipment is certified separately for each.

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AIR POLLUTION SPECIALIST JACKSON: The cost effectiveness of Phase I and Phase II EVR controls is highly dependent on the annual gasoline throughput of the AST. The lower the throughput, and therefore the lower the emissions, the less cost effective the control measure.

CARB staff found that the cost to upgrade Phase II EVR is high, approximately $36,000, when compared to the emission reduction seen when all possible AST GDFs upgrade, especially for those with low annual throughputs.

With input from Air District staff and their management, CARB staff determined that establishing an annual gasoline threshold throughput of 480,000 gallons for upgrade to Phase II EVR would greatly improve the cost effectiveness of the requirement. Please note that this annual throughput is identical to the CARB Benzene Air Toxic Control Measure for GDFs, which requires vapor recovery controls at retail GDFs.
AIR POLLUTION SPECIALIST JACKSON: With the improved cost effectiveness in mind, CARB staff proposed the following amendments:

First, CARB staff proposed to amend D200, the definitions for vapor recovery, to include new terms and definitions for protected AST, remote dispensing, and non-remote dispensing. They are terms in common use in vapor recovery for ASTs, and their definitions were developed with input from Air District staff. Their inclusion adds clarity to the enactment and enforcement of vapor recovery requirements.

Second, we're proposing to amend CP-206, the Certification Procedure For Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks. CARB staff proposes to modify the applicability of compliance deadlines to upgrade to Phase II EVR for owners of certain AST GDFs.

AIR POLLUTION SPECIALIST JACKSON: CARB staff proposes to amend CP-206 for existing installation of ASTs in the following ways:

All existing ASTs in ozone-attainment areas may keep their pre-EVR Phase II equipment until the end of useful life of the equipment, which is when the system
can no longer be maintained or repaired. Then they must remove and upgrade Phase II EVR if vapor recovery is required by the local Air District.

Existing ASTs in ozone non-attainment areas with a throughput of 480,000 gallons per year and less may keep their existing pre-EVR Phase II EVR system until the end of useful life, and then upgrade to Phase II EVR if vapor recovery is required by the local Air District. ASTs with a throughput greater than 480,000 gallons must upgrade this year.

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AIR POLLUTION SPECIALIST JACKSON: For new ASTs in both attainment and non-attainment areas, staff proposes no changes to CP-206. These ASTs are required to install Phase II EVR regardless of annual gasoline throughput, if vapor recovery is required by the local air district.

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AIR POLLUTION SPECIALIST JACKSON: By establishing regulatory consistency with a Phase I EVR requirements, the proposed amendments have three main impacts:

First, the proposed amendments will allow for more time for the 161 ASTs with smaller throughputs and therefore lower emissions to upgrade.
Second, AST owners can avoid cost from value lost when equipment is upgraded before it has reached the end of useful life.

Lastly, by maintaining the upgrade requirement for 26 AST GDFs with high throughputs, the proposed amendments retain the majority of the gasoline vapor reductions and do not create new emissions over the 2018 levels. Once useful life has been reached for the 161 ASTs and those systems are upgraded to Phase II EVR, emissions will match the estimates of the current regulation.

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AIR POLLUTION SPECIALIST JACKSON: The proposed amendments will save money for AST owners due to delayed compliance, and will delay revenue for equipment manufactures and installers. The manufacture of the main component of the only system certified will experience delayed sales as some AST owners are granted additional time to upgrade their systems. Overall, the economic impact is net positive, and the emissions impact is negligible.

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AIR POLLUTION SPECIALIST JACKSON: By aligning the Phase II EVR requirements with Phase I EVR, the proposed amendments improve cost effectiveness by
providing economic relief and greater time to comply with owners of low throughput ASTs, while maintaining upgrade requirement and emission reductions for those facilities responsible for the majority of gasoline vapor emissions.

We recommend that the Board approve the proposed amendments. Thank you, and this concludes our presentation.

CHAIR NICHOLS: Okay. Thank you. We have one witness. Sorry. Yes. Before we turn to the witness, please go ahead and ask your question.

BOARD MEMBER SHERRIFFS: I'm always concerned when we delay progress, but this seems very reasonable, but I want to put in perspective or understand the perspective. So we're talking about really 161 of the 2,800 aboveground facilities that would be delaying their upgrading. And what are their emissions in tons per year say or whatever?

AIR POLLUTION SPECIALIST JACKSON: Correct. So that -- yes. Of the 2,800 facilities that have some form of vapor recovery control, only about 187 would have the configuration to upgrade. So then of those the 161 that are granted more time to upgrade their equipment produce approximately 0.01 tons per day over a five-year period.

BOARD MEMBER SHERRIFFS: Okay. That's an important number I think because we think about what we
would pay to incentivize reductions. This is a fraction.

Thank you.

CHAIR NICHOLS: Yeah. Absolutely. I think it says a lot about the way this Board works that the staff did, not only keep a commitment that they made, but also that they really took seriously the need to both continuously improve on the cost effectiveness of our roles and to maintain and improve the focused pollution reductions that we get from it. So this is a -- it's a small rule in some respects, but I think it's important one, and it does show how we are capable of actually continuing even in areas where people think that there's not much progress to be made to continue to improve public health.

So any other Board questions? If not, I will turn to Erik White, who will speak I suppose on behalf of CAPCOA? Yes. Okay.

MR. WHITE: It's been a while since I've been able to be in front of this Board. It's a pleasure to be here this morning. Good morning, Madam Chairman and Members of the Board. My name is Erik White, and I'm the Air Pollution Control Officer for Placer County. I'm also the CAPCOA President, and it's in that capacity that I'm here today.

I'm pleased to offer CAPCOA support for the
staff proposal and to recognize staff's efforts to work with CAPCOA to develop these important changes to the aboveground storage tank requirements for Phase II Enhanced Vapor Recovery. Phase in of EVR standards for ASTs began in 2009 and is still on going; however, the issue is that while the EVR standards were designed to force the development of emission control technologies that meet regulatory requirements, only one Phase II EVR system has been certified by CARB for use at gasoline dispensing facilities equipped with ASTs, and this system is only compatible with a small subset of GDFs.

Additionally, the estimated cost to upgrade to Phase II EVR is much higher than was estimated at the time the EVR regulation was originally adopted. This has presented a challenge to Air Districts and GDF AST operators in terms of applying Phase II EVR to their tanks where significant variation and annual throughputs exist.

In response to this, in May 2017, CAPCOA reestablished an AST working group with CARB to provide input on the rulemaking and cost effectiveness for AST Phase II EVR requirements. Through this process, CAPCOA provided data including tank information, impact to tank numbers, upgrade costs and throughput data to help CARB establish a cost effective throughput threshold.
CAPCOA believes the proposed amendments improve cost effectiveness for Phase II EVR implementation, improve consistency between the cost effectiveness of the Phase II EVR requirements and Phase I EVR regulations, and retain emission reductions for ASTs with higher annual gasoline throughputs. The proposed amendments also provide financial benefits and net cost savings for businesses and government agencies that are required to upgrade while not resulting in emission increases from existing AST GDFs above current levels.

In conclusion, CAPCOA has reviewed the data and the proposed amendments and is in support of the amendments as proposed. They will result in a more cost effective implementation of the AST EVR regulations and better promote regulatory consistency between the Phase II EVR requirements and the Phase I EVR regulations.

Thank you.

CHAIR NICHOLS: Thank you very much. And that is the only witness that we have on this item. So I think what I get to do now is to close the record and point out that if we, the staff, feels that we need to make changes, that they would reopen the record and there would be a 15-day notice of public availability.

If the record is reopened, then the public may submit written comments on the proposed changes, which
would be considered and responded to in the final statement of reasons, but other written and oral comments received after this hearing date and unless a 15-day notice is issued, will not be accepted as part of the official record for this item. And the Executive Officer might present this regulation to the Board for further consideration if warranted, but, if not, the Executive Officer will take final action to adopt the regulation after addressing any appropriate conforming modification. However, again, it doesn't seem very likely given the state of this record that that's going to happen, but that's important that I make these points any way. So let's now consider the resolution 19-18. Do I have a motion?

BOARD MEMBER EISENHUT: Motion.

CHAIR NICHOLS: And a second?

BOARD MEMBER MITCHELL: Second.

CHAIR NICHOLS: Second. All in favor please say aye.

(Unanimous aye vote.)

CHAIR NICHOLS: Opposed? Abstentions?

Great. Okay. So thank you for that. And it's a good step forward.

The next item of the agenda is No. 19-7-3, which is an informational update on prescribed burning. This
is the topic that, of course, is very much on everybody's minds right now with the heat that we're experiencing. After a century of fire suppression, the recent drought, and pest infestations have left our forest in very vulnerable condition, and we all know the results that we saw last year.

By recent estimates, there are over 147 million dead and dying trees in California's forests and heavy loadings of fuel, which are ripe for fire. Last November there was literally smoke in this room when the staff was briefing us on the State's goals for improving the health of our forests and other natural lands as part of California's efforts to meet our climate goals. That smoke was from the Camp Fire, which was the deadliest fire in California's history.

The governor and the legislature have made fire and forest health one of their highest priorities and have called for all relevant local, state, and federal agencies to work together to better preserve -- better prepare our forest -- I should say -- for fire, which we know is inevitable unfortunately, but to minimize the number and severity of extreme fire events, as well as to improve overall forest health.

So, today, we're going to be hearing about that collaboration with a joint presentation from our staff.
and other agencies. Mr. Corey, would you please
introduce this item?

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

As noted, one of the tools available to land management
agencies for treating our forests is prescribed burning,
also known as managed burning or controlled burning. By
controlling when and where fire is applied, prescribed
burning can help prepare forests for the inevitable
wildfires, which occur by removing underbrush and
thinning.

Prescribed fires understandably produce smoke;
however, there is a consensus among forest and air
quality agencies that these impacts are far less than
those from uncontrolled extreme fire events. Today,
we'll hear a report on CARB's role and the role of other
agencies to manage the use of prescribed burning in
California.

In addition to CARB staff, you'll also here from
Helge Eng, Deputy Director of CalFIRE; John Exline,
Director of Echo System Management Southwest for the U.S.
Forest Service; Erik White, representing CAPCOA; and
Jennifer Montgomery, the Director of the Governor's
Forest Management Task Force.

I'll now ask Dr. Michael Benjamin, Chief of our
Air Quality Planning and Science Division, to give the
staff presentation. Michael?

(Thereupon an overhead presentation was
presented as follows.)

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Thank you, Mr. Corey. Good morning, Chair
Nichols and Members of the Board. Today's update on
prescribed burning is a joint presentation from CARB
staff and representatives from the key land management
and air quality agencies engaged in prescribed fire
activities in California.

In our presentation today, we will share with
you the actions that we are individually and collectively
taking to mitigate the risk of future wildfire in
California through the increased use of prescribed fire
while recognizing the need to minimize the air quality
impacts from these activities.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: California's forests are a part of its natural
and working lands, which cover approximately 90 percent
of California and include rangeland, forests, wetlands,
grasslands, farms, riparian areas, sea grass and urban
space. They provide life-sustaining resources including
clean air and water, food, and fiber, and more.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: They support multiple benefits from water and food to wildlife to recreation. As we plan our climate strategy for natural and working lands, we must balance our efforts on climate with the many other benefits that these lands provide.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Our natural and working lands are on the forefront of climate change. They are often the first to experience the impacts of climate change. Historically, our lands have helped regulate our climate by removing carbon dioxide from the atmosphere and storing it as carbon in soil and wood.

In 2014, California's natural and working lands contained an estimated 5.5 billion metric tons of total ecosystem carbon in above and below ground biomass and soils.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: However, the effects of climate change, development pressure, and other threats including the rise of catastrophic wild fire, pests, invasive species, and drought are resulting in our land base being a base of greenhouse gas emissions rather than the large
potential sink they could be.

CARB's inventory data indicate that California's lands are losing carbon, with a net carbon loss of approximately 170 million metric tons from 2001 to 2014. The majority of these losses are due to wildfire.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: Fire is an integral and natural part of California's landscape, but fire suppression activities in the past century have resulted in a large amount of fuel buildup, leading to landscapes that are very different from their natural state, resulting in changes in fire behavior including catastrophic wildfire events, such as what is seen in this photograph.

Frequent droughts coupled with bark beetle infestations have further stressed our forests such that there are now over 147 million dead and dying trees in California. Climate change is further exacerbating the problem.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: Over the past twenty years, the size and intensity of wildfires in California has increased dramatically, posing a threat to life and property as well as public health. Detailed records on the number,
size, and damage of California wildfires has been maintained since the early 1930s. As shown here, 15 of the 20 largest wildfires in California have occurred in just the past 19 years, with last year bringing both the deadliest and the largest wildfires in state history.

Over the course of two weeks last November, the Camp Fire killed 82 people, destroyed over 18,000 structures, and blanketed Sacramento and the San Francisco bay area in dense smoke. The Mendocino Complex Fire burned over 450,000 acres of forest between July and November of 2018. Both of these fires were not fully put out until the start of the rainy season.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: The smoke from wildfires can impact not just nearby residents but also people living hundreds or even thousands of miles away. This map shows wildfire smoke concentrations over the United States on August 8th, 2018. Most of the smoke is originating in California where 14,000 firefighters were battling 16 major wildfires including the Mendocino Complex and Carr Fires.

Fine particulates in wildfire smoke pose a major health risk as they can penetrate deep into the lungs leading to asthma and aggravated chronic heart and lung disease. However, the long-term health effects of
breathing wildfire smoke are not well known. Of particular concern are toxics that may be released from urban wildfires that destroy homes, businesses, and vehicle and vehicles.

With wildfire season in California now extending into the winter months, people are being exposed to smoke more frequently and over longer periods of time.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: For thousands of years, Native Americans in California have burned grasslands and the understory of forests to help manage food sources and to clear land. Land management agencies now use prescribed fire along with other treatment, such as mechanical thinning, to help reduce wildfire risk to communities, as well as to restore natural ecologic functions and processes.

Prescribed fires are by design conducted under controlled conditions and optimal meteorology. As a result, although prescribed fire produces smoke, it has significantly less impact on residents than burning of the same area by a wildfire. Areas of grassland, chaparral, or forest that have been treated with prescribed fire to thin fuel loadings are healthier and less susceptible to disease and extreme fire events.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: The increase in large, catastrophic wild fires in California in the last several years has spurred the governor, legislature, government agencies, and academics to take action including the following:

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Fire on the Mountain, a report released by the Little Hoover Commission in February 2018, calling for a rethinking of forest management practices in the Sierra Nevadas.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: The California Forest Carbon Plan, released by the Natural Resources Agency in May 2018, which also laid out the need for improved forest management in California.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: The Indicators of Climate Change in California report, which was leased by the Office of Environmental Health Hazard Assessment in May 2018, describing the link between climate change and wildfires, as well as other environmental indicators.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Executive Order B-52-18, which was issued by then Governor Brown in May of 2018, calling for all relevant, local, state and federal agencies to work together to implement the Forest Carbon Plan objectives.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Prescribed Fire Policy Barriers and Opportunities, a report released by the Public Lands Policy Group at Colorado State University in the summer of 2018, identifying barriers and potential solutions to getting more prescribed fire on western landscapes.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Senate Bill 1260, which was approved by then Governor Brown in September of 2018.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: And, finally, Executive Order N-05-19, which was issued by Governor Newsom in January of this year.

There is one consistent theme that emerges from all these reports and legislation over the past two years. That is the need to significantly increase the amount of prescribed burning in the state.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: To accomplish more prescribed burning in California, a common set of recommendations is provided in these reports. These include:

The need for an increased level of coordination amongst all parties in the prescribed fire process including the land management agencies and the regulatory air community; new resources to allow a significant increase in the pace and scale of prescribed burning; a streamline process for the permitting of prescribed fires; and a need to better educate the public about forest health and resiliency after decades of fire suppression.

This would include the benefits of prescribed burning as a need to proactively treat our forests and prepare them for the inevitable wildfires. Wildfires will occur in California; however, prescribed fire and other forest treatments can minimize the number and severity of extreme fire events.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: Conducting prescribed burns in California is a partnership between land managers, such as CalFIRE and the U.S. Forest Service, the 35 local air districts, CARB, and the public.
Land managers develop smoke management plans which must be approved by the local air district before a prescribe burn is conducted to ensure air quality will not be adversely impacted.

In making their decisions, air districts consider local conditions as well as guidance from CARB in deciding whether a burn can occur on a given day. CARB assists by providing daily air basin level burn, no burn decisions that are based on meteorological modeling and local air qualify conditions. But it is ultimately up to the local air district to decide whether a prescribed burn should take place.

CARB also plays an important role in developing and maintain electronic tools like the Prescribed Fire Information Reporting System, or PFIRS, to help streamline the approval of prescribed burns as well as collect data on the number and size of those burns. Information collected in PFIRS helps us estimate the emissions impacts from prescribed burns and determine where additional air monitoring would be useful.

Finally, the public plays a critical role in reporting smoke impacts which can then help inform how prescribed burns are conducted. The public's understanding of the need for prescribed fire is fundamental to our ability to conduct burns.
AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: For the last twenty years, CARB smoke management program has tried to balance the needs of land managers with the air quality concerns of local air districts and the public. In response to the executive and legislative actions described earlier in this presentation, CARB is taking a number of steps to strengthen our existing prescribed burning program.

These include: Intensive coordination with land management agencies and air districts to determine the bottlenecks in burn day utilization. Many permissive burn days go unused for various reasons, and the intent of this effort is to take better advantage of the many burn opportunities that are currently available but not utilized.

We will be enhancing PFIRS to make the tool more mobile friendly for land managers and air districts when they're in the field. We'll also be including smoke modeling forecasts for proposed burns to provide the districts with the best information possible to base their burn approval decisions on. We're providing the capability for districts to check out monitoring equipment for prescribed burns, and we're adding other new features to make the PFIRS tool easier to use for the
AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: We are working closely with the California Air Pollution Control Officers Association on an enhanced smoke monitoring program, for monitoring of up to 120 prescribed fires per year.

We're also working on the development of a new mobile smoke app for the public. This tool will allow the public to determine the likely cause of smoke in their area, view air quality information, and plan their daily activities by providing smoke forecasts from wildfires and pending prescribed burns.

We're also hiring a New Public Information Officer dedicated to helping increase and coordinate public outreach and messaging on prescribed burning. This individual will participate in a multiagency California public education campaign to develop common messaging regarding the benefits of prescribed fire versus extreme fire events.

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: As part of CARB's ongoing commitment to public outreach and messaging, we provide web-based information on wildfire smoke and how the public can protect
themselves. These images are taken from our current website we have just recently upgraded.

Shown here is some of the information that's currently available including why wildfire smoke is a health concern.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: What the public can do to prepare themselves and protect themselves from the impacts of wildfires.

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AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: And how to select and use respirators to reduce exposure to wildfire smoke.

We plan to make similar information available via CARB's new mobile smoke app. We'd now like to hear from our partner agencies, starting with Helge Eng from CalFIRE

MR. ENG: Thank you, Michael. I'm Helge Eng. I'm Deputy Director for Resource Management at CalFIRE.

CHAIR NICHOLS: Welcome.

MR. ENG: Thank you. And CalFIRE, as you may know, is also known by its full name the California Department of Forestry and Fire Protection. The forestry part is important because, since our inception in 1885, the forestry side of the department has worked hand and
hand with the fire protection side to prevent wildfires and manage forests so that they are more resilient to wildfires.

(Thereupon an overhead presentation was presented as follows.)

MR. ENG: I'm going to talk a little bit about what CalFIRE is doing to mitigate climate change, restore forest health, and increase the resilience of natural ecosystems to wildfire.

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MR. ENG: So this slide is just intended to make the point that we need to use all the tools in the tool kit. It's not just prescribed fire, but it's a concerted use of a number of tools including land use planning; retrofit existing home; building codes for new homes; evacuation planning including both ingress and egress; power line clearance; utility wildfire mitigation plans; education; enforcement; and last but not least vegetation management, and, again, we need both prescribed fire and thinning.

Some areas are essentially roadless, and, without roads, you cannot get in to use the mechanized equipment. You must rely on hand crews and prescribed fire, and conversely some areas there are simply too many trees. It's too risky to put fire on the landscape, so
you need to essentially come in with a mechanical
thinning first and then followed by a prescribed fire.
So the recurring theme which I think you'll hear
throughout this presentation is that we need to use all
the tools available to us.

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MR. ENG: Part of the goals for CalFIRE in the
Forest Carbon Plan that Michael mentioned is
500,000 acres per year by 2025 of fuel reduction
treatments. That includes, again, all the tools
available to us including, in fact, timber harvesting,
and thinning, and other treatments done on private lands.

CalFIRE has currently ten fuel reduction crews,
and we are working with the 5 National Guard fuel crews
closely to do fuel reduction work, and we feel that we,
these 15 crews, we can actually make a significant --
ecologically significant progress on the task at hand.

As part of Governor Newsom's executive order
NO-519 and the follow up emergency proclamation, CalFIRE
has identified 35 emergency fuel reduction projects in
high-risk, vulnerable communities, approximately 90,000
acres. And CEQA is suspended for these projects to
enable us to rapidly implement them. We did spend a lot
of effort up front to ensure that even though the CEQA
process is suspended the on-the-ground environmental
protection measures are the same as if CEQA had not been suspended.

By their nature, fuel reduction projects like these also require a lot of preparation work up front before the actual work begins. The process of recruiting landowners for a cooperative fuel break project, obtaining landowner access agreements, project layout, burn permits, et cetera, can take months while the actual prescribed fire can take place in a matter of a few days.

I'm bringing this up to highlight the fact that acres completed it's probably not perfect parameter for gauging process of the fuel reduction project, but it is a common measurement that people are use to seeing and so we are including it. Once these projects are out of the planning and preparation phase, they really are poised to make rapid project towards completing the acreage targets and we are on track to complete the majority of these projects by year end, recognizing, of course, that fire season and weather introduce uncertainties that preclude any guarantees.

But it really is thanks to Governor Newsom and his administration that we have been able to streamline these projects and expedite them and make as much progress as we have.

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MR. ENG: Another major program in CalFIRE is the California Climate Initiative, working closely with CARB, of course. And you can see the objectives are carbon sequestration, wildfire resilience, fuels reduction, and forest health. Several others, but those are the major.

There's somewhat of a tradeoff between carbon sequestration and wildfire resilience. The question of how much to thin out excessively dense fire-prone forest is really a classic case of multi-objective optimization. Maximum carbon sequestration is achieved at a high density of mass, but that density of trees is probably not the most fire resilient. They are at high risk for burning in the wildfire.

Maximum fire resilience is usually achieved in fairly open forests with widely spaced trees. These open forest and the widely spaced trees will sequester somewhat less than the maximum carbon, but the carbon stored is relatively safe and likely to remain stable for the long term instead of being burned in the wildfire and released into the atmosphere along with subsequent decomposition of the dead trees.

A lot more research is really needed on this topic, and given the uncertain direction of climate change, we really are at a new paradigm in research on
this. But we do know that forested the ecosystem sequester approximately 12 percent of anthropogenic carbon emissions. So efforts to increase forest carbon uptake are really central to climate change mitigation efforts.

We have put our funding of $200 million annually for the next five years into grants. We are starting to move towards direct funded projects now that the low-hanging fruits have largely been picked for grants, and we are starting to take a more active role in working with cooperators to determine where the next fuel treatment projects are going to be located on the landscape.

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MR. ENG: And high priority treatment areas is an essential concept there in making that decision. If you look at the left, the map of California shows fire threat. You'll notice that a lot of the state really is in a high and very high risk condition.

On the right, is disadvantaged and low-income communities, and, again, a large part of the state is disadvantaged and low income. So it follows that if we overlay these two maps, we find that most of the state is, in fact, high fire risk and low income disadvantaged geographically speaking.
So we have used additional decision criteria, and we try to integrate what has been done up to now. We establish what we call anchor points so to speak and build out from them to make maximum use of past and current efforts. That means cooperating with the federal land owners, forest service, BLM as well as other state agencies, parks, Fish and Wildlife, and private entities and NGOs.

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MR. ENG: In 2017, CARB and CalFIRE established informally a Joint Prescribed Fire Monitoring Program. In fact, we started this program before it became required by Senate Bill 1260, and we feel it continues to be a success.

The objectives for monitoring are many. Some -- some of them are highlighted here, smoke and air quality, prescribed fire treatment effectiveness on fire hazard reduction, prescribed fire treatment effects on ecosystem function, and, finally, the combination of air quality measurements with ecological effects, emissions and fuel hazards in order to enable effective decision support.

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MR. ENG: And the few examples of the questions that we hope that are monitoring efforts will be able to solve, such as, how much smoke and greenhouse gas was put
into the atmosphere? How much of that smoke reached nearby communities? Were the communities impacted and, if so, for how long? How would this compare to wildfire impacts? Did we achieve our fuel consumption targets? And how long will the fuel and fire hazard take to return? And to what extent was the likely hood of crown fire in forested ecosystems reduced?

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: Thank you, Helge. Our next speaker is John Exline from the United States Forest Service.

(Thereupon an overhead presentation was.
Presented as follows.)

MR. EXLINE: Thank you, Michael. Madam Chair and Board Members, thank you for the invitation to speak to you today.

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MR. EXLINE: We have a long -- let me put that -- we have a long and successful 20 plus year history of collaboration with CARB staff and the Air Pollution Control Districts here in the State of California dealing with smoke management, not only for prescribed fire, but also for smoke emergency response due to wildfire.

A big thanks to Michael and his staff for their dedication to that relationship and the respect its earned throughout the county. We have worked together to
develop a smoke reporting system, monitoring resources, smoke modeling, high resolution meteorological modeling, and public messaging. Our work together over the years has made it clear that effective smoke management results from monitoring, modeling, and high quality communication with communities.

Because of our existing work coordinating smoke monitoring, smoke modeling, and public messaging, many communities in California had developed significant trust and reliance in our combined efforts to help the public manage their smoke exposure. We have learned much through wildfire smoke emergency response, and we are working to use that knowledge and resources for prescribed fire.

Because of that relationship, we are positioned well to coordinate quickly and effectively to incorporate changes that can make our coordinated efforts even better. Some examples: We have trained together; tested a variety of monitors together to develop preferred monitoring tool, like the EBAM, or the Beta Attention Mass Monitors. We have also over the years have built a successful monitoring program for smoke and deployed instruments together with coordinated protocols.

We now see that CARB is better positioned for event monitoring and the Forest Service may be able to
best look at long-term monitoring and answer research and
policy questions related to smoke. Both of these are
valuable components to a successful monitoring program
and a good example of what we can do when leveraging our
respective skills.

And our staffs are currently working on a new
and revised memorandum of understanding on how we can
work better as one entity when it comes to smoke
management and strengthen that relationship that has
developed between our two agencies over the past twenty
years.

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MR. EXLINE: I want to talk a little bit about
some of the partnerships we have in prescribed fire. The
first one I'll refer to as the Prescribed Fire Memorandum
of Understanding. This MOU was signed back in 2015. It
started off with 12 parties, Forest Service, and some NGO
partners, specifically the Sierra Forest Legacy had
approached the Forest Service about this memorandum of
understanding.

The idea behind this memorandum was to increase
the pace and scale of forest restoration through the use
of prescribed fire throughout the state. Today, there
are over 37 signatories to this MOU including several
local air pollution control districts.
Next, is an agreement known as Cal-Trex. This is to increase our capacity by providing experimental-based training directly related to the use of wildland fire, including prescribed fire, to meet ecological and other management objectives on forest and grasslands within California. The intended audience for the training are individuals, organizations, and public agency personnel from private NGOs and all levels of government. Training occurs on a variety of land ownerships and jurisdictions.

The next is the Desert Research Institute along with the California Nevada Smoke and Air Committee or known as CANSAC. Working with this group we've been able to develop and implement an operational mesoscale meteorology forecast facility for smoke and fire management. The products that are produced enhance and improve forecasts of smoke dispersion and transport, fire danger and fire behavior, in addition to providing general meteorological forecast information over the two state areas.

Another is a public/private agreement. This is with the Forest Service and National Fish and Wildlife Foundation have been working to restore terrestrial ecosystem integrity, watershed function, safeguard downstream water supplies, and enhance resilience to
climate change stressors throughout the Pacific Southwest Region of the Forest Service. Both parties have a long history of working together to engage private partners in these conservation efforts, including help to fund and implement prescribed fires on federal lands.

And, finally, multi-agreements through such instruments as what we refer to as the Good Neighbor Authority or the California Forest Management Act or Action working with CalFIRE and other state agencies and other agreements we have with federal land management agencies, such as the National Park Service, U.S. Fish and Wildlife Service, and BLM where we can share resources. That's both people and dollars across multiple jurisdictions and helping with prescribed burns.

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MR. EXLINE: And, finally, a little bit about our long-range strategic planning. As Helge mentioned, the State of California has a goal now of 500,000 acres. Forest Service here in California starting way back in 2011 had a vision of treating 500,000 acres a year on the 20-plus-million acres of federal land we have here in California that's under Forest Service jurisdiction.

Some of our long-range strategic planning includes looking at conducting forest-wide prescribed fire environmental analysis, for instance, the Sierra
National Forest that's located in the southern Sierras is currently beginning an environmental review of being able to utilize prescribed fire across all areas of that national forest. We anticipate other forests to take similar action in the future.

Also, as we enter into our new era of revising our forestland and resource management plans, fire management zones are being developed in new forest plans and they're being delineated based on risk assessment outputs. These will show where benefits far outweigh negative impacts from the use of prescribed and natural fire. It will also allow for improved resilience, reduce hazards, treating more areas, and mitigating air quality impacts from wildfire.

And, finally, on our existing forest plans, several forests including the Tahoe National Forest, which is just east of Sacramento here, is in the process of -- or in the beginning of a process to amend their forest plan that would allow for the use of managed wildfire for resource objectives.

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MR. EXLINE: I'll turn it over to Erik.

(Thereupon an overhead presentation was presented as follows.)

CHAIR NICHOLS: Who is that man?
MR. WHITE: I don't know. He has more gray hair than that now. Good morning, Madam Chairman and Members of the Board. Again, I'm pleased to be here on behalf of CAPCOA to discuss our efforts to expand the use of prescribed fire in California.

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MR. WHITE: Good. We'll get that picture out of there. Air districts have long successful standing programs to support agricultural, support prescribed burning, and work to reduce wildfire risk. In considering the work districts perform, it's important to recognize that air districts very wildly in terms of resources, population, industry, vegetation, and topography, and, when wildfire hits, districts both urban and rural have been on the front lines.

In responding to smoke and wildfire impacts, districts in CAPCOA are working cooperatively with CARB,CALEPA, CalFIRE, and the Forest Service, as well as others, on a coordinated state and federal response that integrates with local efforts and existing programs. These efforts include improved and increased smoke management, enhanced and coordinated air monitoring, and expanded outreach in public education.

But like with any program, increase response by air districts in support of state goals will require
increased local capacity and resources. CAPCOA believes that continued integration of local capability and experience with state and federal coordinated resources will increase efficiency of our shared responsibilities, improve our overall responsiveness, and ensure we maintain the confidence of the public.

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MR. WHITE: In support of this collaborative effort, the legislature appropriated $2 million to CARB for support of local air district's smoke management programs in 2018/2019 state budget. This funding was a small but important part of the total funding toward a range of actions to reduce wildfire impacts. We are pleased at the same level of funding is in the current budget and hope it will remain a key piece of funding moving forward for air district support in future budgets.

With this funding, CAPCOA and CARB worked on developing a cooperative program throughout this past winter and into the spring. Out of that work came an agreement that a little over half of the funding would be allocated directly to local air districts to support the efforts of a number of state agencies by increasing the availability of resources to support staff coordination at the local level.
In allocating the funding, consideration was given to local biomass intensity and type including the anticipated locations of where prescribed burning will occur. Most of the remaining funding is directed to CAPCOA to broadly support the program’s management, including coordinating data and reporting quarterly to CARB on prescribed burns and monitoring at districts, public outreach, work with state agencies, and reimbursable training and monitoring funding for districts.

Finally, CARB will retain funding to contract with four air districts in California for remote storage of their newly acquired eBAMS in order to expedite their use and deployment throughout the state for monitoring prescribed burns. And Michael mentioned the target of 120 prescribed burns per year, which we are working steadily towards achieving by the end of this year.

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MR. WHITE: CAPCOA is well on its way toward successful implementing this program. Currently, of the 35 air districts in California, 32 are fully participating in the enhanced smoke management funding component. Those districts not participating opted not to due to the small amount of prescribed burning that they anticipate happening locally.
With this, CAPCOA's program is already supporting districts in their efforts to support the state's wildfire mitigation and prescribed fire efforts. CAPCOA is also actively engaged with the state and federal partners by its participating in the Forest Management Task Force, the Prescribed Fire Working Group, and the Air and Land Managers meetings.

Finally, CAPCOA and the districts are working to improve how they implement their smoke management programs through coordinated efforts to enhance PFIRS, expand public outreach and messaging, increase monitoring and reporting, establish more consolidated permitting processes, and participate in smoke management training.

We appreciate the collaborative effort between CAPCOA, the districts, CARB and the state's lands managers to support reducing wildfire risk throughout California.

(Thereupon an overhead presentation was presented as follows.)

MS. MONTGOMERY: I think that cues me up.

MR. WHITE: Cues you.

MS. MONTGOMERY: Good morning, Chair Nichols --

CHAIR NICHOLS: Morning.

MS. MONTGOMERY: -- Vice Chair Berg, honorable Board Members. It's a pleasure to be in front of you
today. I'm Jennifer Montgomery, and I am the Director of the Forest Management Task Force. This task force was initiated by Governor Brown and has been continued under the leadership of Governor Newsom.

The problem, of course, with being the fifth person in any particular presentation is there is often not much left to say, and I'm not a forester or a fire manager like Helge Eng, although we do share some background in fighting fire. And, although I owned a small home on a very small piece of land in the wildland interface, I'm not a land manager like John Exline. And, of course, although I served nine years on the Placer County Air Pollution Control Board, I'm not an Air Pollution Control Specialist like Erik White.

So what does that leave me to talk about today? Actually a bit. The Forest Management Task Force, as you may know, has been tasked with increasing the pace and scale of science-based ecological forest management, balancing the three goals of public safety, natural resource enhancements, and sustainable economic development.

Clearly, a critical piece of this task will be the carefully thought out and implemented return of prescribed fire to our forests and other wildlands in California. Even more careful thought and consideration
should be given to how we reintroduce prescribed fire to
the WUI directly run communities where appropriate.

As the director of the Forest Management Task
Force, I often say that I am much like a ball bearing in
that alone I don't accomplish much, but also like a ball
bearing that allows pieces of machinery and equipment to
work in alignment with each other, we can accomplish a
great deal working with others and that is my role and my
task.

So as to the introduction of prescribed fire and
the concomitant smoke and air quality issues, I not only
work closely with the gentlemen proceeding me but also
with Adam Moreno, Dar Mims, and many others here at ARB,
scientists of all stripes here in California, the
multiple air districts in the state, members of the
media, public health officers, the general public, and
many, many others.

Because I'm not a land manager, a firefighter,
or a scientist, my focus on reintroducing prescribed fire
through the Forest Management Task Force is to work to
inform and educate the public about the proposed
reintroduction of prescribed fire; why it is a natural
part of our fire adapted landscape; what we must do
before we can introduce fire safely; how we can plan for
and mitigate the smoke impacts we know are coming; and,
of course, planning for containing and messaging around
the inevitable escape of prescribed fire that will likely
occur. With fire, comes risk.

In my ten years as a county supervisor
representing rural Placer County communities, controlled
burns and smoke were often seen as threats and nuisances,
but I can assure you that is no longer the case. Rural
and ex-urban residents now implore us to reintroduce fire
as a way to make their homes and communities safer,
create more and better defensible space, perhaps allow
insurers to continue insuring in our less urban
landscapes, and most important allow these same community
members to feel safer in their homes and to sleep at
night.

Where the Forest Management Task Force has a
significant role to play is in educating the more urban
communities who often only see and feel the smoke impacts
of fire. It is our job to educate all Californians that
uncontrolled wildfire smoke is the worst outcome with
associated massive carbon loss and other significant
public health issues.

While to the contrary, pile burning and
carefully planned and managed control fire in our forests
and other wildlands will create fewer smoke impacts, more
predictable smoke impacts, fewer health risks, and
healthier forests for plants, animals, and humans. We particularly need to work together to educate young people about the role and benefits of the reintroduction of fire into our forests and wildlands.

A message that every fire is not bad and every tree is not good flies in the face of Dr. Seuss and the Lorax, but perhaps the right tree and the right place and the right fire in the right place could resinate. In my lighter moments, I can envision Smokey Bear or CalFIRE's new mascot Captain Cal with a drip torch making the case for prescribed fire.

As I mentioned earlier, working with ARB and many others we are looking to introduce a fire app before the next fire season that will actively push information out to people who sign up and download that app. We can enable a suit of geo-located push notifications so that any users will be notified if there is significant smoke in any area they happen to be in California.

The app should help reduce anxiety for urban and rural residents alike and will be able to answer questions like, is this a wildfire or a planned fire? Where do we expect the smoke to be bad or better tomorrow, the next day, and into the short term future? Knowledge, indeed, will be power for the citizens of California.
We must increase the use of prescribed fire on our natural and working landscapes. I and the Forest Management Task Force are here to assist all state and other governments, tribal, federal, and local in working together to better manager all our lands for public safety, natural resource enhancement, and sustainable economic development that benefits urban and rural communities alike.

I thank you for your time, and I will submit my written comments to the clerk because I am not a power point person.

(Laughter.)

CHAIR NICHOLS: Thank you so much. That was an excellent presentation from all of you.

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: Thank you, Jennifer. I just have a wrap up here.

CHAIR NICHOLS: Wrap up. Oh, okay.

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: One slide.

CHAIR NICHOLS: Of course.

(Laughter.)

(Thereupon an overhead presentation was presented as follows.)

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF
BENJAMIN: So, in summary, what have we learned today?

CHAIR NICHOLS: Is this a test?

(Laughter.)

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: We've learned that California wildfires are growing in size and frequency. We've learned that the impact of these mega fires on public health and climate are significant. We've learned that California lawmakers over the past several years have been responsive to these fires, they've recognized the need for healthier forests, and the need for more prescribed fire.

We've learned that local state and federal agencies including those represented at the table today are building on existing relationships to facilitate more prescribed fire in California. We've heard about some of the actions being taken including having more crews on the ground, streamlining the permitting of prescribed burns, enhancing our monitoring of air quality impacts, and increasing public outreach and education.

Finally, we've heard and we've learned that these collective efforts to improve the health of California's forests through the use of prescribed fire and other actions will help us meet our climate goals while also reducing Californians exposure to smoke from future large wildfires.
AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF

BENJAMIN: This concludes today's presentation. We would be happy to answer any questions.

CHAIR NICHOLS: Thank you very much. We have a number of people who also signed up to speak, and we will turn to them in a minute. But I know that Dr. Balmes, who was with us during the occasion of the Board Meeting that occurred while we were breathing all the smoke from the Camp Fire, also wanted to make a few comments. So why don't we turn to him first.

BOARD MEMBER BALMES: Thank you, Chair Nichols. So I'm very pleased both with CARB's effort to step up to the plate to deal with the huge problem of wildfire and its interaction with both public health and climate change mitigation. I thought I was going to have to encourage greater participation on the part of CARB in this area because, you know, in general, wildfire smoke isn't our bailiwick, hasn't been our bailiwick but it has to be now.

And I'm also exceptionally pleased that we have representatives from CalFIRE, U.S. Forest Service, CAPCOA, and the Governor's Task Force because this does have to be integrated effort on the part of multiple state and local jurisdictions. I asked Chairman Nichols
to be able to speak a little bit because I've been in the wildfire space for a long time. Primarily with wildland firefighters for many years, who, just to remind everybody, get way more exposure than community groups. And some, who are career firefighters in the U.S. Forest Service, get this year after year.

I've been fortunate to have doctoral students for many years that have been interested in both community exposures and wildland firefighter exposures, and I want to say in part because of a comment that Board Member Takvorian made to me during the presentation about isn't the smoke from prescribed fires just as bad as those from actual wildfires? And, yeah, the smoke is bad, but it's the dose. It's the amount of exposure that's the issue.

You know, wildland firefighters get the most exposure, but communities exposed to prescribed fires versus actual wildfires it's usually quite a bit less exposure for prescribed fire in part because of the work that the forest management agencies do with CARB and the local air districts. So try to have the fires -- prescribed fires occur when the wind conditions will reduce exposure to as low as possible for the communities.

Again, I've been involved in studying wildland
firefighter exposures to nasty compounds, polycyclic aromatic hydrocarbons, carcinogens with prescribed fires versus actual wildfires. These are the firefighters themselves we've measured their exposure, their personal exposure, and it's less during prescribed fire than during actual wildfires, and the wildfire we studied was only -- was the rough fire wasn't as big -- anywhere near as big as the fires that were listed on Mr. Benjamin's slides.

So, in a nutshell, I really agree with Mr. Benjamin's summary. Wildfires -- catastrophic wildfires are a huge problem for our air quality, public health, our climate management, and we have to step up to the plate big time, and we can't do that without prescribed burns. Now, we can't burn our way out of the problem. We have to do mechanical thinning as well, but we really have to spend major resources both personnel and dollars to manage our forest.

I know I'm preaching to the choir, but this is a public meeting, and I'm the public health member of the Board, and I want to reach out to the public to say, yeah, if you live in a community that's going to have a prescribed burn nearby and you get some smoke, it's not good. I -- you know, it's not fun. But it's way better than having a catastrophic fire either expose you to way
more smoke or actually worse take out your town.

So we have to get out to the public, and I appreciate that part of both -- well, everybody's presentations actually. That we have to get the public to be willing to accept the risk of prescribed fires to prevent the greater risk from actual catastrophic wildfire. So I really applaud the effort today. I'm totally supportive, and the one caveat that I've already expressed to staff just to -- that we again have to work with our partner U.S. EPA because they have an app already called Smoke Sense.

The staff knows this, and I was pleased to hear they were working with U.S. EPA. I don't want to confuse people. There's the U.S. EPA Smoke Sense app they can download onto their phones, and we're going to come out with I think probably a better one.

(Laughter.)

CHAIR NICHOLS: Of course.

BOARD MEMBER BALMES: In any event, that U.S. EPA is another partner that I know staff knows we have to work with. So thank you.

CHAIR NICHOLS: Thank you. I believe last year I saw you on TV making a somewhat similar set of comments. So I hope you'll do that again. I think if it's okay we'll hear from the witnesses now, and then
Board Members will have additional comments I'm sure.

Okay. So, Janet --

MS. DIETZKAMEI: Good morning, Madam Chair and Board Members, and it's Dietzkamei.

CHAIR NICHOLS: Dietzkamei. I didn't even make an effort.

(Laughter.)

MS. DIETZKAMEI: I am from Fresno, and I have asthma. We moved to Fresno 15 years ago, and three years after moving there I ended up in emergency room with beginnings of pneumonia, and then I was diagnosed as having asthma. We live -- I live in the San Joaquin Valley that has the worst air in the United States, and so any effort to help our air is much appreciated.

When we have fires in Northern California, it generally ends up, the smoke and pollutants, in San Joaquin Valley. When we have fires in Southern California, those finally end up, the smoke and pollutants, in our Valley. Those of us who have asthma and respiratory diseases -- and there are thousands of us in the San Joaquin Valley, thousands -- we are very badly affected by pollutants.

I spend the majority of my time inside. My focus on this is the monitoring. How will the general public -- how will those people who don't have access to
much, how will the general public become aware of these pushes that tell us that burns will be affecting our air. Will they come on our phone? Will I see it on TV? How will I know and how will the people who don't have computers know that our air is not breathable?

Some of the people who live in the San Joaquin Valley don't even have air-conditioning. They have no protection from the air. In the summer their windows are open. Children are adversely affected; their development is slowed by the air in the San Joaquin Valley. So I am interested in the monitoring. I am interested in how I can access the monitoring with my computer and those of us who have them, and I'm interested in the pushes because we need that information. All of us. All of us are affected by the air. But those of us with respiratory diseases, it can kill us. Thank you.

CHAIR NICHOLS: You raise excellent points. Thank you. Paul Mason. It's easy to pronounce.

MR. MASON: Thank you, Chair Nichols. Paul Mason with Pacific Forest Trust. I was extremely pleased with Member's Balmes comments at the beginning really reiterating that from the Air Resources Board leadership perspective, there's a recognition that there is no smoke alternative, but we can control the timing and therefore the intensity of the dosage, and that's a really, really
important role for this Board, and I think that those
public statements are really critical because building
the public and social acceptance that we're going to put
smoke in the air.

It's a matter of whether we do it under our
terms or under nature's terms that's going to make all
the difference in the dosage. And ironically enough we
have a fantastic fire suppression effort, but the
outcomes of that is that you're always selecting for the
most damaging fires. The ones that might be burning on a
cool, damp day under lower intensity and would have good
outcomes, we put those out really effectively.

It's the ones that are burning on a hot, windy
day and getting to really extreme outcomes that become
really large and cause the sort of effects that we saw
when we were here last fall talking about natural working
lands. I do want to back up and put this in a broader
context of why is prescribed fire such an important part
of getting back to the sort of conditions that we need to
see on the landscape.

I mean, natural working lands are the climate
elephant in the room for California's programs. I mean,
as the presentation pointed out, we have seen hundreds of
millions of dollars of emissions -- millions of tons of
emissions from the landscape over the last decade and a
half because things are so out of balance. The last
century and a half or more since Europeans have showed up
here we cut down the forest; we built the railroads; we
built the mines; we built the cities and our homes out of
the forest, and we really fundamentally changed the
composition of the landscape.

Where we had these larger fire resistant trees
that had frequent fire return intervals and that sort of
maintained a stable state of carbon in the landscape, we
removed those. We had a whole bunch of smaller trees
come back, and then we started suppressing fire. So we
have a very unnatural condition on the landscape, and we
need to get back to that more natural condition as
quickly as we can through all mechanisms.

That's going to be some thinning. It's going to
be a lot of burning, but getting back to a more both
carbon rich and climate resilient condition has to be an
increase in priority for the state, you know, for both
this Board but the state more broadly, because that's
what we -- you know, getting our landscape back into that
more resilient condition is going to be key as we see
more extreme weather swings going forward, as we're
seeing bigger droughts, bigger atmospheric rivers, being
able to, you know, capture those larger storms and buffer
those impacts so we're not seeing the extreme flooding
downstream that we might otherwise see.

Those are critical other benefits of getting back to a more carbon rich, climate resilient, fire safe condition on the landscape. So I guess I would just encourage this Board to continue to lead in a visible way, to be seen out front talking about the importance of balancing fire and those emissions on the landscape and driving the state towards an audacious goal for restoration of natural landscapes. Thank you.

MR. SUBA: Good morning, Chairman Nichols and the Board. Thank you for the opportunity to make comments on today's presentations. My name is Greg Suba, and I'm the Conservation Director for an organization called the California Native Plant Society. We are a small but committed organization that has been around for 54, 55 years now in California, and our mission is to conserve native plant habitat in California.

So my goal is basically just to cheerlead and support the work that this Board is doing in terms of setting goals for carbon sequestration on natural and working lands and also to support the efforts of the Board and CalFIRE and U.S. Forest Service and CAPCOA and the Governor's Office in returning prescribed fire --

returning fire on to the landscape as an ecological tool.

We are in full support of that, and our
organization is a science-based advocacy group, and we are working to provide what information we can and what support we can to see more prescribed fire implemented on the landscape. So, you know, standing in front of -- in public and making public comments is stressful but it's -- for me anyway. And it's a lot easier to be able to do and say something positive when we're seeing something positive, and so that's my goal today.

We are one of the 37 -- currently one of the 37 signatories of the California Fire MOU Partnership, and I'd like to underscore that as we are moving to implement more ambitious interventions on natural and working lands that we in California use biodiversity preservation as an internal compass when we are making decisions related to those natural and working land activities including on prescribed fire.

So, with the remaining time I have left, I would just like to make one correction, Mr. Corey, on something you said. You said that forest, grasslands, and chaparral that have been treated with prescribed fire are more healthy in the short term and long term. While I think it's a general truism that grasslands and forest lands are more healthy, I think we have to be more nuanced on what we say about chaparral overall especially as we move into Southern California.
We're learning that lesson, and it's good to see as we look at treatments, vegetation treatments, that there are other tools I think that we should use predominately when we need to in those Southern California chaparral systems. So I don't want to end on any kind of critical note. I think the presentations were very good, and I just want to offer our organizations continued support in these efforts. Thank you.

CHAIR NICHOLS: Perfect timing. Thank you so much, and I want to just congratulate you for participating in this effort. As Ms. Montgomery said, this is not something that can be done by a handful of agencies. It requires a cooperation of many different organizations and many nongovernmental organizations, but, you know, your organizations speaks for the plants, if you will, and we need you there. So thank you.

All right. Mr. Thomas is next.

MR. THOMAS: My name is Craig Thomas with the Fire Restoration Group. Thank you for the opportunity today. I really appreciate Dr. Balmes' comments and the level of understanding of the challenging nature of this problem.

When I think about fire in California, the first thing that comes to mind is that we have one of the most
fire-promoting climates anywhere on the planet. If you look at the fire news recently, Portugal, Australia, we are struggling because of those same climate characteristics. And following that fire-promoting climate is millions of acres of fire -- strongly fire associated vegetation.

So, as stated before, there is no no fire option in California. The only choice we have is to do exactly what we are doing, and that's working with this fine group of people that are sitting up here on the panel before you, and we've been doing that for several years now and we've made substandard progress. Even though we're seeing some of the most difficult, challenging fires occurring in the last 15 to 20 years, we are also seeing the best progress in terms of the shared scientific understanding both of fire ecology and public health impacts, and we're going to continue to work together.

One of the ways we work together is in the fire MOU partnership, which was mentioned here before. I helped co-author that with a retired Forest Service official, and that's brought now 37 groups together including three air districts, Placer, Butte, and Eldorado that raised their hand and said, "We want to support more burning." And we're going to all do that
together in the context of doing the best job we can in protecting public health while we're expanding fire. The type of which where we have hopefully some say in how it goes compared to what we've been seeing.

I just want to offer that context of how much respect I have for the people that are sitting up here and the work that we -- we meet in the Forest Management Task Force; we meet in the Prescribed Fire Work Group; we meet in the Fire MOU Partnership. I'm on the phone pestering Dar, Michael on a weekly basis about what more can with do, how can we work together on all these issues that are very, very difficult.

To be able to see the extent of the kind of fire we're having where, you know, we're burning towns down, and in almost the same sentence, we're talking about how incredibly fire excluded much of fire -- the fire deficit in much of the millions of acres in California. To be able to talk about those two things in same sentence is pretty outstanding, and we couldn't do it without the caliber of people we have in this room, and I want to be clear about.

It's unlike anywhere else in the country where people are still struggling and battling. Here we have a shared common interest, so it's something to really be proud of. We made mistakes in the past. We got an
overaggressive fire suppression response over the last century. It doesn't mean we want to see towns burn down, but we certainly want to use as much fire as we can, and prescribed burning is the key tool to be able to get to the ecologically significant acres that we need to.

Thank you.

CHAIR NICHOLS: Thank you very much.

MR. PORTER: Good morning, Chair Nichols and members of the Board. Thank you for the opportunity to comment. My name is Dan Porter, and I serve as the Nature Conservancy's Forest Director for California. I'm also a member of the Forest Management Task Force Prescribed Fire Work Group. I'm here to express the Nature Conservancy's deep appreciation and support for your Board's leadership in facilitating the increase use of prescribed fire in California.

The Nature Conservancy is a global nonprofit organization with on the ground engagements in 50 states and over 70 different countries. We were established in 1951, and the Conservancy's early work involved protecting and stewarding some of the most exemplary nature reserves across the U.S..

It is in that context and given the beneficial role of fire and maintaining and renewing natural systems, that the Nature Conservancy started its National
Fire Program in 1962. In the following years, the conservancy has increased and consistently expanded the number of acres and partners internationally and here closer to home.

Most of our cooperative burning occurs in the context of the previously mentioned trek events or training events in which firefighters, triable members, and technical expert burn together and learn together in highly controlled and experiential events. Our national program and now our California program is keenly focused on increasing the capacity of highly-skilled and ecologically-minded prescribed burners, thus addressing a key bottleneck in the overall success and set of goals that is have been expressed previously.

In California, my team is working with the Tahoe National Forest with the support of the U.S. Forest Service and the Sierra Nevada Conservancy to plan and implement prescribed fire on approximately 1,000 acres of the federal land over the next several years. By hiring and managing contract burn crews and experiencing the planning and permitting process firsthand, we expect to increase the Forest Services workforce capacity and hopefully assist in the growth and efficiency of this essential land management practice.

Thank you once again for your Board's leadership
and let the Conservancy know what else we can do to help.
Thank you.

CHAIR NICHOLS: Thank you. And that concludes the list of witnesses that I have. This is not an action item, but I know we have a couple other Board Members who would like to add some comments to the discussion that we've already had. Mr. Eisenhut had raised his hand and Dr. Sherriffs. You can decide which of you goes first.

BOARD MEMBER EISENHUT: Thank you. For foothill dwellers, there's no more attention-grabbing event than the smell of wood smoke on an August or September morning. I am very supportive and optimistic about the potential for a smoke app. As Ms. Montgomery I think correctly pointed out, this I expect to be supported, but the smoke app will -- the availability and implementation of a smoke app will help reduce apprehension among folks who live with this event.

So I just I encourage the development. I know it's already in progress. I encourage the speedy development of that app. The co-benefit, which is really outside the purview of this Board, but because of the increased risk of fire in California, folks who live in those areas are now forced to assume much of the risk on their own, as insurance companies non-renew policies.

And I think it's an increased benefit of the
program that we're discussing and hopefully insurance companies will take risk and return to -- or take this into the account as they evaluate the risk and return to the table and provide risk management for forest residents. I disclose I am one of those folks. I have a background and familiarity with prescribed burning in the agg. world and a more recent familiarity with forest management in a forest urban interface area in which we have chosen to live in the middle of it.

So I'm very attentive to this conversation. I appreciate very much the unified stance. As I look out among the presenters today, this is as unified a response to a situation as I can recall, and I think it's a great policy breakthrough to have this kind of unity. I do have one question and I guess directed at Forest Service, and I'm -- I am unclear if how BLM fits into this discussion BLM lands. Are those managed by or is the Forest Service responsible for BLM lands? And I'm curious about how that overlap works, if someone could address that for me.

MR. EXLINE: Sure. I'll take a shot at it. Forest Service manages Forest Service lands. BLM is actually managed by the Bureau of Land Management, which falls under the Department of Interior. But like the National Park Service that also falls under Department of
Interior along with U.S. Fish and Wildlife Service, I would say they're probably the second largest land owner -- federal landowner in California.

We work very closely together with each other. And BLM also participates in our Air and Land Managers Meetings. They are intricately involved with our smoke management folks on the Forest Service side along with the CARB folks also. They are a player in this arena. They participate on a regular basis.

BOARD MEMBER EISENHUT: Thank you.

MS. MONTGOMERY: If I may? Also in response to your question, Board Member Eisenhut, BLM and BOR do, at least occasionally, attend the Forest Management Task Force. So they are ongoing members in this larger discussion. You may have read I believe last week that the federal government looking to BLM land specifically is going to be looking at doing some fairly aggressive defensible space projects.

I have looked into this. It is a northeastern California and in the Bishop area. I'm still trying to tease out the details of what that means and how it relates to our particular efforts around defensible space and reintroduction of prescribed fires. I know how to contact you, so I will keep you posted.

CHAIR NICHOLS: Alex and then Phil. Maybe we
should just go down the line here.

BOARD MEMBER GIOIA: First, thanks for the presentation. I wanted, Erik, maybe to question on the sort of local air districts, and I appreciate, you know, your piece of it and sort of the funding. As you know, those of us at local air districts have the same issues and the San Francisco Bay Area; right? Sensitive as to where you do prescribed burns.

Can you talk a bit more about sort of you said there would be sort of similar standards I know. Every year district has, you know, unique issues. So what's sort of the balance between state's role and setting some standards for local air districts and where local air districts have room to develop different standards for when prescribed burns occur.

MR. WHITE: That's a great question, Supervisor Gioia. You know, the districts have had long-standing programs for decades around smoke management, and that's really where I want to focus initially on this. And that role that we have is in partnership with CARB in terms of evaluating meteorological conditions and other parameters that establish whether or not it's appropriate to do burning, you know, on a given day.

But as we work with the land managers and we talk about a prescribed fire, we always have the
development of smoke management plans. And what those
are really to define the parameters of when the burn will
occur; how many acres is it going to be; what are going
to be the weather conditions; how is it going to be
supplied; is there going to be monitoring; what
communities may be impacted, and what outreach is going
to go to these communities so that they can understand
and will recognize that there may be some impacts.

And there's been some discussion and recognition
that certainly controlled smoke impacts from prescribed
fire are highly preferable and less impactful than those
from wildfire, which are uncontrolled. As we move into
this paradigm of, you know, increasing the amount of
acreage that we see, what we have come across is most air
districts typically don't -- have not been supported very
well in terms of managing their smoke management programs
and -- but all districts have recognized it's an
important part of what they do.

They typically find the funds. It is not a
program that is -- the cost for that program are
recovered through the fees that may be assessed for on
the land managers do the work. So as we're talking about
increasing the amount that we're going to see in between
the Forest Service and CalFIRE, we're talking about a
million acres potentially a year. And CalFIRE mentioned
the priority work they're doing, which is going to be a
tenth of that, you know, that they want to do.

We have to talk about, you know, how do we bring
in additional resources and the funding. It's important.
The other thing, though, is to provide consistency so
that permitting for land managers is consistent whether
you're in Placer County, which is mine, or you're in the
Bay Area and they're working with their land managers,
their private land owners. So how do you set consistent
permitting requirements, and that's what CAPCOA is really
working with CARB on, and we really just -- I would say
-- have scratched the surface on that.

There's a lot of work that we need to do in the
joint working groups that we have. There's a prescribed
fire working group that CAPCOA has established to work
with CARB staff on doing that, establishing consistent
outreach. You've heard about the smoke app; that's
something that's going to be folded into that. So, you
know, if we had this conversation a few years ago, I
don't think prescribed fire was on anybody's radar
screen. It was something that districts had done, but it
was one of many things they had done, and there wasn't
necessarily a high priority placed upon that.

I think today it's a very different
conversation, a very different recognition. So now we
can start to have this high-level conversation about how do we -- how do we ensure that we're successful and that the local air districts are not just partners but they're encouraging and facilitating the state in meeting its goals. I think there's a lot of work still to be done.

BOARD MEMBER GIOIA: Thanks.

CHAIR NICHOLS: Okay. Others?

BOARD MEMBER SHERRIFFS: Thank you. As someone growing up who enjoyed the wildlands with family, I'm reminded my mother was always very careful when we were camping what the escape plan was if there was a fire. Always. And this is all also a reminder, you know, if not for climate change, we wouldn't be here with this urgency, and we might not even be here because climate change really is driving all those fires that are outlined here in terms of longer fire season, you know. My family breathed the sigh of relief as October came because that was the end of fire season. No more. No more.

Why do we have a longer fire season? Why is it warmer at night making these fires harder to deal with? Climate change is behind all of that. So this highlights the importance of that other work that we do and need to continue to do. But, yes, here is an important management tool in terms of mitigation, in terms of
improving air quality, in terms of dealing with some of the other negative climate change effects of fire.

I'd add with the Governor's Office talked about safety, enhanced resources, sustainable economy, and certainly we embrace all of that. I would want to state specifically health and the air quality and the climate goals, goals within that. The partnerships, absolutely so important and it's great. It's encouraging seeing so many together working on this. The engagement of the nongovernmental groups, important in so many ways, and important partnership to develop this especially as we think about how to make the public education effective. How do get the public as a partner in this as opposed to being a horrified bystander? What is that? What's that about but making them embrace that?

The couple of questions. One, for U.S. Forest Service; and, one, for CalFIRE. If I understood the slide correctly, so now CalFIRE now has $200 million a year over the next five years from the climate investments. And I guess I'm wondering the budget in terms of grants, direct funds, how we assess the effect on climate change of those climate dollars because that's coming from camp and trade.

MR. ENG: Good question. So we do move towards more direct funding now in the current round of funding.
We -- we do have a fairly active monitoring program where we feel we have a pretty good basis for evaluating the effectiveness of different treatments and where the money spent and what effectiveness is, both in terms of ecosystems and in term of communities. So we're continuing that monitoring effort, both ourself and in corporation with the Air Resources Board.

BOARD MEMBER SHERRIFFS: Certainly the more specific data we can have will help guide I think in the future and also help further funding in the future. So it is an important metric.

MR. ENG: We do have a details breakdown of where the money went and will continue to go, and we'll be happy to share that with you on an ongoing basis.

BOARD MEMBER SHERRIFFS: This is clearly a learning process, a work in process. So Forest Service -- California has committed extra money, hundreds of millions to this process, and I'm wondering clearly there's been a commitment of person, power, and cooperation, coordination, and getting agencies to work together in a better fashion. Is there any monetary commitment on the federal level at this point?

MR. EXLINE: Here in California Forest Service probably spends about $140, $150 million a year on restoration work, that includes both prescribed fire and
other types of treatments whether it's mechanical, hand, or other types of resource enhancement work out there.

We do occasionally receive I would say extra moneys or appropriated moneys for a specific projects throughout the state.

We also heavily pursue partnerships that we heard some of those today from, some of the NGOs that came up working with those folks, along with work and with both our other federal partners and state -- state government agencies to stretch those dollars so to speak.

I think it's pretty evident that not one entity can do it all, that we have to share resources and that includes dollars.

BOARD MEMBER BALMES: Might I just add something here that's relevant especially to your area and the point you're trying to make? The Rim Fire a few years ago started in Yosemite but actually burned a lot more of the Stanislaus National Forest. I know some of that is wind, but also I've been told by Scott Stevens, a colleague at UC Berkeley, a forest management expert, that the Park Service was able to do more mechanical thinning and perhaps prescribed burns in Yosemite than the national -- U.S. Forest Service could do in the Stanislaus Forest.

Partially because communities complained about
prescribed burn smoke, and partially because a lack of
not as much resources as the Park Service had for
Yosemite. That's an example I learned about a number of
years ago where being able to do prescribed burns to
manage the forest actually made a difference in terms of
where the fire spread. Thanks.

BOARD MEMBER SERNA: Thank you, Chair. First,
it's good to see you again, Director Montgomery and Mr.
White and the rest of the group. I appreciate the
presentation and the information. I guess I have a
question and suggestion. The first suggestion is with
regard to the app. I know that there are -- there's
probably some pride of ownership/authorship with regard
to the deployment of the app, but I would encourage those
that are close to that particular initiative to think
carefully about especially what counties currently have
out there in terms of 311 apps.

I know here in Sacramento County we have one
that's been active and is being used by our constituency
now for, I think, three years. And, if there's a way to
guide the technology so that you can at least link --

CHAIR NICHOLS: -- to a 311.

BOARD MEMBER SERNA: Yeah. To the 311, I think
that would be very helpful. The question I have is as it
relates to those unique communities -- and I'll use again
Sacramento County as an example -- where we don't have much of a forest to speak of. We do have, you know, hard wood oak forest in the eastern part of the county, but we're obviously a valley floor community.

But we do have something very unique to us and that is we have a 23-mile long, 4,500-acre parkway, and the parkway has in recent years been very susceptible to wildland fire, and we work cooperatively with our local air district and certainly our regional fire fighting agency, Metro Fire, to coordinate prescribed burns in the parkway. But I'm wondering if there's an opportunity, if it hasn't been addressed yet, to think about those -- those counties across the state where they may not be typically considered forest communities, but where there is still a great deal of potential health threat from wildland fire, especially because, again, citing the example here, you have wildlands that are literally within the middle of urban areas.

So when you do have those events, and, to Dr. Balmes point, maybe the event itself is not as grand, not as large as a wildland fire in mountain areas, but you have a lot of sensitive receptors around those wildlands that are kind of adjacent to more urban areas. And so I think if that hasn't been part of this consideration, I think it ought to be. And one last
suggestion. I think, too, that this presentation might be worthwhile to give to CSAC, our State Association of Counties. I think that would be a very useful conduit to get the information out about what's occurring statewide.

CHAIR NICHOLS: Great. Do you want to respond, Ms. Montgomery?

MS. MONTGOMERY: Yes, please. Thank you very much, Madam Chair. To your point, Supervisor Serna, the Forest Management Task Force has been meeting every month. I am instituting a change after our August meeting where we will go to every other month. My intention is to use those alternate months to work more closely with counties and cities who have an interest in this so that their voices are heard and represented in the discussion more fully.

At the same time, those alternate months are also going to be focused on bringing tribal representation into the conversation. It has been sorely lacking to this point, but your point is absolutely spot on. When we talk about fire in California, 40 percent of the fire in what we consider forests, and that means the balance of it is somewhere else including often in and immediately adjacent to cities and other development communities. That is very much on our radar, and I will be following up with you. Thank you.
BOARD MEMBER SERNA: Thank you.

CHAIR NICHOLS: Great. Yes, Ms. Takvorian?

BOARD MEMBER TAKVORIAN: Thank you. I agree with a lot of what's already been said, and particularly Dr. Sherriffs points in regards to this really being a climate adaptation strategy, and I appreciate all of the work that you have all done to make that happen.

I just wanted to follow up on a couple of things. I'd love to have someone respond to Janet's questions, in regards to notification and perhaps you plan to do that. I think we would all be interested in hearing more about the monitoring and notification particularly for communities who don't have digital communicate and smart phones. And then I just wanted to -- one of my questions was how are you involving tribal and indigenous lands, and Ms. Montgomery just referenced that.

So I'd love to hear more about that, and also farm worker communities and how they're being included. Thank you.

MR. WHITE: Let me take a stab at the monitoring piece and the outreach piece because I also I thought the first comment was very articulate about the importance of that.

As we've -- and, as I've mentioned earlier,
through the development of smoke management plans as it relates to prescribed fire, you know, we have long worked to identify potential communities that would be impacted. That work will not only continue but expand, and public outreach is such an important part of this. So the funding that CAPCOA has received and the work that we're partnering with CARB on and the Forest Management Task Force is to improve our outreach into communities about this.

If we recognize that the smoke impacts may potentially be more frequent as we do more prescribed fire here in California, that's going to be an important tool. And I think, as many on this Board have recognized but to educate the public as well, that the trade offs between wildfire impact and smokes versus prescribed fire impact and smokes and why are we doing -- why is this increased prescribed fire occurring is going to be very important. We have to have the public's support in the work that we do and make sure that what's going on is not impactful.

How we articulate what those impacts are is through monitoring. So many of the districts, most of the districts have fixed air monitors that they use to help inform where, you know, smoke impacts may be. Unfortunately, most of those monitors are put there to
establish whether or not you meet ambient air quality standards and not intended to really address localized air impacts, so they're not placed in the right places.

So part of the funding that CARB received is to purchase a number of portable air monitors that districts can deploy in conjunction with prescribed burns that happen in more rural areas and have those monitors linked electronically to have that data available on the web.

So, as the prescribed fire -- the expansion of the prescribed fire rolls out here in California and districts deploy those, and Michael mentioned the target of 120 prescribed fires per year that we would start in the first year and grow on that as we move forward.

Those -- that's the information that should be available on the web and we're working with CARB to develop what the portal for that would be to make that information available so that the communities know what are the health impacts.

And that's feedback because that information goes back to the land manager to say if the smoke impacts in the community are too great, that prescribed fire can be dialed back or shut down or delayed because we didn't anticipate some impacts that we might have seen. So it's a very important tool, and it's a new tool.

Some air districts have required this, but most
air districts especially rural districts have not had this tool available to them yet, which we will newly have now. And so I think it will really help inform the public and ensure the public that what we're talking about and what's going on is not negatively impacting their health.

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF BENJAMIN: And just building on that response, we expect to have the app deployed by early next year. It's currently in development. And so for those folks who do have mobile phones, they will get, as Ms. Montgomery discussed, they will have information pushed to them, and it will be voluntary. So if they sign up for the app, there will be options as to what they opt into, whether they want to have things pushed to them or not. If they choose that, there will be the option.

The point was raised, which is excellent, what about those folks who don't have mobile phones? There is a dedicated outreach effort that's being coordinated by the Natural Resources Agency with dedicated public information officers, and I think one of their priorities is going to be thinking about how will this -- who will this app reach, who will it not reach, and then how can we fill in the holes in terms of providing and assisting the districts and public health agencies at the local
level with hard copy materials, phone type notifications, other ways of notifying people about potential smoke impacts.

So I think what we're seeing now is really much more of a unified comprehensive approach about how do you go about notifying the public. Those who have mobile devices and those who don't.

BOARD MEMBER TAKVORIAN: That's great. And it's good to hear that you're using the public health community as well as turn to our public health and docs on the Board to say whether they think this is a good idea but also to perhaps have folks that have conditions where they're particularly sensitive have the opportunity to sign up for -- to be notified. So, if those things can be implemented, I think that we're on a really good path. So thank you.

MS. MONTGOMERY: Board Member Takvorian, if I can just respond to your question regarding tribes and farm workers. As I indicated, we have been not great at success at reaching out to tribes or to non-English speaking communities. So far those are two things which are very much on my radar. I see them as deficiencies that we need to address sooner rather than later.

And then the public health officers. We don't actually have great public health officer participation
in the Forest Management Task Force. I did have the
topportunity to speak at a public health officers
convening at UC Berkeley a couple of months ago, and
there were a number of public health officers who were
horrified at the thought that we would be reintroducing
prescribed fire until we actually had this same sort of
conversation. After which, they said "Oh, okay. This is
the next best not worst thing."

And I said, you know, to a certain extent, yes.
That's how we have to think about that. What are the
relative impacts, given that there is not a no fire
future for California. So we're working on that and
thank you.

BOARD MEMBER TAKVORIAN: Thank you for raising
that and for recognizing the deficiency, and I wonder if
CARB staff could speak to -- we do have a tribal -- I'm
forgetting the word for it -- liaison -- right --
program. I'm wondering whether that could be integrated
or if that's part of your plan already.

AIR QUALITY PLANNING AND SCIENCE DIVISION CHIEF
BENJAMIN: It is definitely part of our plan. So, yes.
The answer is yes. We are integrating, and we are
coordinating. That process is on going, and we are
bringing more people into this coordination effort, both
internally and externally.
CHIEF COUNSEL PETER: And also Shannon Dilley, who is our tribal liaison, works for me, and she has been reaching out to them on a variety of issues including this one, and we'll just keep that working.

BOARD MEMBER TAKVORIAN: Okay. Thank you.

MR. ENG: I might just add quickly on the note of public health. I mentioned that we are looking for ways to increase efficiencies in planning new projects, and we found that the Department of Public Health in major universities, UC Berkeley for one, have depth of expertise that is typically not found in the natural resource profession, and we are reaching out to them as we speak, and it seems to be a very good avenue for gaining additional information forward to maximally efficiently locate new projects.

BOARD MEMBER BALMES: If you want to start with me, you know, I'm a professor in the Division of Environmental Sciences at the School of Public Health at UC Berkeley, who probably knows more than anybody else about wildfires in that school.

(Laughter.)

CHAIR NICHOLS: Another -- another point of communication here. Well, this has been terrific conversation, and I think we're all going to go back and start thinking about additional resources and groups or
individuals that would be useful to the effort. But it's really extraordinary impressive how much progress you've made, and it's obviously demanded by the size of the problem. But it's still just a great to see how much has been accomplished, and looking forward to are hearing more.

So thank you very much for the presentation.

VICE CHAIR BERG: Chair Nichols, before we let the group go, could you please pass on to the firefighters and the people on the ground there they are true heros, and I know that from all of us that we don't want to forget that they're the people on the ground when these things get out of control, the wildfires happen, and we truly appreciate them, if you would do that.

Thank you.

CHAIR NICHOLS: Well said. Thank you, Ms. Berg. Okay. We will have a shift of personnel here while we transition to our last official item of business, and that is an informational update also, but this one is addressed to the status of our efforts to bring greater and greater numbers of zero emission vehicles into the fleets.

This is an opportunity we hope not only for the staff to update the Board and the public who may be following it, but also for those who are following our
activities from outside the state government to give us
information about what they're seeing and what they would
like to see us doing as well.

So I would point out that few of us who are up
here on the dais as well as a number of our staff were
able to attend this year's 17th biannual conference on
transportation and energy at a Sylmar, which has been led
for quite a few years now by our Board Member Dan
Sperling. And, at this wide ranging and multiple
stakeholder conference, we heard a lot and talked a lot
about what's happening out there in mobility and
particularly how transportation -- transportation sector
is potentially changing emissions patterns as well.

I think one of the things that I took away from
my time at the conference was that there really is a need
to think creatively and differently than we have before
about the challenges that are lying ahead in getting ZEVs
into California's most vulnerable communities, adapting
to trends that are taking place out there regardless of
what we may be trying to see happen, and looking to how
we can transfer technologies from the silos that
sometimes seem to be very difficult to transcend between
the medium and heavy-duty sectors and the passenger car
fleet as well.

Most of the conversation and the glamor
surrounds the light-duty vehicles, the cool electric
cars, but, in terms of opportunities for emissions
reductions and looking at the implications for growth,
land use, urbanization, et cetera, as well as climate
impacts, it's really in goods movement, heavy-duty
freight sector, that we see the greatest problem or
potential, and also the greatest opportunities to do
something to accelerate adoption of ZEVs and to really
meet more aggressive carbon neutrality goals as well as
to -- as well as to make progress on our continuing and
stubborn violations of federal ozone standards.

So I asked for this update to come from the
staff today because I thought it would be useful to
engage the rest of the Board in this conversation to look
backwards a little bit in terms of what policies have
worked for us and have contributed to our progress, but
also to really start to put on the table the new policies
that are going to be needed to further the ZEV market in
California.

So, with that, I will turn it over to Mr. Corey
to make the introduction.

EXECUTIVE OFFICER COREY: Thanks, Chair Nichols.
California has led the way in zero-emission vehicles,
and, as this is a critical technology for transportation
sector to meet out long-term criteria pollutant and
greenhouse gas emission reduction targets, and, as this Board well knows, California has adopted a number of regulations to drive the development of zero-emission vehicle technologies in the passenger car, light truck, and medium and heavy duty vehicle truck sectors, along with a range of supporting programs including incentives, infrastructure development and outreach and education.

Today, staff will discuss the progress made during this transition as well as seek your direction on new policies to increase zero-emission vehicles in the fleet. This input will help to inform an upcoming report to legislature regarding policy ideas to further promote ZEVs, which will be presented to you later this fall.

I'll now ask Anna Wong, Sustainable Transportation Communities Division, to begin the staff presentation. Anna?

(Thereupon an overhead presentation was presented as follows.)

AIR POLLUTION SPECIALIST WONG: Good morning. I'm here today to present an overview of California's critical need to transition the transportation sector to zero emissions, if we're to achieve California's ambitious carbon neutrality goal and increasingly stringent federal air quality standards.

As you'll see in the coming slides, California
has made good progress to date but there's so much more to be done to achieve our long-term goals. To that end, we will present a number of policy areas that have the potential to further accelerate the ZEV market for both light and heavy-duty vehicles. We welcome your input as we consider and refine these ideas for a report to the legislature later this fall.

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AIR POLLUTION SPECIALIST WONG: As this Board is well aware, several areas of the state are still in non-attainment for ozone, and over 12 million Californians breathe unhealthy air. While significant improvements have been made in both the South Coast Air Basin and the San Joaquin Valley, these areas still represent the greatest challenges to meeting our air qualify goals.

With respect to climate change, according to California's Climate Change Portal, California is already experiencing significant and widespread impacts on its economy and environment. Transportation is a significant contributor to the state's air quality and climate change problem.

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AIR POLLUTION SPECIALIST WONG: The charts on this slide show the break down of all sources that
contribute to statewide greenhouse gas emissions on your left and NOx emissions in the South Coast on your right.

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AIR POLLUTION SPECIALIST WONG: Currently the transportation sector account for 50 percent of greenhouse gas emissions, 80 percent of South Coast NOx emissions, and 95 percent of the diesel particulate matter.

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AIR POLLUTION SPECIALIST WONG: Knowing transportation is a big part of the problem we must understand where we are and where we would like to go. We must meet stringent federal air qualify standards that are ratcheting down over time coupled with aggressive state targets to reduce greenhouse gas emissions. The lines in both charts represent our progress reducing emissions based on programs adopted through 2017.

Recognizing our successes NOx emission reductions in the South Coast Air Basin are on a clear downward trajectory, as you can see on the left chart. The red stars represent the emission reductions we need to attain the 2023 and 2031 ozone standards. Even with progress achieved to date, more aggressive measures are needed.

The story is similar for greenhouse gas
emissions. Across all sectors and with previously
adopted programs in place, California's greenhouse gas
emissions will still need to be reduced by about a third
in 2030 in order to meet the SB 32 target. Meeting the
State's mid-century targets, most notably the goal of
carbon neutrality by 2045, will require considerably more
effort. These targets make it critical to significantly
reduce greenhouse gases from transportation.

Based on the level of reductions needed to
achieve these targets, we know we need to accelerate the
transition to zero emission vehicles. ZEVs provide a
substantial reduction in emissions per vehicle, up to
85 percent when compared to conventional gasoline
vehicles. But the question really is, how many ZEVs will
it take?

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AIR POLLUTION SPECIALIST WONG: In an attempt to
see the scale we're talking about, we ran some
preliminary scenarios to see how turning one knob, the
percentage of ZEVs sold, affects the number of ZEVs we
can have on the road by 2045. For this exercise, we are
only talking about the light-duty sector. The black line
on the chart shows sales of ZEVs and plug-in hybrids
ramping up to 100 percent by 2035, just 15 years away.
If 100 percent of sales are ZEVs or plug-in hybrids
starting in 2035, what does that mean for the fleet in 2045?

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AIR POLLUTION SPECIALIST WONG: Now I've overlaid what effect aggressive electric vehicle sales have on the overall on-road vehicle population in California, represented by the stacked area graph. Even if we could achieve this aggressive sales increase in the next 15 years, over half of the on-road fleet in 2045 is still either a conventional gasoline vehicle or a plug-in hybrid vehicle with gasoline combustion part of the time.

This means in 2045 the light-duty sector is still burning over 2 billion gallons of gasoline. This is one scenario of many CARB intends to develop to understand what may be required for the light-duty sector to achieve carbon neutrality. However, scenarios like this show that there must be actions outside of simply turning up the sales knob. Not only do we need more aggressive actions to accelerate the ZEV market, we will also need to reduce overall vehicle miles traveled and increase the use of renewable fuels. Of course, we will still need deep reductions across all other sectors.

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AIR POLLUTION SPECIALIST WONG: This scenario seems daunting, but there are some bright spots. Let's
take a look at where the ZEV market stands today. California has seen amazing success in its ZEV market, reaching nearly 8 percent of new vehicle sales in 2018. As of the end of June of this year, California has seen nearly 600,000 cumulative ZEVs and plug-in hybrids delivered to customers since 2010, with 6,000 of those being hydrogen fuel cell vehicles. Overall sales are much higher than anticipated when the regulation in 2011.

This chart shows a higher proportion of ZEVs relative to plug-in hybrids, particularly long-range battery electric vehicles than we expected. Both of these trends indicate aggressive and promising growth, but stronger action will be needed to remain on the trajectory to achieve California's goals.

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AIR POLLUTION SPECIALIST WONG: Another positive sign for the ZEV market is the growth in different vehicle models. As the market has grown, model availability has expanded across many vehicle classes, as this graph shows. Along the X axis, the vehicle classes are ordered from small to large. Forty-four unique models are currently offered in California, with many more projected to arrive soon.

Staff is encouraged to see a growing number of models in the mid-size and small SUV categories. Many of
these models are now being offered with varying electric ranges and all wheel drive capability, two additional metrics of model diversity. This range of models represents incredible growth from the three models offered back in 2011 when the current ZEV regulation was being developed.

Looking ahead, we anticipate 30 additional models across various classes to be available for Californians within the next three model years. We believe model diversity will be a key factor in expanding the market and reaching a wider array of consumers.

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AIR POLLUTION SPECIALIST WONG: A ZEV market is also emerging in the medium and heavy-duty sector. Zero emission trucks are being offered in a variety of vehicle classes, with varying electric range and utility. Nearly 100 unique make models are currently offered in California, with many more to come. This represents incredible growth from the small number of models offered back in 2016 when the zero emission Last Mile Delivery concept was being developed.

As you can see from this chart, there are a large number of transit bus models available today as a direct result of our partnership with the transit agencies and bus manufactures to develop the Innovative
Clean Transit regulation this Board adopted late last year. Based on announcements already made by the truck and engine manufacturers, an additional 20 zero-emission powertrains and truck models will be available beginning next year through 2023.

As with the light-duty sector, having a wide range of vehicles types in the heavy-duty sector is key to meeting the varying and specific needs of fleet operators throughout California.

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AIR POLLUTION SPECIALIST WONG: And luckily California is not alone when it comes to ZEVs. Through a mix of aggressive regulations and appropriate incentives, electric vehicles are taking off around the globe. According to the International Council on Clean Transportation, cumulative volumes of light-duty ZEVs and plug-in hybrids have surpassed 6 million globally. This is not -- though not included in the graphic here, an additional 500,000 electric buses and 100,000 electric heavy trucks have also been delivered, mostly in China.

These global volumes are pushing manufacturers to rapidly innovate and driving down costs of batteries and electric vehicle components, which will help move the higher cost burden of the technology for both light and heavy-duty ZEVs.
AIR POLLUTION SPECIALIST WONG: So we have achieved great success only through a coordinated approach to growing California ZEV market. Regulations like California's ZEV regulation and associated test procedures help to create supply by ensuring vehicles are available on dealer lots. Incentives like CARB'S Clean Vehicle Rebate Program, create market pull, offering between $1,500 and $7,000 per vehicle.

CARB'S Clean Cars 4 all and the Financing Assistance Program for lower-income consumers, help residents of disadvantaged communities and low-income consumers afford electric when buying their next vehicle. In addition to regulations and incentives, CARB has a number of complementary programs to support ZEVs by reducing market barriers. For example, we work with the California Energy Commission and the California Public Utility Commission to plan and fund zero emission infrastructure to support electric vehicle rollout.

Other initiatives like Veloz's Electric for All campaign have also helped us reaching millions in increasing awareness about electric vehicles. These types of programs need to continue and be enhanced. The State needs to be creative and explore new policy areas to accelerate the market for electric vehicles, while
ensuring advanced technology vehicles are part of an integrated multi-modal transportation system that reduces vehicle miles traveled and increases accessibility for all Californians.

Next few slides highlight key regulations that CARB is undertaking to accelerate the transition to zero emission for on-road light and heavy-duty cars and trucks. From that, I'll discuss additional policy areas where stronger focus would help accelerate ZEV use.

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AIR POLLUTION SPECIALIST WONG: With respect to light duty regulations, staff has embarked on work to set new standards for vehicles beyond 2025. Advance Clean Cars II will encompass new ZEV, greenhouse gas, and criteria pollutant requirements, which is a proven approach for regulating vehicle. These new regulations will be presented to the Board in 2021.

With the passing of Senate Bill 1014, CARB and the California Public Utility Commission have been tasked to adopt and implement a new regulation, the Clean Mile Standard, or CMS, to reduce greenhouse gas emissions from transportation network companies, such as Uber and Lyft. This new program will set annual greenhouse gas reduction targets that will encourage the use of zero emission vehicles and an increase electric miles traveled, while
seeking to reduce vehicle miles traveled overall. Staff
will update the Board on this regulation in January.

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AIR POLLUTION SPECIALIST WONG: Looking at the
heavy-duty sector, this timeline shows that zero emission
regulatory actions already considered by the Board and
those proposed actions under development. Action focused
on road heavy-duty vehicles are shown here in green --
well, it looks a little blue, but, you know.

(Laughter.)

AIR POLLUTION SPECIALIST WONG: Over the past
year and a half, the Board has taken steps to employ zero
emission vehicles through the Innovative Clean Transit
regulation, the Zero Emission Airport Shuttle regulation,
and the Zero Emission Heavy Duty Certification
Regulation. Later this year the Board is scheduled to
hear the Advanced Clean Trucks proposal, which will
require the manufacture and sale of medium and heavy-duty
on-road trucks and engines in California.

The clean -- the Advance Clean Trucks proposal
alone is expected to deploy a minimum of nearly 60,000
zero-emission trucks in California by 2030.

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AIR POLLUTION SPECIALIST WONG: So to achieve
our carbon neutrality goals and meet increasingly
stringent air quality standards, we need to do more. We need additional tools and other actors, such as local governments to take strong ore actions. What follows is a number of policies areas where we see potential to further the market, and we seek your input as we refine these ideas.

We will be coming back to you later this fall with recommendations for the legislature in these different policy areas, as required by SB 498 by Senator Skinner. The first policy area concerns setting long-term ZEV targets to provide certainty and political support and to galvanize action.

The second policy area concerns reducing the cost of purchasing ZEVs as the market develops. This may mean ensuring California'S incentive programs are refined to those who purchase decision hangs in the balance, taking into account equity amongst car buyers. We need to ensure funding for these incentives are stable, with shorter and less frequent wait lists.

This could include designing an equitable, self-sustaining program that incentivize the purchase of ZEVs by imposing a fee on vehicles with high greenhouse gas emissions or sales tax relief for fleets making heavy-duty ZEV purchases.

Third, electricity and hydrogen prices are
currently high and complicated. Cost competitive and stable fuel costs are critical to encourage consumers and fleets to choose ZEVs. One way to do this would be to work with the California Public Utility Commission to accelerate efforts to design electricity rates to support light and heavy-duty zero-emission cars, trucks, and buses.

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AIR POLLUTION SPECIALIST WONG: We need to remember that none of the zero emission miles needed to meet our goals would be possible without refueling infrastructure. It would be important to extend alternative fuel funding programs with a specific focus on zero emission infrastructure. It will also be important to prioritize ZEV infrastructure within or near priority populations and for use by high-mileage vehicles, such as ride hailing or delivery services.

At the local level, we need to remove barriers for local governments to help incentivize ZEVs, since this level of government is likely the best equipped to be creative with incentives that matter. This could include allowing local jurisdictions to create zero emission zones and implement pricing that takes into consideration equity and community needs.

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AIR POLLUTION SPECIALIST WONG: Fleet vehicles are often the highest mileage vehicles on the road. We need to ensure light and heavy-duty fleets are able to travel on zero emission miles as much as possible. Building on the Clean Mile Standard and the ZEV Fleet rule, we could require zero emission miles and high mileage and new mobility fleets. The State could also establish ZEV or vehicle miles traveled targets for vehicles owned or leased by government agencies.

Also, unfortunately, consumer awareness of ZEVs continues to remain low. Expanding ZEV outreach and education will need to remain a high priority for the State. This could include identifying dedicated funding for outreach and education campaigns to ZEV consumers and fleet owners, including a focus on priority populations. Lastly, the transition to ZEVs will require a growing workforce that can manufacture, service, and operate zero-emission vehicles and infrastructure.

With California leading the ZEV market, this creates opportunities for the creation of high-quality jobs.

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AIR POLLUTION SPECIALIST WONG: In addition to policy recommendations to accelerate the ZEV market, we are also seeking to make recommendations to operators of
heavy-duty fleets regarding how they too can transition to ZEVs, pursuant to SB 498. The transition to ZEVs will look different and proceed through a different set of steps than it will for the light-duty sector.

Current and future fleet needs must be assessed, and the fleet operator must understand what types of zero-emission technology, infrastructure, incentives, and other complementary policies are best suited for their individual fleet. The process for developing such policies needs to be coordinated with internal and external stakeholders to ensure active engagement and coordination with regulatory requirements.

Due to the unique nature of each application, fleet operators need to carefully plan their purchases and the rollout of infrastructure to meet their needs and any regulatory deadlines. And, lastly, fleet operators benefit from sharing experiences and learning from one other. Identify barriers to further ZEV expansion and come up with potential solutions.

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AIR POLLUTION SPECIALIST WONG: To conclude, as this Board is well aware, California has aggressive goals. We will only achieve these goals by strengthen California's regulations to ensure vehicles are cleaner, increasing the number of ZEVs available to consumers and
fleets, and expanding the market through the right set of direct and indirect complementary policies that push consumer decisions. But ZEVs alone are unlikely to get the deep reductions that we need from the transportation sector.

Reductions in vehicle miles traveled will still be essential. This means developing stronger bonds with our sister agencies and supporting policies that support smart growth and land development. And any vehicles with internal combustion engines will need to be fuelled by renewable sources. It's a big lift, but we will only succeed with the right policies in place. This concludes my presentation.

CHAIR NICHOLS: Thank you. We do have a number of witnesses who signed up to give us some additional thoughts here, and I think we should just start with them. So we have the list up on the board. Please come forward when your time is up.

MS. DIETZKAMEI: I'm Janet Dietzkamei. I am very cheered by this. This is wonderful information to see. I am very much behind the ZEV -- ZEV -- is that how we say it? ZEV program. Personally we have an electric vehicle. I love it. Love it. Love it. It is comfortable. It is powerful, and I mean powerful. It is a wonderful smooth ride. It is so easy to pass by the
gas station and just plug it in the garage.

There are some thoughts I have on this. I'm wondering if local rental companies if we could educate the public by providing local rental vehicles as ZEVs. That way the population would be exposed to how it feels to drive an electric or hydrogen powered or whatever vehicle.

I would love to see school buses be electric so that the children waiting for the buses to get on the buses are not exposed to diesel fumes. Delivery trucks, as mentioned, we have so many delivery trucks with FedEx and UPS and Amazon and just on and on, those are something I would like to see.

I don't see directly it mention that there would be funding for chargers. It would be helpful to have as an enhancement funding for charging stations for the fleets and companies and businesses. That would be good for getting people on board if they had a way of getting the vehicles charges.

And I guess that's about it. I am really, really am on this every effort that we have to bring down the pollutants in the air is well worth our time. We recently drove from Fresno to Jonesboro, Arkansas to Houston, Texas and to San Diego from there, and then back home to Fresno. Once we left California, I did not see
an electric vehicle. In San Diego, I didn't see many --
I don't think I even saw one in San Diego. In Northern
California I'm seeing quite a bit, even Fresno I'm
starting to see electric vehicles.

And so I would like to see adds for electric
vehicles. I see adds for the big trucks, but I don't see
adds for electric vehicles. And if people -- if the
truck drivers could get into one of those big trucks that
is electrically charged, they will be amazed at the power
that the truck has. So I would like to see adds. I
think that would help. Thank you.

CHAIR NICHOLS: Thank you very much.
MR. MITCHELL: Thank you very much. Alex
Mitchell, from Los Angeles Cleantech Incubator, or, as
it's often known LACI. I'm so pleased that CARB is
thinking holistically and long term about the transition
to zero-emissions vehicles. I specifically want to
encourage CARB to be aggressive both in the short term
and long term as it relates to rulemaking on
zero-emissions vehicles especially given how quickly the
technology is improving both on the light-duty side but
also on the medium and heavy-duty side.

In the shorter term, I'd like to give some
feedback on the specific priorities called out in the
fiscal year 19/20 budget. We're pleased to see that CARB
is proposing a zero-emissions drayage truck pilot, as well as an inducement prize. We at LACI in autumn of 2018 conducted an RFI in partnership with CARB, the California Energy Commission, as well as the ports of Los Angeles and Long Beach.

The key conclusion of this RFI is that zero-emissions technology is rapidly advancing, and at least 7 vehicle OEMs, both of the legacy nature and the start-up nature, indicated that they would be eager in participating in a zero-emissions drayage pilot to create a seamless electrified corridor, connecting the ports of Long Beach and LA with the interstate 710 freeway with points more inland. Having a seamless electrified corridor along lower interstate 710 should be extremely competitive as a location given that 40 percent of the containerized goods that come into the U.S. come in via those two ports.

Based on the RFI, we would note that a meaningful pilot of 50 to 100 trucks could require 10 to 20 million in vehicle funding and additional 10 to 20 million in infrastructure funding to cover both fixed and mobile charging solutions. We at LACI are working with other potential funders for this including LADWP, LA Metro, Southern California Edison, and the California Energy Commission, with the objective of making a 710
Freeway Electrification Project, the most attractive potential drayage truck pilot in the state.

As it relates to an inducement prize, we are also very supportive. We run two major global start up challenges each year around clean energy and clean transportation, and note the ability of those competitions to galvanize entrepreneurs to get focused on specific challenges. We believe that each mode of surface transportation whether heavy and medium-duty trucking, airport and port handling equipment, and trains could benefit from such an inducement prize.

So we urge CARB to consider whether it's a specific technical challenge, such as 150 miles of heavy duty movement via one charge at a certain cost or a systems challenge, such as moving a parcel from a port to an inland warehouse to a consumer's porch be part of the challenge. On both of these items, whether it's the drayage truck pilot or the inducement prize, we encourage you, again, in the short term and the long term to be aggressive because technology is moving quickly. Thank you.

CHAIR NICHOLS: Thank you.

MS. MAI: Good morning, Chairwoman Nichols, Board Members, and staff. My name is Joanna Mai, and I am a Leverage Fellow representing the American Lung
Association. Today, I'm here to express the need for California and the rest of the country to adopt a fast and efficient transition to zero-emission technology to help mitigate the impacts of climate change and protect public health.

With CARB support for ZEVs, we can achieve state goals for public health protection, air quality, and climate change. The Lung Associations 2019 State of the Air Report was released in April and highlighted that the work of this Board and local agencies to cut pollution is working, but we still have a long way to go.

As of the 2019 report, we have seven of the ten smoggiest cities in the United States, including my home in Los Angeles. We also have six of the ten most particle polluted cities in the U.S. The transportation sector is the leading source of harmful air pollution, and we applaud the ongoing focus of the Board on the transition to zero-emission vehicles. We appreciate that the Board is maintaining a strong focus to zero-emission miles, as we plan for reductions in overall miles driven.

We strongly encouraging ensuring that the miles we drive are increasingly shared and zero emission. The Lung Association has been a strong supporter of the transition to zero-emission transportation options in California. We view the zero-emission transit bus role
and the zero-emission airport shuttle role as critical steps to the road to clean air.

As the Board moves forward with additional policies like the Advance Clean Truck rule, we encourage you to set a bold vision across the truck sector. Strong mandates should drive as many vehicle categories to 100 percent zero emission as quickly as possible. All truck sectors should be covered by the rule to ensure a strong start across all categories. Thank you again for your work. The Lung Association looks forward to working with you across the board to ensure that all Californians have clean air. Thank you.

CHAIR NICHOLS: Thank you.

MS. RODRIGUEZ: Thank you, Madam Chair and Members. Erin Rodriguez with the Union of Concerned Scientists. I want to start and thank you for bringing this Board today. We think that this updates speaks to the importance of strong manufacture standards and as we continue to transition to zero-emission vehicle. We also think that these standards will be critical as the Board and staff will consider and look at the Advance Clean Truck rule.

We encourage the Board to be bold and as medium, heavy-duty ZEV market grows, we urge CARB to set long-term goals for zero emission trucks by 2040, a
target that you could use to gauge other ZEV policies off of.

I'd also like to comment briefly on today's major announcement on the agreement between California and four auto makers on emission standards for light-duty cars and the trucks. We are very grateful to CARB for your work to counter disastrous rollback of vehicle standards that has been proposed by the Trump Administration.

We are still evaluating the details of this agreement to understand its impacts on California's progress towards cleaner cars. However, we are concerned that the agreement could delay cleaner car vehicles at a time when every sign points to the need to move faster.

One thing that has not changed is that California must continue to use its authority and leadership position to push forward on zero-emission vehicles, and we look forward to working with all of you on that. Thank you.

MS. GARCIA: Good morning, Chair Nichols and Board Members. I'm Katherine Garcia from Sierra Club California, and on behalf of our chapter and the 400,000 members and supporters statewide, thank you for this opportunity to comment on a zero-emission future. First, I want to present a snapshot of light-duty vehicles. In
2011, there were four EV models in California and less than 2,000 EVs sold. Today, just eight years later, there are 44 models and over 600,000 sold.

This is exponential growth, and it wouldn't have been possible without the State's bold policies and tremendous investment. While we certainly have a long way to go, we're seeing some progress on the light-duty side. Which brings me to trucks and the Advance Clean Truck rule. Heavy-duty trucks are the largest source of smog-forming NOx in California and emit nearly 40 percent of the state's diesel particulate matter. Low-income communities and communities of color that live near freight hubs and truck corridors, experience higher rates of asthma and -- excuse me -- shorter life expectancy.

Moving goods shouldn't mean putting our communities at risk. We need to be laser focused on how to transition the dirtiest vehicles off our roads. We need a plan that will push manufactures to produce more electric trucks faster, and we're counting on CARB'S leadership. California can substantially reduce both health threatening criteria pollution and greenhouse gas emissions by setting aggressive targets for zero-emission medium and heavy-duty trucks as soon as possible.

The presentation staff shared today is called the critical need to accelerate the transition, and we
appreciate that staff emphasized that urgency, and I want
to underscore that urgency today. To protect public
health and the environment, an accelerated transition is
imperative. Thank you.

CHAIR NICHOLS: Thank you.

MR. KENNY: Good morning, Chair Nichols, Members
of the Board. My name is Ryan Kenny with Clean Energy.
We're the nation's largest provider of renewable gas,
natural gas transportation fuel. I would like to make
just two quick points this morning. One, obviously the
presentation was very productive this morning. I think
it advances the conversation.

For those of us in the near-zero industries, we
would like to see just as aggressive analysis and actions
in the near term and focused on near-zero heavy-duty
vehicles where electrification does not appear feasible.
Also failure to look at the near term, of course, would
default us into continuing with diesel, and that's
obviously not in our best interest as a state. Lot of
the time lines this morning were focused more on longer
term deadlines. We would like to see more focus on the
shorter term deadlines, with relation to our
transportation -- heavy-duty transportation goals.

I would also like to make a quick point and
request of the Board. We're part of a broad coalition of
near-zero industries. Very concerned about a staff proposal that would basically eliminate all low NOx -- low NOx vouchers from the HFIP program, and, of course, that's funded through the Clean Truck and Bus Program, which is funded by GGRF. And right now if we use last year's figures, the total pot for near-zero low NOx trucks would be just 18.6 percent. It's $34 million.

$20 million for heavy-duty trucks; $14 million for refuse.

The staff proposal being considered for the GGRF Low Carbon Transportation Funding Plan later this year, would just be to eliminate that 18.6 percent of funding for low NOx, and, of course, that would jeopardize a lot of the near-term goals we are discussing today. We consider this a substantial and dire proposal that's very concerning. We also believe that it would go against the mobile source strategy document, which calls for 900,000 low-NOx trucks to be deployed by 2031. That would be put in jeopardy.

Also the CEC has cut out low-NOx truck funding, which has averaged about $10 million the last two years. Looking to do it permanently this year, and in part because they believe ARB is handling low-NOx truck funding, and, of course, that program plus this program would wreak havoc in the near-zero industry. Also the
three-year investment plan does call for low-NOx trucks as a funding priority, and, of course State law SB 1204 does require no less than 20 percent of the funding go towards zero and near-zero heavy-duty truck technology.

So there are a lot of reasons to keep the funding in there. We would like to have the conversation with each of you the next month or two ahead of the October vote. So thank you.

CHAIR NICHOLS: Okay.

MR. MAGAVERN: Good morning, Madam Chair and Board Members.

CHAIR NICHOLS: Hi.

MR. MAGAVERN: Bill Magavern, with Coalition for Clean Air on this side. This Board has really done a lot more than any other agency in the country to move us toward zero-emission vehicles. But as the staff presentation noted, we need to do a lot more. On the light-duty side, I think we need a mix of strong and smart regulations, ample incentive funding, and an emphasis on equity. When it comes to regulations, of course that includes the Advance Clean Cars rule and Clean Mile Standard but I would say also other fleet rules, as was suggested in the staff presentation.

Funding, the governor and the legislature really have not prioritized clean vehicle funding when it comes
to spending the greenhouse gas reduction fund. The way that they have prioritized other categories even though it's this sector vehicle emissions that are rising in the state. So we need to correct that balance, and we also need to make sure that zero-emission transportation is for everyone in this state, not just those with the means.

And that's why we're excited about the transportation equity projects that this Board has been advancing, and, in fact, we need more funding for those in future years. We need to democratize clean transportation. I did want to comment briefly on the compromise that was announced this morning. Similar to Union of Concerned Scientists, we recognize the position that the state is in because of the reprehensible rollbacks proposed by the Trump Administration and appreciate the fact that you've been able to get some of the auto makers to take a much more reasonable position.

But we are concerned about any loss of emission reductions that could come from this compromise. So we look forward to hearing more about that. When it comes to heavy-duty vehicles, I actually thought the staff presentation was less robust than it was on the light-duty side. I think the next major opportunity you're going to have as a Board to consider a major
zero-emission regulation will be the Advance Clean Truck rule, and I would say that, up to now, the proposal that we've seen from your staff definitely goes in the right direction, but it needs to go further and faster. So that proposal would have us at in 2030 only about five percent of the fleet be zero emission, and we think it should be two or three times that given the technologies that are quickly becoming available.

We'd also like to see that the Fleet Rule, which would accompany the manufacture mandate be adopted no later than July of 2021. So it could be effective in 2024 to complement the manufacture standards. So that concludes my time. Thank you for listening.

CHAIR NICHOLS: Thanks and feel free to submit more information also in writing at any point.

Appreciate it.

MR. ELRICK: Thank you, Madam Chair, Board Members and staff. Bill Elrick, California Fuel Cell Partnership. We appreciate and agree with the need to be more aggressive and forward leading in your activities, and we see a special focus needed on the full commercial success that we're trying to achieve. You know, good progress, as was said, is being made, but it's not enough.

We need much more, and we really need to
prioritize the actions that transition this from the
government push that it still is today to the market pull
that we need. For the commercial hydrogen and fuel cell
vehicle market, we're only just beginning this as it was
noted. We started just a couple years ago with four
stations and the first few vehicles. A few years later
we now have 40 stations and 7,000 vehicles. Again, a
great start, not enough.

To push this progress, the partnership published
an image for what market success looks like. What this
was is looking at the tipping point. It narrows down to
a thousand stations, enabling a million fuel-cell
vehicles by 2030, and this was very direct in that these
numbers represent the ability to have the cost reductions
we need, the beginning of the self-sustaining market
system that we're looking for, a transition away from the
government subsidies, and most importantly a cost
competitive zero-emission vehicle and fuel that customers
want to buy.

Our 2030 vision aligns well with the CARB
staff recommendations, meaning a full transition to ZEVs,
the financially viable market place, and holistic
planning approaches. I submitted this morning copies of
this document for each of you to look at your own -- at
your leisure in hard copy form. And what we'd like to do
then is to focus on reaching that market success and achieving our common environmental objectives and recommend -- and our recommendations for CARB directions include: Achieving the this hundred station target. This is what we talked about to start the market. We're only 40 stations in, and this is the biggest thing holding us back right now.

Second, commit to the executive order of 200 stations by 2025. This will enable the first significant cost reductions, and send a very clear and strong signal to the industry to invest their own money to make this happen. Collaboratively plan for the first thousand or this tipping point of a thousand stations a million vehicles and better integrate this into is ZEV planning that's already underway across CARB and other agency activities.

Looking at integrating the hydrogen and electricity as the energy carriers that enable the greater energy transition underway that we talked about the CPUC and others, that's how we're going to achieve this biggest transition outside of mobility as well. And then this is -- mostly I've talked about thus far in light duty.

With heavy duty a few things to point out. You know, they are synergistic, light and heavy-duty
deployment. We'll have a road map later this year for
you all to look at for more guidance, and I just want to
end with thanking you for all the work you've done and
looking forward to working with you further.

CHAIR NICHOLS: Thank you for all those very
specific suggestions too. Okay. Mr. Brooks?

MR. BROOKS: Good morning or good afternoon.

I'm not sure which we are right now. My name is Steven
Brooks. I'm with Iwatani Corporation. We are a hydrogen
developer and operator of hydrogen refueling stations in
Japan and now in California. I'd like to thank CARB and
the staff for your continued effort and support for
hydrogen infrastructure. It's greatly appreciated.

I would like to build upon earlier comments
regarding the recognition that you guys understand the
nature of being aggressive with development of
infrastructure and meeting emission goals. So I applaud
you on that. I do ask you, however, to please continue
that support for hydrogen and for what we are doing for
developing the infrastructure, because, as others have
mentioned, it's very important to -- it's very timely now
to develop in infrastructure to meet our emission goals
and the rollout these fuel cell electric vehicles.

Part of this support will really assist in the
market being able to have a business case, allow for
private investment, and ultimately the government's exit.
I would like to ask CARB to please accelerate our process
of getting to 100 hydrogen refueling stations, 200
hydrogen refueling stations as a goal, and eventually
1,000 fueling stations. I'd like to thank CARB for you
dedicated -- dedication and support and really appreciate
all your assistance. Thank you.

CHAIR NICHOLS: Thank you. We have one more
sign up here.

MS. GOLDSMITH: I'm not quite this tall. Hi.
Hannah Goldsmith. I'm the deputy executive director for
the California Electric Transportation Coalition, which
is a nonprofit trade association comprised of utilities,
auto makers, charging station providers, and others that
are supportive of transportation electrification. We're
supportive of staff's efforts as outlined today to put
together this report on policies needed to further
advance zero-emission vehicles.

We did submit some written comments after the
preliminary workshop to staff with a couple of
recommendations. Not going to get into that, but I did
want to just touch on one component that was mentioned as
within the suite of programs that are necessary to
transition to zero-emission vehicles, and we very much
appreciate the recognition today that we really do need a
suite of programs. It's not one regulation or one funding program that gets us there.

So what I want to touch on today is funding. So as has been mentioned, there have been challenges with achieving adequate and reliable funding for low-carbon transportation, and we have yet to achieve that. It is a yearly battle. CalETC as well as the stakeholders that we work with will continue to advocate for that, for low-carbon transportation, but these funding programs are absolutely critical to get us to where we need to be.

So given the situation this year with the amount of funding available for low-carbon transportation, particularly for CVRP and HFC, CARB has been forced to determine how to modify these programs to fit within budgetary constrains, and, as recognized today, we do need to drastically accelerate the transition to zero-emission vehicles, which means this funding is more important than ever, and it must also reflect the state's priorities to transition to zero-emission vehicles.

So we support staff's efforts to look holistically and long term at these funding sources that are available, including the low-carbon transportation programs that are funded by the greenhouse gas reduction funds, as well as other funding sources and ensuring that we are getting those zero-emission vehicles on the road.
Thank you.

CHAIR NICHOLS: Thank you. That concludes the list of witnesses that I have, and I know that Board members are going to have some questions and comments. And I do as well. Let's start with Mr. Serna.

BOARD MEMBER SERNA: Great. Thank you, Chair.

First, I want to thank staff for a very thorough explanation of where we're at in terms of meeting various legislative executive order thresholds for the expansion of zero-emission vehicles in the State of California.

One of the things I wanted to stress and I think it's an appropriate time to do that, is the fact that here in Sacramento I've been part of a coalition of interests that are very interested in a California innovative mobility center that would hopefully be located not too far from where we sit here today and associated with Cal State Sacramento and UC Davis.

One of the things I didn't hear in the presentation and I think it's probably time for CARB and for staff to begin thinking about this is -- because I believe we have the latitude to do this is, you know, how do we best capitalize on our academic institutions in the way of really fostering innovation and the electric propulsion space, the battery technology space because I think especially with the executive orders and the very
clear milestones that we are intending to hit, in terms of effecting the market for ZEVs, this agency has a clear opportunity.

Again, my opinion to really be a partner and to effect -- not just, you know, by way of policy regulation incentives -- the existing auto market, but also the expansion of new technologies that I think will be very attractive to consumers. So I'd again like to end by thanking staff, but I would strongly encourage us to begin thinking about that, and I've made mention of this to the Chair as recently as this morning thank you.

CHAIR NICHOLS: Thank you. The idea about this center I know has come up. I attended a meeting a number of months ago with some folks who are interested in putting it together, and I do think that Sacramento has really established its leadership in this area in a way that will undoubtedly attract some additional support as well. So I had the meeting with Congresswoman Matsui who has been a great champion. So I think that there's a growing momentum behind this idea. It's a good concept.

BOARD MEMBER SERNA: Thank you.

CHAIR NICHOLS: So I'll start down on this end and we can just move --

BOARD MEMBER GIOIA: Thank you. Good presentation. Thank you very much. In fact, could you
send us your written presentation as well to go along with the slides? Because there was a lot of good information there that wasn't in the slides too. So I want to raise just two issues that sort of touch on local government. The issue of permitting of electric vehicle infrastructure. There is so many, you know, cities, counties all with varying permitting requirements.

This was an issue that we heard about from Electrify America that the speed and the cost of getting infrastructure installed. So what -- I understand there's been some discussions and some -- is it OPR there's been some development of common guidelines? Can you sort of tell us where we are at there and ultimately, I mean, for me it seems that this would be best done with a statewide ordnance because I can tell you it takes years to get all local government across California, and you're not going to be successful getting them all to adopt common sets of best practice standard.

So where are we there? And I'll get to my second issue which is more about fleets.

STCD ASSISTANT DIVISION CHIEF BEVAN: Hi. This is Analisa Bevan with STCD. The Governor's Office Go-Biz --

BOARD MEMBER GIOIA: Right. That's it. Right.

STCD ASSISTANT DIVISION CHIEF BEVAN: -- has just
released a guide book, and it includes best practices for permit streamlining and the process for permitting EV chargers and DC fast chargers. So they're in the process of putting together their rollout strategy for that guide book, going to cities, counties, authorities having jurisdiction to educate them about the contents of the guide book, also setting up their website to highlight communities that have done their permit streamlining and effectively grade them to try and encourage communities to communities to try and get on that list.

So we're in that rollout process right now, and there was a law that also address permit streamlining for charging infrastructure. So part of this is also educating authorities having jurisdiction about what the law actually requires.

BOARD MEMBER GIOIA: Right. I think that's all good and well, but I think it's a more effective use of time to develop some type of statute that would set some standards across cities and counties, because I can tell you having once been a land-use lawyer and been on the Board of Supervisors for over twenty years, it is very slow for local government to adopt these kinds of things. You're not going to have a real success rate that's -- I think that's very high.

Some jurisdictions will lead the ways others --
I mean -- some of it will want to do it but are overwhelmed with everything else they are doing. There are some areas where the State has done this. So I would really strongly encourage giving thought to that strategy. It always seems great look, you know, seeing these great guide books out. It just doesn't happen. I'm just talking the reality on the ground it doesn't happen in a way that covers.

I mean, getting a few big cities, maybe, yeah, that's great. But I just don't think -- all the time and effort that you'll put into, you know, providing guidance to planning departments and cities and counties, could be I think better spent on working on some legislation. This is where I'm coming from.

Second, on the fleet issue. So I've heard from some local governments about the desire to set -- and we're going through this in Contra Costa County -- of how we set policies to move our large fleets -- cities and counties have large fleets -- toward electric vehicles. There's not a lot of good information that's ready available to many of these well-meaning and well-intention public work departments, and I'm going through this personally in Contra Costa firsthand.

It would be very helpful for CARB to have -- to be a clearinghouse about what is available. And I know
we're doing this for the freight handbook. I know with regard to more on the heavy-duty side for land use conditions what technology is commercially available in vans and forklifts and things like that. I think for large fleets you would open up a lot of opportunities for the cities and counties to sort of take advantage of the information you're providing and would help them. I know it would help us in Contra Costa because what I always hear, "Well, we don't know what's really available, what's the range." And so keeping a clearinghouse of information would be very helpful for us in local government as we make decision.

We have, for example, a meeting of our Board Sustainability Committee where we are discussing this exact issue. And sort of the information that often we get back from county departments is, you know, again, we don't think they'll do the job without understanding.

STCD ASSISTANT DIVISION CHIEF BEVAN: There's a resource I can point you to right now, which is DGS, Department of General Services' Green Car Buying Guide. Those are vehicles that have been pre-negotiated with auto manufactures for the state contract, and those have information about how far they go, where you can lease them, how much they cost, and the pre-negotiated rate.

BOARD MEMBER GIOIA: So are they going to keep
STCD ASSISTANT DIVISION CHIEF BEVAN: It's updated at least annually, but we can talk with DGS about the frequency of update.

BOARD MEMBER GIOIA: So it's this Drive Green California? Is that what it is?

STCD ASSISTANT DIVISION CHIEF BEVAN: Let me find the --

BOARD MEMBER GIOIA: There's something called 2018 Drive Green California, and it has cars available to all state and local agencies, and it's a whole list of greeting the fleet and so forth.

STCD ASSISTANT DIVISION CHIEF BEVAN: Right. And I know that it was updated for 2019 recently.

BOARD MEMBER GIOIA: So there's a 2019 version?

STCD ASSISTANT DIVISION CHIEF BEVAN: Yes.

BOARD MEMBER GIOIA: So this is the document you're referring to? And do you think it's adequate and has enough good information? I'm just --

STCD ASSISTANT DIVISION CHIEF BEVAN: I would be open to passing along suggestions for how it could be enhanced. It's working for State fleets, but, if there's an opportunity to expand the value --

BOARD MEMBER GIOIA: Okay.

STCD ASSISTANT DIVISION CHIEF BEVAN: -- to
include local and county fleets.

BOARD MEMBER GIOIA: Great. Thank you very much.

CHAIR NICHOLS: Okay. Hector?

BOARD MEMBER DE LA TORRE: Thank you. This was great. I always appreciate the updates, and, on the point of clearinghouse, we were just talking when we saw the chart and it said how many small wagons and small SUVs there were. I could only think of three off the top of my head.

So it would probably be really good to have somewhere on our website -- for the general public, not for fleets -- just a list of, you know, if they're plug-in hybrid, if they're all electric, et cetera, that we housed on our -- I know we've talked about this numerous times about other issues but the concept of us being a clearinghouse for the general public.

We need to do more of that because we're in this stuff and I, you know, I -- Diane was talking about her husband pesterling her to buy something and doesn't know what's out there.

BOARD MEMBER TAKVORIAN: Help.

(Laughter.)

BOARD MEMBER DE LA TORRE: So that would be really, really helpful.
STCD ASSISTANT DIVISION CHIEF BEVAN: There are a couple of resources I can point you to right now. One, is the Air Resources Board's clean -- sorry -- driveclean.ca.gov, and then also the Clean Vehicle Rebate project keeps their site up to date with the latest vehicles that are available in California.

BOARD MEMBER DE LA TORRE: Okay. So thank you.

BOARD MEMBER TAKVORIAN: We should know that, Hector.

BOARD MEMBER DE LA TORRE: I should.

BOARD MEMBER TAKVORIAN: No. We should I said.

(Laughter.)

BOARD MEMBER DE LA TORRE: So that leads me to a related point, which is for the last couple of years we've been aiming at this explosion of options in the zero-emission market, that in '19, '20, '21, there's going to be a lot more in terms of a variety of vehicles from the OEMs that are commercially available, et cetera.

So I've always been pointing to that as people question where we are, where we're going, that that's going to be significant because people have options. So maybe some of these you don't like some of these cars, they're too small, they don't look good, whatever. It should mirror the rest of the auto market.

And so I think having that variety will give us
those options for people to purchase and will, I think, exponentially grow the marketplace. So that's wonderful. On the fuels, I love that you've addressed the fuels. We've talked about it numerous times. Whether it's electricity or hydrogen, we need to get our arms around this thing because we are promising implicitly or explicitly value. And when that value isn't there, when there's sticker shock to those consumers, I think that's on us.

And so we need to figure out and be more aggressive in conjunction with the PUC and others be more aggressive about how we handle this electricity and hydrogen costs. I know someone who had a fuel cell vehicle, and there was no hydrogen at one point. They just didn't have it for a day or two. That's problematic. As a consumer, you don't -- that's not normal. I mean, you know, there's occasionally long lines at the gas station or something, but you can't have these weird anomalies in the marketplace.

And then finally on the heavy duty. I'm really, really excited, and I'm constantly bragging about how we, CARB, are funding Toyota and Kenworth with fuel cell heavy-duty trucks prototypes running at the ports in Southern California. Peterbilt with fuel cell and battery electric, Volvo, Mack, Daimler, BYD, and Tesla
with battery electric heavy-duty trucks.

I am very, very excited and optimistic about that, and, as I talk to some of these manufactures, you know, not to -- not to set an expectation, but, I mean, they're saying by 2025 they can probably be commercially available and that's huge. Somebody mentioned heavy duty in the comments -- in the public comments. We need to start talking about that more. We need to see what's needed to support those folks. I know we funded -- I think it was Volvo has some initiative going from the ports out to the Inland Empire, and they have a couple of charging stations along the way.

He's got the pen. Good promo. So initiatives like that where we're building the infrastructure in conjunction with the heavy duty, because the heavy duty you kind of have a better sense of where those cars -- where those trucks are going to be going, where the magnets are for that activity, and we can set up the heavy duty charging or fuel cell or the hydrogen pumps for them where they need to be.

So I think that that's something we need to emphasize. If there's anything this Board needs to do, please let us know because I think that's very key. If 2025 or, you know, right around that ballpark is realistic, that's a game changer up and down the state
and, frankly, in the world. So we need to be on top of that and make sure we're knocking out any impediments to making that happen. Thank you.

BOARD MEMBER TAKVORIAN: Mr. De La Torre said most of what I wanted to say about heavy duty, so I'll be short. I just wanted to thank you for the presentation and clearly for the message that we have to do a lot more, and we have to do it faster than we had originally planned. So I appreciate that.

I guess I want to say that I am hopeful that in addition to all of the things that Hector said for promoting heavy duty and moving it forward that we can begin perhaps more proactively looking at the places where short hauls, especially in Southern California, could be utilized for some of the pilot projects. I think one of the speakers talked about that perhaps they won't be pilot projects for long, and that they will be something that really can take hold.

I think that one of the issue that we've experienced at our port is their lack of information, or their lack of willingness to share the information about where the trucks are actually going and how you can begin to map that out. So I think that could be something that CARB could help to incentivize with the idea that there might be funding available for both the ports and the
developers of these heavy-duty vehicles to move forward in that way, so that we can, again, move farther faster, as you've said.

So I think that's a critical element, and the other -- I think we're going to be talking about this more as we talk about the heavy duty the Advance Clean Truck Rules in terms of how truck owners, who are not going to be able to afford these vehicles, will be able to come into this world that we want to advance more quickly.

So I hope that that's going to be part of the conversation as to how we have some understanding in regards to complete fleets, but for independent truck owners, this is going to be a very heavy lift to move into the electrified world, the zero-emission world. So I can hope we talk about that when we get to the truck rules.

CHAIR NICHOLS: Okay. Go ahead.

BOARD MEMBER SHERRIFFS: Thank you. As a ZEV owner, I have to speak.

(Laughter.)

BOARD MEMBER SHERRIFFS: Sharing the first speaker's enthusiasm. One question. So where is the small truck and why don't we have a small truck? Do we need to put out an RFP to UC Davis to UC Merced to do
some research to better understand what motivates Californians to buy small trucks and where that market might be in terms of electrification? Serious question because I certainly have farming friends who tell me, "You know, I don't drive my truck that much, but I need a place to put my shovel and the bag of whatever" and they would be actually happy to have that be an electrical vehicle as opposed to a gas vehicle.

I really appreciate the testimony regarding the importance of our focus on all zero-emission fuels. You know, I'm thinking in terms of policy this is a real opportunity for some of the 617 communities, and thinking about the future that penetration of electric vehicles may be an important opportunity for decreasing emissions in those communities. Ride sharing I know is happening, and thinking about other penetration, egg operations, that type of thing. And would certainly -- the comments have been made about, you know, we need to help get the world out more.

I'm impressed by the number of my friends who I'm talking about all electric vehicles, and they're astonished at the range of electric vehicles out there. And so visibility does matter, and it's important to help the public understand better not just their opportunities but the opportunities in the world around them for
successful electrification. So thank you.

And just one other -- it's the elephant in the room. Does anybody here remember the energy crisis of the 1970s? Yeah. In a sense it really has been good public policy since at least then to think about how we deal with fuels and minimize our consumption and yeah. I would just observe that when gas prices go down, the cars get bigger, and the auto manufactures shift what they're producing; and when gas prices go up, the automobiles get smaller and fewer small trucks are sold.

So an observation. I'm not sure how policy wise where we play into that, but it's something I think we need to very much be aware of, and other people may be able to be doing things that we should be encouraging.

CHAIR NICHOLS: I think we, of course, play into it indirectly, and I think we perhaps as an administration need to be more coordinated and effective in the way that we communicate on that issue, but definitely we are in it. And so that's part of the reason for starting this conversation I think is that eventually we're going to have a report due to the legislature -- quite soon actually, and that's one of the things that we'll be touching on. Okay. Ms. Berg?

VICE CHAIR BERG: Thank you very much, staff. I know you've been working on this for quite some time.
It's a huge lift to even think about how we're going to get there and imagining it is both full of excitement but as well as a little -- not a little bit -- quite a bit of uncertainty. You know, as we go back and look at slide five at the growing light-duty market, we did hear at a Sylmar that if we were to take away the Tesla models that this chart is really pretty flat. And so there's no -- as far as sales growth year over year.

So there's no question that coupled then with your first slide about slide four where we need to go just how critical this is, not only in the light-duty still, but then going into the medium and heavy-duty. So the comments that I'd like to make really are around the policy areas, and I think of a couple of things.

One, I do think that we need to start thinking about consumers and winning hearts and minds. Just not in -- just not in the narrow of outreach and education. And under winning hearts and minds, there's no question that we need to convince people, not beat them over the head, but at the end of the day we do need to send market signals. And so over this period of time if we truly want to accelerate by 2030, 2035, 2040, without market signals, I just don't see how we get there. And they should be creative to start with.

You know, maybe we should be looking at
something of second and third new car ownership. Maybe that should be something where we are incentivizing if you own -- if you buy a second or third more than one new car, maybe there is some incentive or disincentive through registration. So and, of course, you mention fee bates here, we have talked a lot about that. That -- that's a difficult lift across California to start with. So what are we going to do to start the conversation of truly starting to send market signals?

The other thing I think that looking at broadening and understanding -- I do love the ZEV transition of the workforce and development and training, but we need to understand the disruption. This isn't the matter now that we are asking people to change products or address criteria pollutants to reduce; we're really going after a transformation here. So we truly do need to understand some of this disruption, and then how does the workforce development and training play into that.

And so I would just encourage, again, a broader view of that as we go over the next decade. I'm not suggesting any of this tomorrow, but we are talking about looking into the future. And then, finally, as part of that disruption, is double checking where our sustainable business models. It really isn't clear to me yet on this infrastructure where the sustainable business model is.
Right now we are subsidizing this infrastructure. Who is going to be maintaining it over the next decades? And how are they going to be -- where's their revenue model to be able to do that? So I think as we're going over the next decade truly looking at how the sustainable business model, right now the OEMs are losing money on these vehicles, and, yes, we look at cost parity and we look at these things.

But, again, we've got to make sure that this is all going towards sustainability both not only environmentally but from an economic perspective. And so that would just be another area that I'd really encourage us on. No question I've been driving an electric car now because I sat on this Board. You know, I bought my first electric car six years ago, and I wouldn't go back, and I love talking about it.

I'm looking now at my very small company figuring out how I can get an electric delivery truck and be one of the first in the Boyle Heights area to have one. And so it is very, very exciting, and I feel a little bit like Dr. Jekyll Mr. Hyde about "Oh, my gosh this is so exciting" and "Ahh how we going to get there?"

(Laughter.)

VICE CHAIR BERG: And so, with that, thank you very much for bringing this very important topic forward
and very fun things to come. Thanks.

CHAIR NICHOLS: Thanks. We'll start down at the opposite end here, if anybody has any comments that they want to get out here.

BOARD MEMBER MITCHELL: I will definitely talk about this. I want to thank staff for the presentation, and I want to thank CARB and our staff for all the wonderful work you're doing to promote heavy-duty electric. And Hector touched on this a little bit, CARB donated substantial -- donated -- contributed substantial amount of money to the Volvo Lights Project in Southern California, which I think is extremely promising for helping us understand and gather the data on what is needed to convert fleets to -- heavy-duty fleets to electrification.

I mean, what is the load that they're going to be carrying? What is the range? What is the weight of the batteries? And where are we going to do the fueling infrastructure? So that is critical to moving this whole endeavor forward into electrification of our heavy-duty fleets, and that's just one of the projects. I know that there is the Advanced Drayage Truck Project as well, and one thing we're seeing I think as a result of the market signals we're sending, we're finally seeing the larger heavy-duty truck OEMs interested in this sector.
Daimler is in there, as Hector mentioned.

Daimler, Volvo, BYD, Toyota, Kenworth and that's critical that we're seeing that the larger manufactures enter the arena and start moving on this. I do want to ask staff about the reasoning behind eliminating the HFC voucher for the low NOx truck. I want to kind of explore what you're thinking along those lines.

MSCD DIVISION CHIEF KITOWSKI: Certainly. This is Jack Kitowski. I'd actually say that statement is mischaracterized. We had a work group meeting last week, and in that work group meeting what we told stakeholders was, we have less money than we will have demand over the coming year. We will have about $140 million for HFC this coming here year. We expect demand to be about $200 million.

So we presented a list of five or six different options to close that gap, in other words to be able to stay within our budget. So among those five or six options, one of them was make HFC a ZEV only program, but it wasn't the only option, and we had no proposal at this. We were trying to get stakeholder input. Now maybe the commenter, you know, there are some sound reasons why maybe this is the time to move the HFC program to a ZEV only.

Quite a few stakeholders did -- did offer that
that was their preferred option. So maybe the commenter, Mr. Kenny, felt like the overwhelming sense of the room was that that was the staff proposal, but it was one of several options that was presented.

BOARD MEMBER MITCHELL: So I want to urge you not to eliminate that voucher. It is particularly important in the south coast but also in San Joaquin. We need low NOx reductions, as you know, and that truck, the 8.9 liter and the 11.9 liter that Cummins developed, is commercially available. I mean, we are working ultimately towards zero-emission heavy-duty, but we're not there yet, as I mentioned.

We're doing these pilot projects, these demonstrations to discover what we need to know to get there. But the low NOx truck is commercially available and is critical to south coast in beginning to transform fleets to near zero emission. I'm going to put in that plug now so you know where I stand on that.

The other thing I wanted to ask is on hydrogen fueling, what kind of funding is available for that? And we now we have 40 stations, but I drive a hydrogen fueled car. It's a struggle. You have to plan where you're going to fuel, and then you have to know whether that fueling station is up and running because even though we have 40, they're not up and running all the time. And I
do think the fueling infrastructure for hydrogen -- the hydrogen technology is critical. We're not going to see that technology advance without providing better fueling possibilities. Funding for that does it come anywhere from us or is it from CEC?

STCD ASSISTANT DIVISION CHIEF BEVAN: It actual comes from CEC. We are allocated $20 million per year -- up to $20 million per year that can be used to fund hydrogen stations. There are 40 open now, as you mentioned, and I think it's 62 that are --so total of 62 by the time that ones that are under contract now are completed.

The program is aimed at reaching a minimum of 100 stations by 2023, and we've been working with CEC to help them identify the strategy for where those hydrogen stations are placed and to verify the need for those stations. We report -- we provide a report to CEC each year, and our latest ABA report is due out later this month publicly. The goal of those stations initially was to create the backbone network that provided coverage so that you could find a station.

As the network is growing, we're building in redundancy to that network so that if your station is out, you can get to another one easily, so that consumers are getting their fueling needs met.
CHAIR NICHOLS: There have been some pretty exciting announcements recently about partnerships, for example with Shell and Toyota opening up more stations and putting more resources into those stations. So while, you know, we're not in any sense close to a rollout of a full statewide network as we are with battery electric vehicles, it actually is a moving along quite impressively right now.

So just wanted to add that. There's no -- it's always a little bit difficult to make sure that we're being -- should I say not just talking about one form of electric transportation when we talk about electric transportation, but we do, in fact, have a bigger portfolio and a bigger vision for that I think.

BOARD MEMBER MITCHELL: Thank you. That's very useful. Also just want to thank LACI for the work they're doing on I710 and all the work you're doing for electrification and transportation. I've been somewhat involved with I710, brought that issue here a couple of times and continues to be under discussion. Thank you.

BOARD MEMBER SPERLING: Let me just give some quick reactions to a couple of things we heard then my broader comments. You know, the low -- I have to say I'm sympathetic to the low NOx story because, as Chair Nichols just said, you know, this truck -- when we talk
about heavy-duty trucks and trucks, this is going to be a big lift, as Anna said. So we need to keep those options open, and as we go to bio -- you know, we're going to need low carbon biofuels for sure in heavy-duty trucks to some extent. So, you know, keeping low NOx on the table I think with gaseous and liquid fuels I think is important.

Hydrogen stations, I want to make one little comment on that is that, at that famous Sylmar conference, two -- two of the leading providers of hydrogen stations came up to me and said that the changes we made in the LCFS to give more credits for hydrogen stations was a game changer. Each of those companies said we're going to put in 40 stations each because of that, and they said it's going to bring the price of hydrogen down significantly as well. So it's kind of an indication. Sometimes, you know, we think we're smart and clever, but we don't really know how smart and clever. Some turn out to be -- some of these policies really effective in ways that we don't fully anticipate.

So my overall comment is I really want to thank the staff but in a little different way that the sophistication of the staff of all of us has come so far in this transportation area. You know, listening to that presentation and seeing what the new division headed up
by GENGRAS is doing is really impressive. And it's really important because we've all come to appreciate that we can focus on the technology, and that's really important, but even just focusing on the technology means you got to focus on, as a lot of Board Members have said, you got to focus on the consumer, got to focus on the local governments. This is hard.

And that brings me to my main observation.

100 percent sales of EVs in 2035, we are nowhere near being on the path to get that. So if we're serious, we really need to do things quite differently. And so that whole suite of policies was useful, but, again, back to that Sylmar conference, I made a comment there that, when we adopted the ZEV mandate in 2012, I thought okay, gets us up to 15 percent in 2025; job done, and then we transition into using broader policies.

And I commented that I was probably wrong, and Chair Nichols chimed in thank God. Thank God you acknowledge it. But, you know, it comes back. So I am going to focus a little bit on that ZEV mandate because, you know, we talk about market signals, but, in fact, the ZEV mandate creates very strong market signals. I mean, really the ZEV mandate because of the market effect of it creating the credits that can sold is really the only reason Elon Musk and Tesla are in business right now.
They might not acknowledge that fully. They've gotten over -- they've gotten something like $2 billion in credits, mostly from the ZEV mandate, but from the greenhouse gas standard as well. And, you know, the problem is that it hasn't been -- so the problem is the ZEV mandate has not been strong enough to induce other companies to make major investments.

And, you know, we probably can't change the mandate in the next few years, but I think that is a call for action that this can and should play a big role because it does create market signals for the industry, not for the consumer, but for the industry part of it. And it just seems like we need to do that in a very aggressive way. Then, of course there's all the things on the consumer side that you've heard about, and that's all important and all the others.

So the only last though I have is to chime in on the trucks. So we've gained this great increasing sophistication here in dealing with the light-duty market, but we're lagging quite a bit on the heavy-duty side. And I think if there's anything I would suggest to us and I mean all of us, the Board and the staff, is we really need to understand freight better.

You know, I think we've gotten to the point where we can do rules that affect slices of industry in
terms of technology mandate, maybe purchase requirements, but it has to go way beyond that. And, unfortunately, the level of sophistication outside of CARB is not much better or probably is worse. So anyway, I just want to highlight that. And I do want to make one other comment about what we do here is very important for California, but really, it's much more important for everyone else.

And so the ZEV mandate, for instance, China has basically adopted our ZEV mandate and they're pushing it very aggressively. The EU is adopting very aggressive CO2 standards for vehicles, and that is having the effect of inducing massive, you know, much larger investment in EVs.

Hopefully what we'll be -- actually, what was announced this morning I think is really important because it will create the pressure for the car companies to meet, you know, the -- well, the existing standard, but it will make it more real and will induce those investments so that, as Vice Chair Berg said, we'll get other companies besides Tesla making big investments.

So what we do here and, you know, as we think about our policy going forward, we really should be thinking about what makes EVs and low carbon transportation successful, but what also are things that others can imitate as well.
CHAIR NICHOLS: Thank you. Dr. Balmes?

BOARD MEMBER BALMES: Couple quick comments. So I'm the public health member of the Board, and I want to say I totally agree with everything that the transportation engineer member just said. I went to that infamous Sylmar conference this -- earlier this month, and I just want to reiterate what's been said by multiple members of the Board and especially Professor Sperling. I was struck by not only how hard or how heavy the lift will be for passenger ZEVs, but for heavy-duty vehicle ZEVs.

I mean, wow, we're so far away from achieving what we need that I really, A, agree we need to redouble our efforts to figure it out and a pathway. But I think we have to be supportive of low NOx heavy-duties vehicles in the short term because otherwise we're jeopardizing the public health of the citizens of the state.

CHAIR NICHOLS: You've opened up kind of a larger picture, which I just want to reference, which is that we are about cars and fuels. We are practically nowhere with land use policy, which according to what I see we cannot achieve our climate goals or our air quality goals no matter what we do with ZEVs, even if we achieve our goals. So let's start with that understanding.
But in addition to that, as others have mentioned this is also about energy policy and I don't -- I respect the views of the people who want us to move towards low NOx vehicles. Obviously we need to reduce NOx. No question about it.

But we are also on a path as a state because of climate concerns primarily but also for other emergency reasons to want to dramatically reduce the use of gaseous fuels, natural gas or renewable natural gas, and there needs to be a coming together and a meeting of the minds about how this is all going to work because our colleagues in the administration, who have an equal voice in this I would say, at least, are on a path to make sure that there is a no more natural gas being used in homes, in commercial buildings, that pipelines get shut down, that storage gets shut down.

And here we are not only in the low NOx business but also talking about methane capture and the need to get methane. So this is a policy area that needs to be looked at in a more holistic way, and I just personally -- I think we're on a bit of a collision course here at the moment, which is being fueled -- I can't help the cliche --

(Laughter.)

CHAIR NICHOLS: -- by the desire of the natural
gas industry to continually, you know, have a carve out
of every single funding program that exists. And they've
been quite successful at this, and I don't begrudge them
that objective because they are in business and providing
an important service too. But I just -- I think it's an
area where we need to broaden our vision as well as we
have in the past.

BOARD MEMBER SPERLING: Could I just -- I think
the future has to be, you know, renewable natural gas if
it's really done well is essentially zero carbon and
there's low carbon biofuels. So is there a way like with
-- you know, just talking out loud -- the HFC program to
somehow link the low NOx to, you know, low carbon, you
know, nonfossil gas and nonfossil low carbon liquid
fuels?

CHAIR NICHOLS: Well, you're the guy who just
talked about mandates.

(Laughter.)

BOARD MEMBER SPERLING: All right. Let's go. A
reinvention here.

VICE CHAIR BERG: Chair Nichols, if I might
suggest, because this could be a really great
conversation and we're going to need to have that, but in
the interest of time, I think you are going to wrap up so
that we would be able to --
CHAIR NICHOLS: Thank you. It came back to me and in closing I wanted to signal that there was something greater even than the lift that it will take to get us to our ZEV goals. So, with that, I will definitely wrap up this agenda item.

I need to tell you that we have ten people who have signed up for the public comment period. I suspect that our court reporter is going to need a break. No? Yes? Yes. So let's take a ten minute but no longer break and return to the public comment. Thank you.

(Off record: 12:57 p.m.)

(Thereupon a recess was taken.)

(On record: 1:08 p.m.)

VICE CHAIR BERG: Thank you very much. This is Vice Chair Berg, and I'm going to bring us back to order to hear our public comments today. I want to assure the commenters that the Board Members in the back have full access to what is being said by speaker, and I think you'll be seeing people scurrying back to be here on the dais as well. And so why don't we get started, and,

Genevieve Gale, thank you for being here.

MS. GALE: Hello. Genevieve Gale with the Central Valley Air Quality Coalition. I thank you for taking this additional time with us. We really appreciate. I'm here as part of a small contingent of
residents and advocates from the San Joaquin Valley.
There are about ten of us that are here today to shed
light on two issues specific to our region.

One, is a local concern. It concerns 617
implementation in Shafter, especially as it relates to
toxic air contamination from pesticides and fumigants.
The second is regional and relates to the Valley PM 2.5
plan and the concerning lack of funds needed for its
implementation. And we wanted to raise awareness of
these two issues before they're brought to your Board in
a more formal manner because we believe they require the
attention of your Board now, as well as collaboration
between now and then.

So concerning pesticides, we'll hear from
residents and advocates on the issue, but we are thankful
to CARB and the Department of Pesticide regulation for
traveling to Shafter this Monday and making a commitment
on behalf of the state to address community concerns
related to pesticide exposure in the AB 617 community.
We believe this is really big, and we're very
appreciative of that commitment. However, the plans are
due to the Valley Air District in six weeks, and we don't
have anything on paper yet.

So we are incredibly thankful and optimistic,
and we wanted to say that we are expecting DPR and CARB
to act fast and to act strong because time is running short. Concerning the particulate matter plan, as we all know back in January this plan was adopted, and it relied on about $5 billion in investments for its successful implementation. The new state budget is out, and we actually have less money than we were expecting. So not less money than we were hoping for, but actually less money than we were expecting.

So it's looking like we do not have the funds necessary for the implementation of a clean air plan that about 4 million people in the San Joaquin Valley are relying on. So I'm here today to say that we need to roll up our sleeves and find a solution. Some colleagues will speak more about the problems and solutions, but the main priority is that we need a plan B to address this funding gap. And I will pass it on to my friends and colleagues, but appreciate your attention to these issues. Thank you.

VICE CHAIR BERG: Thank you very much. Cynthia, welcome.

MS. PINTO-CABRERA: Hello. I'm Cynthia Pinto-Cabrera, policy associate with Central Valley Air Quality Coalition, and I would also like to thank you for the time to listen to us. So my comments today are revolved around the San Joaquin Valley PM 2.5 plan, but I
also would like to show appreciation and gratitude for all the support the Board has given the San Joaquin Valley in this plan.

So I would like to address some concerns regarding the success of the PM 2.5 plan. Additional emission reduction opportunities, such as stationary sources and agriculture burns should be considered to present the plan from falling short of expectations. One major opportunity lies within the review of stationary sources within the Valley.

Such a review we believe should focus on sources that emit ten tons of direct PM2.5 annually, and these facilities include 27 facilities and corporate operations, five of which are biomass incinerators; five are large natural gas power plants; four of them are large glass manufactures; and seven of the largest oil and gas producers within the valley.

Together these facilities are half of one percent of the total facilities of stationary sources within the Valley, and they equate to 58 percent of PM 2.5 and a 72 percent of NOx emissions within the stationary sources within the area. So we believe that all opportunities must be considered to ensure the success of the plan, as the health and the well being of the residents in the San Joaquin Valley truly depend on
the success of this plan. Thank you.

VICE CHAIR BERG: Thank you very much for being here. Hi, Mark.

MR. ROSE: Good afternoon, Madam Vice Chair, Members of the Board. Thank you for having me. My name is Mark Rose. I'm the Sierra Nevada representative for National Parks Conversation Association. I came here along with CVAC and others to talk about this PM2.5 plan. Hopefully I can provide a little bit more context for what our concern really is.

So as Genevieve mentioned back in January, you all came down the Fresno to meet on this plan, and we really expressed our concern that the $5 billion price tag associated with this for incentive base measures wasn't realistic at the time. And, you know, as we've moved forward throughout the last year, we were really fairly concerned, and we feel like our concerns were justified at the time with this new state budget that's come out.

And just to provide you some background figures, I think this year in 2019 the PM2.5 SIP outlined the need for roughly half a billion. I think it was about around $487 million incentive-based needs, and it looks like we're going to come up 150 if not more -- 150 million if not more short on those funds. I think some of that
still needs to be allocated, but we're definitely not

going to make up for that gap.

Looking forward, for each of the next five
years, that number jumps from about half a billion to
$833 million. So our concern is, you know, if we
couldn't reach that number this year when it was much
less, you know, how are we going to make up for those
funds over each of the next five years when that number
jumps by about 60 percent. And this is why we're really
concerned that, you know, despite having a plan and being
very appreciative of having a path forward, we don't
really have a realistic way to get to -- to meet our SIP
commitments by 2024 or 2025.

I do want to recognize the progress that's been
made on this and really recognize the staff and Board
Members for their willingness to meet with us on this and
push this forward. But that being said I think there's
plenty more that can be done, and, as Genevieve
mentioned, we need a plan B without these incentive
funds. I think, you know, that plan B should include
more -- I think more can come from mobile sources.

We've already talked about ZEV, heavy-duty
trucks, tractors, et cetera, and I think especially more
can come from stationary and area sources, which I
realize is outside the jurisdiction of CARB. However,
you know, the plan itself highlighted this commitment to an aggregate emission reductions, and in the plan it pointed to stationary sources. So, you know, I would just stress do all that you can do to move, you know, the district forward, to move these mobile sources forward so we can really get over the finish line on this.

I won't repeat some of what CVAC mentioned, but I'll just say that we fully back that up at NPCA in terms of specifics that could be included, and, you know, at the end of the day, I think we need more on-the-ground regulations as opposed to relying on these incentive funds that may or may not come. Thank you.

VICE CHAIR BERG: Thank you very much.

MS. DIETZKEMEI: Janet Dietzkemei again. I am going to speak to the urgency of the PM2.5 plan. I have been a part of that plan from its inception about three years ago. I have been to the public meetings. I have spoken. I have participated, and I did this with high hopes.

Those of us who have asthma, our lives are very much impacted especially during the winter months. I wear a monitor, an air monitor, to see what the air quality is and do I have to get out of the air. I have a PM2.5 monitor in my backyard that I check before I go outside of my house. I check the Realtime Air Advisory
Network, called RON, that the district has available for those of us who go on computer, and I see what the air quality is throughout the city before I go out.

In the wintertime, I stay in. PM2.5 level is way too high for me to go out in the winter time. My husband will drop me off if I do venture out right at the door of a store. For the most part, he shops during the winter. And that's not just me. That's thousands of people who live in the Valley and have asthma. And my heart goes out to the children. The children who can't go out to play. They have to stay inside the way I do, or they end up in the emergency room.

Having asthma is not funny. It's scary. Absolutely scary. When you go out and you can't take in air because the lungs aren't working, you can't take in air. It's scary. I am hoping that we can get this plan off the ground so that we can reduce the PM2.5 in our environment in the San Joaquin Valley. As I've said before, everybody is being affected by it.

In the wintertime, the only time I go out is when it is raining. That is when I get out of the house. I go out and I walk in the rain because that's when the air is safe. Please, we need to get this PM2.5 plan up and running for the sake of us in the San Joaquin Valley.

Thank you.
MR. MAGAVERN: Good afternoon.

VICE CHAIR BERG: Hi, Bill.

MR. MAGAVERN: Bill Magavern with the Coalition for Clean Air speaking to you again from your left. Literally for sure, perhaps figuratively.

(Laughter.)

MR. MAGAVERN: I want to thank you for staying to listen to all of us talk about the particulate matter problem in the San Joaquin Valley, and I also really want to commend the commitment that was made recently to include addressing pesticide pollution as part of community air protection in Shafter. And that's clearly what the community has asked for, so appreciate CARB'S responsiveness on that.

At the time that PM2.5 plan was approved, we, of course, supported it but were also concerned about what I considered to be an overreliance on incentive moneys that were -- we were hoping would materialize. And I think now the funding gap that was already identified has grown.

And as I talked earlier in speaking about ZEVs, we haven't really seen enough commitment from the Governor and the legislature to fund pollution reducing programs, and I know there's a lot of different -- a lot of competition for a Greenhouse Gas Reduction Fund, which
is the biggest source, but we saw that the amount for heavy-duty vehicles is way below what CARB projects as the need.

The amount for the farmer program was reduced, and so it's pretty clear that the shortfall has grown, and, in coming years, it's likely to actually grow more. So I think we do need to redouble our efforts to try to obtain that incentive funding, but, at the same time, we do also need to look at making sure we're reducing PM, if that money is not there. And that does mean more regulatory measures, and, on the district side, I think that means addressing stationary sources, like biomass mass burners, as well as agg burning and definitely oil and gas emissions.

I think it also means that CARB needs to step up even further on the mobile source side and try to accelerate the turn over of agricultural equipment, as well as heavy duty vehicles. So we put the responsibility both on the district and on the State Board and would ask you to not think of the PM2.5 plan for the San Joaquin as something that has been done and is successful, but it is something that will continue to need your attention. I know it is on the Board agenda for September, so you can be sure we'll be speaking to you again then. Thank you.
VICE CHAIR BERG: Thank you. Jane, welcome.

MS. SELLEN: Thank you. Madam Vice Chair, Members of the Board, thank you very much for the opportunity to address you. My name is Jane Sellen. I'm codirector of the Statewide Coalition Californians for Pesticide Reform, and I and the following speakers are here to comment on AB 617, specifically, the inclusion of pesticides within the purview of AB 617.

So, first of all, on behalf of coalition, I want to thank CARB very much for your public commitment to include pesticides going forward in within AB 617, and, as you know, this has been a big struggle in Shafter, one of the ten communities that was selected for the first year of AB 617 implementation. The community steering committee has been very clear; they'll make it clear today as well that pesticide reduction measures must be included in the community emissions reduction plan and specifically for those that toxic air contaminates and particularly 1,3 Dichloropropene.

We're engaged in this struggle because what happens in Shafter sets a precedent for the rest of the state for the years that follow this one, and so it's very important. So it's hugely significant to have Kurt as well as DPR Acting Director Val Dolcini travel to Shafter on Monday to be there in person, and Kurt made a
strong public statement that pesticides would be included
and that the San Joaquin Valley Air Pollution Control
District would not be able to exclude pesticides from the
SERP, citing lack of authority.

But right after this statement the SERP that the
district draft -- SERP that the district presented to the
community rejected all of the communities SERP ideas on
pesticides, claiming lack of authority. So we're really
mindful that the clock is ticking. There's only six
weeks to go before this SERP has to be finalized and just
over six months before CARB will be adopting it in
February and is clearly still a gulf between CARB'S
directive on pesticides and the air districts
implementation at the local level.

So along with my gratitude to you for your
leadership and for interceding decisively on behalf of
the community, I also ask that you ensure CARB gets
closely involved now in the SERP development and not wait
until February when it's time to adopt the plan, and,
again, thank you very, very much.

VICE CHAIR BERG: Thank you for coming. Is it
Byanka.

MS. SANTOJO: Yes.

VICE CHAIR BERG: Oh, good. Welcome.

MS. SANTOJO: My name is Byanka, and I am part
of the steering committee in Shafter for the AB 617 and
emphasizing a lot on the pesticide part component. First
of all, how the San Joaquin Valley Air District is not
expanding the seven mile radius that it should. The
committee had been bringing it out for a while, and yet
the air district did not adopt the seven mile radius,
which will include a lot of the sensitive areas like the
Mexican colony that are in the sensitive area with
agriculture.

And also how the air district is not wanting to
give any type of notification, not working with the agg
commissioner to give notification with air toxic
contaminants. That has been affecting the community of
Shafter, and that is the biggest concern for the
residents there. And also how the air toxic contaminant
has not been included in the air emission, and it was one
of the suggestions that was sent out for the SERPs from
the community.

So I hope you take that in consideration that as
community members have been bring it up in the SERPs and
in the monitoring, and, yeah, they're not being included.

VICE CHAIR BERG: Thank you very much for coming
and expressing that to us.

MS. SANTOJO: Thank you. And I'll be
interpreting for the next two --
VICE CHAIR BERG: We really appreciate that.

Thank you very much.

MS. TRUJILLO: Hi. Good afternoon my name is Felipe Trujillo.

VICE CHAIR BERG: Buenas tardes.

MS. TRUJILLO: I'm coming from Shafter. It's a town that's been contaminated. We're asking in coming here and asking for a seven-mile radius expansion from the boundaries that was presented by the air district.

We are in a lot of the dairies, agricultural like almonds, and also we have a lot of diesel fuels passing through the City of Shafter. We have about 200 oil wells in the City of Shafter. We are here to plea for your help. My granddaughter and my husband were affected by the Valley Fever, and that's why I'm here so you can help us is because we have a huge problem in our area.

I lived up in the north. I was in the Bay Area. I sold my house and moved to Shafter area about 15 years ago to rest, and, in the evenings, I wish I could walk around the area but it's so contaminated I can't even walk out. And I really thank you for all your help and hopefully you consider our considerations.

VICE CHAIR BERG: And thank you very much for coming. Muchas Gracias.
MS. MARQUEZ: Good afternoon. My name is Anabel Marquez. I am a member of the Committee For Better Shafter, and I'm here representing the rest of the Committee Members. Even though the time that we have with the air district they haven't been listening to us. It's frustrating that they're not considering any of our opinions. We are mindful and respective on their time, and they're doing whatever they wish just helping the industries.

They already have the amounts set for the SERPs and for the community of Shafter, and there's a lot of obstacles in the community that don't qualify in the city. There's no "yes" on what we've recommended, and our city is so small that we even have eight buses just for the schools, and they're only saying they're going to fix four buses.

It's ridiculous what they're doing to us. It's not fair what they're doing to us. We thought this was the AB 617 was for the community, not for the industry, not for the oil or the agg industry. We need street safer, our air quality better, to at least put green belts around the agricultural, and there's more necessities.

We've come to say that there's a lot of people dying from cancer, lot of people with asthma, Valley
Fever, our family members have passed, they care more about the money wise and the industry. And us as humans what are we worth? Put yourself in our position. We have grand kids, we have kids, and it's hard to tell our family members that you have to -- you have to be strong for whatever disease you have. And seeing them die little by little.

Put yourself in our shoes. Don't see the money see the quality of a human being. Thank you.

VICE CHAIR BERG: Thank you. And thank you very much for translating. We really appreciate that.

MS. JORDAN: Thank you, Members. My name is Julia Jordan. I'm with Leadership Council for Justice and Accountability, and I would like to emphasize what previous speakers have noted, especially about the inclusion of pesticides in community emission reduction plans and ensuring that community input that we've just heard is really what drives the implementation of 617, which is a really powerful -- supposed to be a powerful community driven program.

I want to thank CARB for recently acknowledging this issue in Shafter, and this is really crucial as mentioned before because, you know, what CARB and the local air districts do in year one sets the tone for other communities both now and in the future including
current communities, like Fresno, which has high pesticide use within just a mile of the current boundary and the southwest side, which can easily blow into the current area.

And, similarly, if community concerns are not really meaningfully included now, we, you know, looking at the selection and implementation process for year two, those communities that are being nominated now including the Eastern Coachella Valley won't really appropriately reflect the needs of communities and the state, especially those rural communities who are burden by the public health and intense environmental impacts of pesticide use in the state. Thank you.

VICE CHAIR BERG: Thank you very much, and thank you for coming. We have one more speaker. Mr. Ramos?

Ms. Ramos? Thank you.

MS. RAMOS: Yes, ma'am. Good morning or good afternoon, Board. My name is Breanne Ramos, and I'm the Executive Director of the Merced County Farm Bureau. I represent approximately 1,000 farms, ranches, and dairy families who live and/or work in Merced County.

As it relates to AB 617, I was in a recent discussion with our agg commissioner's office and staff, and they informed me of a monitoring station within Delhi, which is in the northern part of our county, that
is regulated by the Department of Pesticides Regulation.

A study by DPR showed the detections of Telone did not exceed established targets for acute subchronic/chorionic or lifetime exposures, and, in fact, the Delhi monitoring stations lifetime exposure quotient to date is three times lower than the screening level and .10PBB lower than a trigger level for DPR.

In dealing with the PM2.5 plan, we are in need of more incentives to fill the goals presented in your plan. We encourage you to work with our local agg commissioners, the Department of Pesticide Regulation, and organizations such as ours in California Farm Bureau Federation to allow for farming to continue with the PM2.5 standards and 617. Thank you for your time.

VICE CHAIR BERG: Thank you very much for coming. We'll take that one last speaker, and then we need to wrap up for the day so, Denise?

MS. MC COY: Hello. My name is Denise McCoy, and I'm here to speak on the -- what I consider is lack of community involvement in the AB 617 steering committee meetings. I have attended those meetings -- I'm sorry because I had to rush down here before you guys closed. I had attended those meetings, and I asked questions about why some of the areas that had been identified by the CalEnviroScreen why they weren't including in the map
that they had.

They really couldn't give me any clear reason, but -- excuse me. I'm still trying to catch my breath -- but what they did do is stop all public comments. So the meeting lasts from 6:00 to 8:00. What they did allow was you could write -- fill out a question or something on a piece of paper and give it to them within the last ten minutes of that meeting. And then they'll either answer your questions, talk around it, or whatever, but basically your voice is not being heard. You have been silenced at that meeting.

There -- I was also notified that there was a seat open -- there was a vacant seat. I applied for that seat. Excuse me. I'm still trying to get my breath. I was told that there was only one applicant, that was me, I do environmental justice work throughout south Sacramento. I work in south Sacramento. I'm involved in city and county environmental justice efforts in south Sacramento.

But I was contacted and told that there was another applicant that actually lived in this region that they had, you know, marked off, and so they wanted to -- they were going to call Sacramento agg, that's the nonprofit that I work with, and ask questions about me. And I told them that's fine. You can contact the
executive director because I work with her, and I was
told by her that she had never been contacted.

   Also -- let me get it together. I'm still
trying to breathe, you guys. I'm sorry. I was told at
the last meeting, Tuesday, which I wasn't able to attend
because of a family illness. I have a family member
that's in the hospital. So I was told that they were
accepting applications again.

   So here's this phantom second applicant that
works in the area. They didn't pick that person, and I
was told there was only one applicant, and they never got
back to me. So I'm here to object to being silenced and
ignored a second time. I want to thank you very much for
your time, and I'm going to see if I can't catch a
breath.

   VICE CHAIR BERG: Thank you very much, ma'am,
for running over, and I'm going to ask our Ms. Edie if
she'll follow up with you so that we have come to
understand the situation and get some answers, okay? So
Ms. Edie will follow up with you on that, and we have
Board Member Balmes is just going to make a quick
comment, and then I'm going to go to Richard.

   BOARD MEMBER BALMES: I just want to thank
everybody who came up from Fresno and the San Joaquin
Valley to express their concerns both about the PM2.5
SIP. I personally agree that the incentive situation is such that needs to -- we need to have a plan B. And I also agree that we need to be -- to consider ambient pesticides in the Shafter area. So thank you for coming up and make your voices heard, and I heard you. We'll see if other people have as well.

VICE CHAIR BERG: Thank you. Mr. Corey, could you wrap up this part, and then we do have one Board Member to bring up a different item.

EXECUTIVE OFFICER COREY: Yes. Thanks, Vice Chair Berg, and, as Dr. Balmes just indicated, great appreciation for those that just spoke. I mean, the travel of many of them from the valley on to areas of concern, and I think to cut to the chase I'll provide a little bit more briefly on both the PM2.5 and 617 plans. Those are both very valid points that were just made by those representatives.

So to break this down, PM2.5, the SIP plan the Board acted on January earlier this year, really focusing on how we going to achieve attainment of the PM2.5 plan. That plan -- and you all know we had that discussion and action in Fresno it was driven by stationary and mobile actions and incentives played a role to.

But as directed by the Board the Board recognized this is doing to be tough, and we need to
continue to play close attention to it. And the
committment and the direction I received from the Board is
to come back to the Board this September. So we'll be
back in two months, and the objective of that discussion
is how are we rolling out with that plan. And there's
certainly been some successes in terms of the development
implementation of stationary measures, mobile measures,
but no doubt there is an expectation of some additional
funding that didn't happen in the budget.

We need to talk about that, and the plan I'm
doing and the steps I'm taking with staff is to have that
discussion with you all in terms of really what has been
characterized here as plan B. What are additional
options? What do those look like? What are additional
tons? That's the effort that I'm engaged in right now.
It will be coming back to you all in September, certainly
discussing with stakeholders on the way there.

With respect to the 617, and it really was
primarily the comments concerned the Community Emission
Reduction Program that is being developed under 617 in
Shafter and the inclusion of pesticides, which certainly
brought up the Steering Committee and through other
stakeholders, and, as a few of the speakers noted, was
one of the reasons why we have engaged the acting
director of DPR Val Dolcini.
He is working directly with us and accompanied us to the Valley and will continue to work with us and is acknowledging the need to reflect within that Community Emission Reduction program opportunities for pesticide reduction.

So we definitely have more work to do with DBR, more work to do with the local air district because I heard a number of comments that the SERP isn't integrating or they got some comments from the district that they wouldn't go there. We'll be having that conversation.

VICE CHAIR BERG: Thank you very much, and I take from your conversation, too, that we will be working closely with the San Joaquin Valley Air District and certainly pass on our continued involvement and very dedicated interest from a Board level. And so that we look forward to coming back in September with more answers than questions.

EXECUTIVE OFFICER COREY: In deed. Thank you.

VICE CHAIR BERG: Thank you.

BOARD MEMBER TAKVORIAN: I just wanted to appreciate everyone who came today and Mr. Corey's comments. I think that the pesticides issue particularly is critical, and it's a sample of what I think is going to be present in many of the plans where the authority
may not rest with the district, but emission reduction really requires thinking beyond what the district has authority for, and I appreciate that the community is raising that. It's getting raised in many communities, so I think we have to encourage folks to include it all in the plan, understanding that we'll have work to do to bring everyone along.

So I want to just commend you for having brought DPR in, but, regardless of how they respond, it's still an issue that needs to be in the document. Thank you.

VICE CHAIR BERG: Thank you very much. So I'm going to bring this part of the comments to a close and call on Supervisor Serna.

BOARD MEMBER SERNA: Thank you. This is really a matter that's under our agenda item. Matter is not on the agenda but for comment by Board Members. And forgive me if this is redundant, it's already been brought up, but, to my knowledge, it hasn't.

But it's beginning to concern me and perhaps other members of the Board that with the new protocols that are affecting large utilities, mainly PGE in response to wildfire threats, we're seeing this practice of basically shutting down portions of the grid, which is thereby encouraging many households to go rush out and buy generators, and, in some cases invest in large scale
permanently affixed generators for their households.

And given this shift to a response of that nature, I think it's incumbent upon this agency to understand what the air quality impacts are likely going to be and where with regard to this rush on gasoline powered, diesel powered generators, and I don't know if staff has any comment on that, but I think it's something that's definitely in our wheel house.

EXECUTIVE OFFICER COREY: I'll be brief, Supervisor. We actually have been beating with CAPCOA on this issue in terms of one, the planning for it; two, developing some guidance from a local district standpoint and preparing in terms of potential air quality impacts and what those would be and also what opportunities may it present in terms of cleaner generation or storage.

So that's a process we're working through; how many generators are out there? How long do outages potentially last and how? And we've been coordinating with the PUC as well as the potential applications of those black outs. So we're in the middle of that process working with the air districts and others in terms of what those policy recommendations would look like and really characterizing. Put the potential implication from an air quality standpoint are.

BOARD MEMBER SERNA: I appreciate that. Is that
something, Richard, that would eventually come back to
this Board at least as an informational item so that both
the public and the Board are hearing the same thing at
the same time?

EXECUTIVE OFFICER COREY: It can be and will be.

BOARD MEMBER SERNA: Great. Thank you.

VICE CHAIR BERG: Thank you, Supervisor Serna
for bringing that up. And with that and seeing no other
comments I will bring the meeting to a close. Have a
wonderful August, and we'll see everybody in September.

(Thereupon the Air Resources Board meeting
adjourned at 1:50 p.m.)
CERTIFICATE OF REPORTER

I, MICHELLE M. WILSON, a Certified Shorthand Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, Michelle M. Wilson, a Certified Shorthand Reporter of the State of California;

That the said proceedings was taken before me, in shorthand writing, 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 6th day of August, 2019.

Michelle M. Wilson, CSR,
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