APPEARANCES

BOARD MEMBERS:
Ms. Mary Nichols, Chair
Dr. John Balmes
Mr. Hector De La Torre
Senator Dean Florez
Supervisor John Gioia
Ms. Judy Mitchell
Supervisor Ron Roberts
Supervisor Phil Serna
Professor Daniel Sperling
Ms. Diane Takvorian

STAFF:
Mr. Richard Corey, Executive Officer
Dr. Alberto Ayala, Deputy Executive Officer
Ms. Edie Chang, Deputy Executive Officer
Mr. Kurt Karperos, Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
Ms. La Ronda Bowen, Ombudsman
Ms. Stephen Adams, Assistant Chief Counsel
Mr. Michael Benjamin, Division Chief, Monitoring and Lab Division
Mr. Pippin Brehler, Senior Attorney, Legal Office
Ms. Mary Jane Coombs, Climate Change Program Evaluation Branch, ISD
A P P E A R A N C E S  C O N T I N U E D

STAFF:

Mr. Christopher Dilbeck, Air Pollution Specialist, Testing and Certification Section, Monitoring and Laboratory Division, Monitoring and Lab Division (MLD)

Ms. Catherine Dunwoody, Assistant Division Chief, MLD

Mr. Dave Edwards, Chief, Greenhouse Gas Emission Inventory Branch, AQPSD

Mr. Jason Gray, Chief, Climate Change Program Evaluation Branch, ISD

Ms. Jennifer Gress, Legislative Director, Office of Legislative Affairs

Mr. David Hultz, Senior Attorney, Legal Office

Mr. Wes Ingram, Chief, Project Assessment Branch, ISD

Ms. Margret Kim, Senior Attorney, Legal Office

Mr. Angus MacPherson, Manager, Testing and Certification Section, MLD

Ms. Karen Magliano, Chief, Air Quality Planning and Science Division (AQPSD)

Mr. David Mallory, Manager, Climate Change Policy Section, ISD

Mr. Michael Miguel, Chief, Quality Management Branch, MLD

Mr. Johnnie Raymond, Air Pollution Specialist, Climate Change Policy, ISD

Ms. Rajinder Sahota, Assistant Division Chief, ISD

Mr. Floyd Vergara, Division Chief, ISD

Mr. Alex Yiu, Air Pollution Specialist, Program Operations, Industrial Strategies Division (ISD)
APPEARANCES CONTINUED

ALSO PRESENT:

Mr. Alan Abbs, California Pollution Control Officers Association
Ms. Fariya Ali, Pacific, Gas & Electric
Mr. Gerry Barnaby, EGO
Mr. Will Barrett, American Lung Association
Mr. Nathan Bengtsson, Pacific Gas & Electric
Ms. Susie Berlin, Northern California Power Agency, M.S.R. Public Power Agency
Mr. Brian Biering, Turlock Irrigation District
Mr. Danny Breuninger, Mescalero Apache Tribe
Ms. Julia Bussey, Chevron Corp
Mr. Tim Carmichael, SoCalGas
Mr. Brock Costalupes, Modesto Irrigation District
Mr. Jon Costantino, Southern California Public Power Authority
Ms. Chanell Fletcher, Climate Plan
Mr. Roger Gault, Engine Manufacturers Association
Mr. Michael Geller, Manufacturers of Emission Controls Association
Mr. Bob Gonzales
Mr. Jerry Green
Mr. Dan Griffiths, California Municipal Utilities Association
Mr. Miles Heller, Tesoro
ALSO PRESENT:

Mr. Lenny Hochschild, International Emission Trading Association

Mr. Henry Hogo, South Coast Air Quality Management District

Ms. Bonnie Holmes-Gen, American Lung Association

Mr. Alex Jackson, Natural Resources Defense Council

Mr. Shrayas Jatkar, Coalition for Clean Air

Mr. Ryan Kenny, Clean Energy

Mr. Greg Knott, Outdoor Power Equipment Institute

Mr. Gabriel Kompkoff, Chugach Alaska Corp

Mr. Mark Krausse, Pacific, Gas & Electric

Mr. John Larrea, California League of Food Processors

Mr. Daniel Mabe, American Green Zone Alliance

Mr. Bill Magavern, Coalition for Clean Air

Mr. Bruce Magnani, Gerdau Steel

Ms. Christina McCain, Environmental Defense Fund

Mr. Zach Mersch, Mean Green Mowers

Mr. Ted Michaels, Third Party Delivered Energy Efficiency Coalition

Mr. Elmer Moonin, Port Graham Corporation

Mr. Brent Newell, Center on Race, Poverty & the Environment

Ms. Rachel O'Brien, Agricultural Council

Ms. Michelle Passero, The Nature Conservancy
ALSO PRESENT:

Mr. Arjun Patney, American Carbon Registry, American Carbon Registry

Mr. Sean Penrith, The Climate Trust

Ms. Kathryn Phillips, Sierra Club of California

Ms. Tiffany Roberts, Western States Petroleum Association

Mr. Jared Sanchez, Cal Bike

Mr. Brian Shillinglaw, NewForests

Ms. Mikhael Skvarla, California Council for Environmental Economic Balance

Mr. Adam Smith, Southern California Edison

Ms. Sarah Somorai, Honda

Mr. Josh Stark, Transform

Ms. Shelly Sullivan, Climate Change Policy Coalition

Mr. James Sweeney, James Sweeney & Associates

Mr. Andre Templeman, Alpha Inception

Mr. Tim Tutt

Mr. Nico Van Aelstyn, Sealaska

Ms. Amy Vanderwarker, California Environmental Justice Alliance

Mr. Evan Vessels, Vessels Coal Gas, Inc.

Mr. Tom Vessels, Vessels Coal Gas, Inc

Mr. Ernie Villegas, Villegas Public Affairs

Mr. Kevin Walsh, Fresh Air Yard Care
ALSO PRESENT:

Mr. Peter Weiner, Crockett Cogeneration

Ms. Janet Whittick, California Council for Environmental Economic Balance

Mr. Roger Williams, Blue Source
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**Pledge of Allegiance**

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PROCEDINGS

CHAIR NICHOLS:  Good morning, everybody; and apologies for starting a few minutes late here this morning. This is the November 17th, 2016, public meeting of the Air Resources Board. And we will begin, as we always do, with the Pledge of Allegiance to the Flag.

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

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

BOARD CLERK HARLAN:  Dr. Balmes?
BOARD MEMBER BALMES:  Here.
BOARD CLERK HARLAN:  Mr. De La Torre?
Senator Florez?
BOARD MEMBER FLOREZ:  Here.
BOARD CLERK HARLAN:  Supervisor Gioia?
BOARD MEMBER GIOIA:  Here.
BOARD CLERK HARLAN:  Ms. Mitchell?
BOARD MEMBER MITCHELL:  Here.
BOARD CLERK HARLAN:  Supervisor Roberts?
BOARD MEMBER ROBERTS:  Here.
BOARD CLERK HARLAN:  Supervisor Serna?
BOARD MEMBER SERNA:  Here.
BOARD CLERK HARLAN:  Professor Sperling?
BOARD MEMBER SPERLING:  Here.
BOARD CLERK HARLAN: Ms. Takvorian?
BOARD MEMBER TAKVORIAN: Here.
BOARD CLERK HARLAN: Chair Nichols?
CHAIR NICHOLS: Here.
BOARD CLERK HARLAN: Madam Chair, we have a quorum.
CHAIR NICHOLS: Great. Thank you very much.
There's an item on our internal agenda known as Chair's opening remarks. I'd like to think of this as the Chair's monologue.
(Laughter.)
CHAIR NICHOLS: But don't think of it as being quite that exciting. I do want to say a couple words though.
First of all, we do have some logistical things which I will go through first, which is:
We are changing the order of the last two items of the agenda. So the way the agenda works now is first we'll get the Legislative Update, then we'll get the Proposed Amendments to the Evaporative Emissions Requirements for Small Off-road Engines. Then the informational item on Assembly Bill 32 and the Scoping Plan Development. Then the update on the adaptive management process. And last, the Cap-and-Trade Program Update.
So for those of you who are here or will be here primarily for the Cap-and-Trade Program, update, although as you know it's not an item that we're going to be voting on, that will be the last item of the day.

Interpretation services are going to be available for three of our items today: The scoping plan development; the annual cap-and-trade update, and the update on adaptive management. There are headsets available outside the hearing room; and there's an attendant sign-up table, and they can be picked up at anytime.

Madam Translator, would you please repeat that in Spanish.

(Thereupon translated into Spanish.)

CHAIR NICHOLS: Gracias.

Okay. Anyone who wants to testify should fill out a request-to-speak card, and those are available also in the lobby or from the clerk. We appreciate it if people turn them in before the item that they want to speak on.

We will be imposing our usual three-minute time limit on speakers. And so we ask people to abbreviate their remarks and especially not to read from their written testimony if they have written testimony.

Also, required by the rules of this building, to
point out to you where the exits are. They're in the back
of the room or to the sides of the dais up here. And in
the event of a fire alarm, we're required to immediately
vacate the building, go down the stairs, out into the park
across the street, and wait until we get the all-clear
hearing.

I am told that there actually was once a fire
alarm during a board meeting, so just be prepared in case
that should happen.

So, before we launch into the business of the
meeting, I did just want to say a word to our friends here
in the room and those who may be watching us on the Web.
This meeting takes place of course as first meeting in the
year that follows the presidential election. And the
results of the presidential election were a surprise to
most pundits, although not all, and were certainly not the
results that the majority of the voters of California
asked for.

And I'm not here to explain what it all means
because that would be a bit presumptuous. But I have been
asked a number of times by the press and others what does
this mean for California, what does it mean for our
environmental programs, what does it mean for our climate
programs. And I put out a very, very short statement
right after the election, which was also similar to what
the Governor and our legislative leaders have all said in various ways, which is California is still here, we are still governed by the same set of laws, we still have the same constitution in our country, we still have a mandate to clean up the air and very strong directions on our climate programs and we intend to carry on with those.

We do not know yet who the key players in positions in Washington are going to be. Certainly, there were things said during the course of the campaign that were not at all supportive of the direction that California has been taking for these many years, but there's nothing as of yet that's concrete for us to organize around, rally around, or even anticipate other than to do our best, as President Obama has said, to assist in the transition and to try to make it successful. And by successful, we don't mean successful in blocking dismantling the progress we've made. We mean successful in perhaps bringing a slightly different perspective to how we go about doing these things.

So we are pursuing everyone of our agenda items that we were pursuing before the election occurred. And we're still working productively and constructively with colleagues in other states, in other agencies at the federal level, and globally. We have a delegation in Marrakech even as we speak. One of our staff members,
Edie Chang, was in Marrakech briefly and was a part of the California delegation there. California is still looked to for our leadership as a global actor. We're still -- I believe we're now fifth largest economy in the world. That also is not about to change, and we know how heavily dependent that is on our commitments in the areas of clean energy and clean technology and good environment.

So I just wanted to send a small note of calm and reassurance to anybody who may think that anything is going to be different as far as the way this meeting is going to go. We have an exciting year on tap. We had an exciting year last year, and we don't expect that to change. But we are -- we are as determined and perhaps even more determined than ever to face the truly catastrophic potential that we see in what's happening in the physical environment around us, and to do our best to deal with it in a responsible manner as we always have.

So that's it for opening remarks.

I suspect other members during the course of the day or at the end will also want to make comments. We do have time for board member comments at the end of the meeting. So I hope that will happen.

But for the moment, I think we should begin with our update on what happened in the Legislature and what we are looking forward to.
So I will turn to Jennifer Gress.

LEGISLATIVE DIRECTOR GRESS: Good morning, Madam Chair and members. It's a pleasure to be here this morning.

(Thereupon an overhead presentation was Presented as follows.)

LEGISLATIVE DIRECTOR GRESS: My word to characterize 2016 is "triumph."

(Laughter.)

LEGISLATIVE DIRECTOR GRESS: The passage of SB 32 and SB 1383 was nothing short of triumphant.

Furthermore, triumph sounds a lot like Trump. And while his election has cast a pall over progressive climate policy, it nonetheless underscores the importance of our work in the leadership role California must continue to play to reduce greenhouse gas emissions and protect the environment.

Today's presentation will focus on key activities, themes, and outcomes of the work the Legislature undertook on air quality and climate change this year.

--o0o--

LEGISLATIVE DIRECTOR GRESS: In 2016, members of the Legislature introduced, or carried over from 2015, more than 3800 bills and other pieces of legislation. In
the end, more than a thousand bills made it to the
Governor's desk, and the Governor signed 900 into law.

ARB's Office of Legislative Affairs has tracked a
record number of bills and resolutions this year - nearly
600. One hundred forty-four of the bills we tracked were
signed into law, and 20 of these bills prescribe specific
responsibilities for ARB. The 2016 Annual Summary of Air
Quality and Climate Legislation, which is included in your
packet, summarizes each bill that we tracked and includes
a section that summarizes ARB's new duties.

In addition to tracking and analyzing
legislation, ARB participated in a number of hearings and
special events at the local, State, and federal levels on
topics such as sustainable freight, Cap-and-Trade auction
proceeds, incentive programs, and U.S. EPA's most recent
ozone standard.

The budget was a key area of success. The
Legislature approved the majority of ARB's budget
proposals, and the Budget Act authorized 45 positions and
about 6.8 million in contract and equipment funds. These
resources will allow us to strengthen our work on several
key initiatives, including short-lived climate pollutants,
advanced clean cars, and engine standards for heavy-duty
vehicles.

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LEGISLATIVE DIRECTOR GRESS: There were a number of themes or hot tropics that percolated throughout ARB's legislative activity this year, many of which you heard about last year. These included post-2020 climate action, environmental justice, legislative oversight, and the expenditure of cap-and-trade auction proceeds.

We also saw significant legislative activity dealing with issues that were prominent in the news—specific the Volkswagen emissions scandal and the Aliso Canyon natural gas leak.

In the next several slides I'll highlight some of the most significant outcomes in each of these areas.

--o0o--

LEGISLATIVE DIRECTOR GRESS: Post-2020 climate action. Ten years following the passage of AB 32 this was the year for climate action. The two most significant triumphs were SB 32, which establishes the 2030 greenhouse gas reduction target and statute, and SB 1383, which establishes a comprehensive framework for controlling short-lived climate pollutants. I will start with SB 1383.

This bill codifies the targets in ARB's proposed Short-Lived Climate Pollutant Reduction Strategy. Did we have authority to implement our strategy without legislation? Yes. But this bill was significant in three
important ways.

First, the bill represents a compromise with the dairy and livestock industry, establishing a mandate to work with and regulate dairy while delaying emission reduction requirements until at least 2024 and putting in place a number of conditions and requirements that ARB must meet. Much work needs to be done, and we intend to work closely with the dairy industry to ensure any emission reduction requirements are technologically and economically feasible.

Second, SB 1383 establishes a framework to accelerate the development of markets for the biomethane generated from organic waste and manure management at dairies. For example, the bill requires ARB to adopt a procurement policy to encourage biomethane projects. And the Public Utilities Commission must implement five dairy biomethane pilot projects to demonstrate interconnection to the common carrier pipeline system.

Third, this bill embodies a multi-pronged administration-wide commitment to take concrete actions to reduce short-lived climate pollutants. The goals and policies articulated in ARB's proposed short-lived climate pollutant strategy are not ARB's alone, but rather reflect a mandate on the whole administration, including the California Department of Food and Agriculture, the Public
Utilities Commission, the Energy Commission, CalRecycle and others, that this will endure for administrations to come.

To support the goals articulated in that bill, this year's Cap-and-Trade budget appropriated 95 million, including 50 million for CDFA for dairy digester projects, 40 million for CalRecycle to fund waste diversion projects, and 5 million for ARB to fund programs that reduce black carbon from wood smoke.

--o0o--

LEGISLATIVE DIRECTOR GRESS: SB 1383 was a tremendous success, but it was SB 32 that proved to be the defining bill this year. Codifying the 2030 greenhouse gas reduction goal ensures California builds on the work we have done to achieve the 2020 limit and puts the State on a path to meet the 2050 target.

I'd like to highlight two points:

First, as I noted a moment ago, it has been ten years since the passage of AB 32; and in that time, California, principally ARB, has adopted and implemented dozens of programs to reduce greenhouse gas emissions. Not surprisingly, doing so has engendered some opposition. Regulated entities, notably the oil industry, have engaged in a sustained campaign over several years to undermine AB 32 and discredit ARB. And they have been successful in
many ways, as we have faced hostility in the Legislature. This makes the passage of SB 32 all the more gratifying — with ten years of experience implementing AB 32, our political leaders were ready to re-up.

--o0o--

LEGISLATIVE DIRECTOR GRESS: One of the keys to Senator Pavley's triumph in passing SB 32 was her partnership with Assemblymember Eduardo Garcia. As you may recall, SB 32 failed passage on the Assembly Floor last year. This year, Assemblymember Garcia reached out and worked with members of the assembly and key stakeholders to address their concerns and cultivate support for climate action. Out of that effort was borne AB 197, and the passage of SB 32 was contingent on the passage of AB 197.

This slide pictures the signing ceremonies for AB 32 in 2006 on the left and for SB 32 on the right. The differences these photographs reveal are interesting in several different respects. But one thing you can see clearly is the legislative partnership that came together for SB 32: The Senate and the Assembly working together on a common goal, and the involvement of members who represent diverse and urban districts.

I do note, however, that the only woman represented in the photo for SB 32 is now retired.
LEGISLATIVE DIRECTOR GRESS: Another major theme woven throughout many activities this year, in bills, in the budget and simply in awareness and conversation was environmental justice. AB 197, a triumph for environmental justice, includes several provisions aimed at ensuring the State's climate policies also reduce localized impacts of air pollution and promotes what I think of as a show-your-work philosophy.

Specifically, the bill requires ARB to prioritize control measures that achieve direct greenhouse gas reductions and to consider the social cost of carbon.

AB 197 also points back to AB 32, requiring ARB to consider the cost effectiveness of measures included in the Scoping Plan and to minimize leakage.

These provisions are intended to elevate some control measures relative to cap and trade as ARB considers the best path forward to achieve the 2030 target in SB 32.

AB 197 also requires ARB to provide in the scoping plan update the projected reductions in greenhouse gases and air pollutant emissions, along with the cost effectiveness of each measure. A later agenda item today regarding the scoping plan will provide more detail on how AB 197 is being incorporated into the 2030 target scoping
LEGISLATIVE DIRECTOR GRESS: Among other requirements to analyze and postdata, ARB must post the amount of greenhouse gases, criteria pollutants, and toxic air contaminants admitted by each facility that reports to ARB under the AB 32 mandatory reporting regulation, and to illustrate the change in emission levels over time.

These provisions will enable greater access to emissions data that will better inform communities about the emissions occurring in their areas, as well as inform local and State decision-making.

Environmental justice was also prominent in discussions about cap-and-trade auction proceeds.

The Governor signed AB 1550 by Assemblymember Gomez to increase investment in disadvantaged communities, from 10 percent of auction proceeds to 25 percent. Given that 25 percent of California's population lives in the top 25 percent of disadvantaged communities, this bill more closely aligns the minimum level of investment with the population living in those areas, and upholds the original intent and promise of AB 535.

AB 1550 expands funding requirements beyond disadvantaged communities by requiring that an additional 10 percent of auction proceeds be spent for projects that
benefit low-income households or communities. ARB will kick off a public process in January to incorporate these requirements into the funding guidelines for the greenhouse gas reduction fund.

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LEGISLATIVE DIRECTOR GRESS: As with last year, legislative oversight of ARB was a prominent theme, and it showed up in many places.

First, AB 197 had a number of oversight and transparency provisions. It added two legislators as ex officio, non-voting board members, and the bill limits other board members to six-year terms staggered. The timeline in process for staggering the terms has not yet been determined.

To provide additional oversight and transparency for our climate programs, AB 197 created the Joint Legislative Committee on Climate Policies, and requires ARB's Chair to appear each year to report on greenhouse gas, criteria pollutant, and toxic air contaminant emissions.

In addition to AB 197, ARB was the subject of an audit request by Assemblymember Gray regarding the expenditure of auction proceeds. Among other things, the audit sought to understand the greenhouse gas reductions and cost effectiveness of each funded project, how cost
effectiveness was considered in project selection, and
whether the program could have achieved reductions through
other means.

It was later revealed that the audit request was
made at the behest of the Western States Petroleum
Association. And lieu of pursuing the audit, the
Committee rejected -- requested ARB to provide the
information to Assemblymember Gray and the Committee,
which we did.

Finally, the Assembly Transportation Committee
held two oversight hearings on ARB's emission reduction
programs in the transportation sector. These hearings
were contentious at times, and we are continuing to work
to provide the Committee with information in a forum we
fondly refer to as The Matrix.

We anticipate that these oversight hearings will
continue next year.

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LEGISLATIVE DIRECTOR GRESS: Cap-and-trade
auction proceeds was the area where we devoted the
greatest time and resources. In addition to budget
deliberations, the Legislature introduced just under 40
new bills in 2016 related to auction proceeds, also
referred to as the Greenhouse Gas Reduction Fund or GGRF.
With the exception of AB 1550, these bills were held in
the Assembly -- or in the Appropriations Committees and auction proceeds were dealt with through the budget process.

Auction proceeds were lower than the Governor's proposed budget assumed. That, combined with uncertainty about major climate legislation earlier in the year, delayed consideration of the Cap-and-Trade budget until August.

Just before the session ended, however, the Legislature passed AB 1613, which appropriated 900 million in auction proceeds from the GGRF. Note that this 900 million does not include the 60 percent of GGRF monies that were continuously appropriated to transit, high-speed rail, and sustainable communities in affordable housing. ARB received 368 million for low carbon transportation investments and a wood stove replacement program, which represents about 40 percent of the 900 million appropriated.

SB 859, a budget trailer bill that guides the expenditure of GGRF funds appropriated in AB 1613, established new programs and modified others. Of note, SB 859 modified the Clean Vehicle Rebate Project by restricting income eligibility and increasing rebate amounts for low-income consumers until July 1, 2017.

Discussion about whether and how to change the
State's incentive programs for zero-emission vehicles is already underway in the Legislature.

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LEGISLATIVE DIRECTOR GRESS: A prominent issue in the news this year was the Volkswagen emission scandal. As you may recall, VW had been installing defeat devices on some of its 2.0 and 3.0 liter vehicles to cheat the test cycles designed to assess compliance with California's emission standards. Late last month a federal judge approved a $14.7 billion settlement to settle the consumer claims and address mitigation of excess emissions associated with the 2.0 liter vehicles. California will receive about 1.2 billion for projects that mitigate the emissions and support the ZEV market. The settlement will kick off a public process regarding the expenditure of funds, and members of the Legislature have already begun to weigh in.

ARB was instrumental in uncovering the VW scandal, and ACR 112 by Assemblymember Hadley formally commended ARB for its diligent work to uncover the defeat devices.

Finally, to help ensure this type of violation does not occur again, ARB worked closely with Assemblymember Jimmy Gomez on AB 1685 to update penalties for vehicles that violate mobile source emission control
laws.

Of note, the bill increased the maximum penalty to 37,500 per violation, which is consistent with the maximum penalties that U.S. EPA may assess for similar violations.

The intent of this bill is to deter other manufacturers from violating our emission laws, thereby protecting air quality and creating a level playing field for those businesses that do comply with our emission standards.

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LEGISLATIVE DIRECTOR GRESS: Aliso Canyon. As you may recall, in October 2015, the Southern California Gas Company discovered a significant methane leak at its Aliso Canyon natural gas storage facility in Southern California. This leak was finally stopped in February 2016, after approximately 109,000 metric tons of methane had escaped. The Legislature introduced nine bills related to this event, three of which were signed into law.

SB 380 by Senator Pavley prohibits the injection of natural gas into the Aliso Canyon facility until a comprehensive review of the safety of the storage wells is completed and the risk of failure addressed. Recently SoCalGas petitioned regulators to begin injecting natural...
gas into the facility. That decision is pending.

SB 887, also by Senator Pavley, is intended to prevent future natural gas leaks from storage facilities like Aliso Canyon by setting numerous new requirements regarding how State agencies regulate natural gas storage facilities. ARB must develop a continuous monitoring program to detect gas leaks and the presence of natural gas emissions in the atmosphere at such facilities. ARB's proposed oil and gas regulation, which was heard in July and will be presented for your consideration early next year, included similar provisions but will be updated to fully incorporate the additional requirements.

The third bill is Senator Allen's SB 888. This bill requires that any penalties the Public Utilities Commission assesses be sufficient to fully mitigate the climate impacts of a methane leak from a natural gas storage facility, and establishes requirements for the expenditure of those funds.

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LEGISLATIVE DIRECTOR GRESS: Moving on to the election results. Focusing just on California, the Senate had 20 races which produced eight new members. There are 26 Democrats and 14 Republicans. Excuse me. Nine new members.

In the Assembly, all 80 members were up for
election, and we'll be welcoming 22 new members. Here the party balance changed somewhat, with Democrats gaining three seats, resulting in a two-thirds and supermajority in that house.

The racially charged rhetoric Rick that emerged during the presidential campaign, and the fear and disappointment that some are expressing with the election results, have prompted me to examine changes in the Legislature with respect to race and gender.

Looking just at Latinos, Asian and Pacific Islanders, and African Americans, those elections saw an increase in diversity by roughly six members, depending on how individuals identify themselves. Members of these groups will comprise approximately 44 percent of our Legislature. But note they represent approximately 60 percent of California's population as a whole.

With respect to gender, the Legislature lost three women. While women represent 50 percent of Californians' population, they comprise only about 23 percent of members. As it turns out, these results were not unique. Looking back to 2006 when AB 32 was signed, women comprised 31 percent of the Legislature. We've seen a steady decline in women since.

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LEGISLATIVE DIRECTOR GRESS: Looking ahead to
next year, the 2017-2018 regular session convenes on December 5th. I expect issues of environmental justice and oversight will continue next year. Transportation funding will continue to be on the agenda, albeit with unclear prospects.

Cap and trade will be the subject of significant activity with respect to program design, legislation potentially to explicitly extend the program, and the expenditure of auction proceeds, as always.

The scoping plan will be a strong focus of attention, as there is intense interest in measures ARB chooses to achieve the 2030 target.

As I mentioned earlier, ARB's work on the Volkswagen case will continue into next year. We will be working to engage members on their ideas for Volkswagen's ZEV investments and the selection of mitigation projects, and of course we will continue to keep folks apprised of key developments in the case.

Lastly, outreach to the new members will be a focus for ARB as we seek to meet with the new members and introduce them to our work.

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LEGISLATIVE DIRECTOR GRESS: Before closing, I would like to acknowledge my outstanding staff. The Legislative Office is extremely busy for about ten months
of the year, and the work is sometimes stressful. It takes a strong team to get everything done while producing high quality work. I am very proud of and grateful for the work they do.

That concludes my presentation. I'd be happy to answer any questions.

CHAIR NICHOLS: Thank you very much, Jen. Congratulations to you and your staff for a really great year. And throughout the year I certainly heard requests for attention, but also very positive feedback about the work that you and your team did. So I think we need to acknowledge that they played a key role in getting us to where we are today.

I would like to see if there are any Board members who wish to speak.

Yes, we'll start down at the end here with Professor Sperling.

BOARD MEMBER SPERLING: So I joined the Board just after AB 32 was passed. And so it kind of made me a little sentimental hearing about the ten-year history. But I'm not going to be here at the end of the day, so I just want to -- these are going to be my few comments here.

And it's been so impressive. I mean, what happened this past year is great. But really the ten-year
history has been extraordinary, what we've done at ARB, and it's really made me so proud to be part of this organization.

And it's an organization that's so impressive because it's so -- there's two attributes that I've always admired. One, it's grounded in science. We have a lot of technical people. It's really -- these regulations and policies we developed are -- you know, have a lot of science and technical analysis that goes into them.

And the "two" is engagement, how much effort is put into all the workshops and meetings, and the staff -- it's part of the culture of the agency and it's rare. I have not seen that, you know, anywhere else.

And so just the -- kind of this ten-year period, I thought, in the beginning we passed all -- we adopted all these rules, Cap and Trade, Low Carbon Fuel Standards, zero-emission vehicle. We got to 2012 and I thought, job done, you know.

(Laughter.)

BOARD MEMBER SPERLING: Pat ourselves on the back, you know.

And obviously I was way off.

(Laughter.)

BOARD MEMBER SPERLING: But the leadership that ARB has shown over these years, it was always really
important. And now it's in many ways going to be even more important, because in the beginning we were worried about anyone following us, you know, we were adopting these rules and we're going, "Okay, we're supposed to be a model and a leader," but you're not a leader if no one's following you.

But then the rest of the world did come along. And the Paris Accords is a huge accomplishment. And so now the rest of the world -- you know, given what's happening in Washington now, I think the rest of the world is going to look at us even more than before, or at least as much.

And therefore what we do here, it really is so critical, so important. And so I just wanted to say that, because ten years, it's amazing what we've done here in 10 years.

And obviously we have a lot more to do, unlike what I had thought a few years ago.

CHAIR NICHOLS: Thank you for that, Dan. Anybody else wish to comment at this time? It's not necessary but, yes, you may.

Dr. Balmes.

BOARD MEMBER BALMES: Just a brief mention of something that I said to Richard Corey in private. The email that he sent out to staff that the Board members
also received saying pretty much the same thing as the
Chair's monologue that we just have to keep on pushing, I
greatly appreciated that, and I'm glad you're at the helm
at this point. Thank you.

CHAIR NICHOLS: Thank you very much.
Okay. I'm just going to add one other thing, which is not -- Oh, sorry. Excuse me, excuse me.

Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Thank you.
I wanted to congratulate staff. I don't know
that I'd be as triumphal about it.

(Laughter.)

BOARD MEMBER DE LA TORRE: I think the stars aligned. There was a lot of work. But I absolutely want
to thank staff for their hard work and keeping on top of it.

The one thing she didn't say is that most of this work was really pressure packed in that last month. So all this stuff was going on at the same time in the last month, and it was crazy.

And I also wanted to acknowledge the leadership in both houses. What a difference a year made in that regard. To have that much production coming out of both houses was a testament also to both the Speaker and the Pro Tem for their hard work and dedication and commitment.
to all of this. I wanted to say that, because it isn't always the case.

    Thank you.

CHAIR NICHOLS: We didn't do it all by ourselves, hardly.

    No, thank you. That's a really good point. And I haven't detected any slackening of interest in these issues on their part or the Governor's. That's one of the reasons why we can be confident that it's going to be a busy year -- a busy session beginning in January.

    I do want to add just because it's as relevant here as anywhere else - and I didn't open the meeting on this note - but yesterday we received word of the passing of one of the giants of clean air in our country and in the world, and that was Leon billings. Leon was a mentor of mine. He was the leading writer of the original 1970 Federal Clean Air Act as a staff member to Edmund Muskie. He served on the bipartisan and very, very effective Senate Environment and Public Works staff for many years. He headed up that staff. He then followed Senator Muskie to the State Department, and had a distinguished career of his own as a Washington figure who never gave up his commitment to the Clean Air Act or clean air, including dedicating his son or sending off his son, Paul Billings, to be the chief political strategist for the American Lung
Association in Washington.

    Leon was a character, and you'll be hearing more about him. I think there's probably going to be a number of memorials to him along the way. But he was famously grouchy, famously foul-mouthed at times, but also completely passionate about the right of people wherever they lived and whatever their socioeconomic background to breathe clean and healthy air.

    I was also reminded of him when I looked at today's agenda, because he hated the Cap-and-Trade Program. He hated it. He thought it was a completeabdication of his view that everything should be done by direct regulation and as punitive as possible to those who caused pollution.

    He wouldn't have said it quite that way probably, but it's sort of what it amounted to.

    And the fact that he disagreed with me so vehemently about that policy direction, and at the same time was able to remain engaged and to get me to return his phone calls and email messages as recently as last Friday. Just remind me of the fact that these issues are never simple, they're never straightforward, they are always contentious even among people who basically agree with us on the direction and the goals. And so why should it be any different now, right? We'd have to anticipate
that there will be more battles ahead, but the direction
seems to be a good one.

So thanks to all the Board members who also at
short notice often were willing to appear and to speak and
do things that helped make this all possible.

All right. I think we should now move on to our
next item of business, which is the proposal to amend some
regulations that deal with evaporative emissions of small
off-road engines. My notes here say that they are
referred to as SORE. I've never heard them referred to as
SORE, and I'm not going to do that in this meeting either.
So it may take a little longer, but these are small
off-road engines. You saw some of them out in the
courtyard if you came in the front door this morning.
Examples of some of the kinds of equipment that we're
dealing with.

They are significant source of reactive organic
gas emissions statewide. And controlling them is an
important element in meeting our standards for ozone as
well as other goals in the Mobile Source Strategy. They
have been regulated since 2003. But since that time the
staff has identified a number of issues relating to
implementation and enforcement of the 2003 rules. And so
in keeping with our practice, we've gone back and looked
at what was good and what was not so good and come up with
some proposals that will address some of the near-term problems as well as to harmonize with federal regulations in a number of areas.

But the fact remains that over the next 15 years or so, this equipment needs to become much cleaner overall if we're going to meet our goals and needs with respect to air quality and climate. Zero-emission engines are a fact in this area as well as others. There's already electric lawn and garden equipment in both commercial and residential use, as you saw in some of the equipment that's highlighted here today. And so I encourage any of you who haven't already done so to go check out what's available and learn from the people who are there to staff the various booths or displays in this showcase.

Now I will turn it over to Mr. Corey to introduce the item.

(Thereupon an overhead presentation was Presented as follows.)

EXECUTIVE OFFICER COREY: Yes, thanks, Chair Nichols.

Small off-road engines are spark-ignited engines rated at or below 19 kilowatts used to power lawn and garden equipment, portable generators, and other types of equipment. There are approximately 16.5 million pieces of this type of equipment in California in 2016, which
produce about 45 tons per day of reactive organic gases.

ARB has conducted an extensive testing in two validation studies to assess evaporative emissions from this equipment since the adoption of the regulations in 2003. These validation studies suggest over 50 percent -- 50 percent of the small off-road equipment sold in California since 2008 do not meet the applicable diurnal emission standards.

Today staff is proposing amendments to our existing evaporative emission regulations to address the low compliance rate observed in the validation studies. The amendments include improvements to the certification procedures, strengthening the current enforcement provisions and update to the certification fuel used in the test procedures to represent commercially available gasoline, and alignment of aspects of ARB's requirements with those of the United States Environmental Protection Agency to reduce costs.

I'd now like to ask Christopher Dilbeck of our staff to provide the presentation.

Chris.

AIR POLLUTION SPECIALIST DILBECK: Good morning Chair Nichols and members of board. It's my pleasure today to present staff's proposed amendments to ARB's small off-road engine evaporative emissions regulations.
Throughout the presentation we will be using the term "SORE" as shorthand for "small off-road engines. And I'll have to ask you to excuse me for that, Chair Nichols.

(Laughter.)

Today's presentation will cover the issues that require regulatory action, the produced regulatory amendments intended to mitigate the issues identified by staff, a vision for achieving significant additional emissions reductions from SORE to meet air quality and climate goals, and finally a summary of the proposed amendments and staff's recommendation.

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AIR POLLUTION SPECIALIST DILBECK: ARB staff has conducted a comprehensive review of the current SORE evaporative emissions regulations, and has concluded that they are falling short of the projected goals. The primary issue is compliance with existing emission standards. ARB test results suggest less than half of SORE in California meet the applicable emission standards. The high in-use emission rates, combined with a compliance testing process that severely limits ARB's ability to take enforcement action, results in emissions in excess of the projected amount. The certification fuel for SORE evaporative emissions no longer matches gasoline sold in California, potentially leading to underestimates of
real-world emissions from SORE.

Finally, although ARB and U.S. EPA have similar fuel tank testing requirements, manufacturers must conduct two separate sets of certification tests.

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AIR POLLUTION SPECIALIST DILBECK: Staff has developed a proposal for amendments to the SORE evaporative emissions regulations that we believe will address the four issues outlined on the previous slide.

Staff has worked closely with industry, and in fact, the proposal incorporates a number of their suggestions. Staff's proposal will increase compliance with the emission standards by requiring all SORE to meet the existing emission standards and strengthening the compliance testing procedure to facilitate enforcement of the standards. It will require E10 certification fuel to match gasoline currently sold in California.

Staff's proposal will also align ARB's fuel tank test procedure with U.S. EPA's to provide industry the option to conduct one streamlined set of tests that will be acceptable to both, agencies saving manufacturers time and money.

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AIR POLLUTION SPECIALIST DILBECK: SORE are spark-ignition engines rated at or below 19 kilowatts.
Examples of equipment that is covered in ARB's SORE regulations include residential lawn and garden equipment, such as lawn mowers and string trimmers, shown in the blue box; commercial lawn and garden equipment, such as riding mowers, shown in the green box; and other utility equipment such as generators and specialty vehicles, shown in the violet box, all of which are outlined with a thick black line.

Equipment types that use SORE and are primarily used for farming or construction, such as large chainsaws and welders, shown in the red box, are federally regulated and not subject to ARB's SORE regulations.

The federal Clean Air Act preempts California from regulating those equipment types.

It is important to note that SORE are not used in licensed on-road vehicles, off-road motorcycles, ATVs, boats, snowmobiles, or model equipment, as those categories are regulated separately.

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AIR POLLUTION SPECIALIST DILBECK: SORE emit pollutants both during and after operation. Exhaust emissions during operation are obvious because you can see and smell them. But there are also evaporative emissions when an engine is running. Evaporative emissions that occur while an engine cools after operation are referred
to as hot soak emissions, and those that occur due to
daily temperature cycling are referred to as diurnal
emissions.

The primary sources of evaporative emissions are
fuel hoses, fuel tanks, carbon canisters, carburetors, and
the connections linking these components together.

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AIR POLLUTION SPECIALIST DILBECK: ARB adopted
the first evaporative emissions regulations for SORE in
2003, including running loss control requirements and
diurnal emission standards for engines with displacement
greater than 80 cubic centimeters, typically used in lawn
mowers and other non-handheld equipment, and fuel tank
permeation emission standards for smaller engines
typically used in string trimmers and other handheld
equipment.

U.S. EPA adopted evaporative emission regulations
for SORE in 2008, covering running loss control and fuel
tank and fuel line permeation.

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AIR POLLUTION SPECIALIST DILBECK: Prior to the
adoption of ARB's regulations in 2003, evaporative
emissions from SORE were not regulated by any state or
federal agency. ARB's testing suggested average
uncontrolled emissions from walk-behind lawn mowers of
approximately three grams of hydrocarbons per day. The hydrocarbon compounds emitted from SORE are typically highly volatile and include toxic compounds such as benzene.

To allow manufacturers time to redesign products, the implementation of the diurnal emission standard for lawn mowers was phased in from 2007 through 2009, gradually becoming more stringent. A standard of 1.3 grams per day became effective in 2007.

In 2009 the standard was fully phased in at 1.0 grams per day, where it remains today.

For comparison, the green line shows the hot soak plus diurnal emissions standard for passenger cars since 2000. Although emissions of 1 gram per day for a lawn mower may appear to be inconsequential, one model year 2016 lawn mower produces as much evaporative emissions as three model year 2016 cars.

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AIR POLLUTION SPECIALIST DILBECK: In the year 2000, total evaporative emissions from SORE were estimated at 47 tons of reactive organic gases, or ROG, per day. ROG are organic gases including hydrocarbons and other compounds that contribute to the formation of ground-level ozone and photochemical smog.

At the time of the 2003 rulemaking, uncontrolled
SORE evaporative emissions were projected to increase to 52 tons per day in 2010 and 58 tons per day in 2020. After implementation of the regulations began in 2006, evaporative emissions from SORE were projected to decrease to 38 tons per day in 2010 and 25 tons per day in 2020, shown by the green curve. The expected benefit of the regulations are indicated by the blue shaded area. ARB and industry designed validation studies to ensure the expected benefits were actually being achieved.

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AIR POLLUTION SPECIALIST DILBECK: ARB typically requires performance testing in a sealed housing for evaporative determination, or SHED, as the only pathway to demonstrate compliance with diurnal emission standards. In contrast, ARB SORE regulations provide two options for certifying greater than 80 cc engines: Performance and design. The two options are a result of the compromise between ARB and industry when drafting the regulations in 2003. ARB initially proposed that SORE certification would be strictly performance-based, but industry expressed concerns about SHED testing costs and proposed design certification as an alternative during the 45-day comment period leading up to the Board hearing. The 2003 regulations assumed that, regardless of
the certification pathway selected, equivalent emissions reductions would be achieved.

The adopted regulations represented a compromise between ARB and industry by allowing both performance and design certification, and were the first ARB regulations ever to allow a design certification option.

For performance certification, a manufacturer assembles the evaporative system and tests the assembled unit in a SHED to ensure its diurnal emissions are below the emission standard. When using the design certification option, equipment manufactures use individually certified fuel lines, fuel tanks, and carbon canisters to assemble the evaporative system, but do not measure the emissions of the assembled unit. Current rules allow them to assume the assembled equipment will meet the diurnal emission standards. The validation studies were designed to evaluate this assumption.

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AIR POLLUTION SPECIALIST DILBECK: The validation studies were designed together by ARB and industry as a condition of allowing the design certification option, and were defined in the 2003 regulations. Diurnal emissions of SORE sold in California were measured at ARB and industry laboratories and compared to the emission standards.
The first validation study included model year 2008 through 2010 equipment, and was intended to gauge compliance with the emission standards early in their implementation.

The second validation study included model year 2013 through 2015 equipment, and was intended to gauge compliance after implementation of the emission standards was complete.

Forty-nine design certified and ten performance certified units were tested, for a total of fifty-nine. The goals of the validation studies were to assess whether the expected emissions reductions were being achieved and whether ARB should continue to allow design certification.

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AIR POLLUTION SPECIALIST DILBECK: We compared compliance rates reported by manufacturers with those observed by ARB during the validation studies. All of the equipment tested was expected to meet the diurnal emission standards based on certification data submitted to ARB by manufacturers. However, only 40 percent of the performance-certified engines tested for the validation study in 2013 through 2015 were compliant, and only half of the design-certified engines passed. From this comparison, it looks like design-certified units did
better overall than performance-certified units.

But if we compare the corresponding emission rates, as shown here, we see something else. The test results for performance-certified units in the 2013 through 2015 validation study were on average 8 percent higher than the emission standard, and design-certified units were on average 117 percent above the emission standard.

So while performance-certified equipment failed more often in these years of the validation study, the emissions impact from failing design-certified equipment is much greater because it fails by a larger margin, perhaps because design-certified equipment does not account for all potential sources of emissions.

The data suggest that gross emitters, all of which were design certified, produce approximately 93 percent of excess emissions.

Based on the results of the validation study, it’s clear that ARB must have the ability to take enforcement action against manufacturers of failing performance- and design-certified equipment, and adopt measures to mitigate the emissions impact attributable to design-certified equipment.

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AIR POLLUTION SPECIALIST DILBECK: It is clear
from the validation study results that neither performance
nor design certification is enabling ARB to meet its
overall emission reduction goals for SORE, and the
emissions impact of failing design-certified engines is
much greater. The Board must now decide how to respond to
these results.

    The first option is to eliminate design
certification and make the necessary changes to facilitate
enforcement of the diurnal emission standards. This would
provide the greatest assurance that the expected emissions
reductions are being achieved. But it would also force
all manufacturers, even those who have demonstrated their
ability to produce design-certified engines that comply
with the diurnal emission standards, to use performance
certification for their greater than 80 cc engines.

    The second option is to retain design and
performance certification with improvements and add
accountability by requiring all greater than 80 cc engines
to comply with the diurnal emission standards.

    The third option is to make no changes to the
certification options and continue to allow manufacturers
to produce engines with no regard for their total
emissions.

    Staff recommends the second option because it
does not punish the good actors, and gives ARB the ability
to enforce the emission standards.

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AIR POLLUTION SPECIALIST DILBECK: ARB must be able to address noncompliance to ensure emission reduction goals are achieved. The biggest challenge ARB faces in addressing noncompliance is that the diurnal emission standards cannot be enforced for design-certified engines. But there are challenges in addressing noncompliance of performance-certified engines too.

As I mentioned previously, a manufacturer tests one engine in a SHED for performance certification and submits the data to ARB in a certification application. Once certified, ARB may conduct compliance testing. However, compliance testing requires five engines compared to the one engine required for certification. This imbalance between certification and compliance testing limits the amount of compliance testing ARB can perform with existing resources. The imbalance is made worse by a provision that allows engines to have emissions up to 50 percent above the emission standard before they fail a compliance test.

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AIR POLLUTION SPECIALIST DILBECK: Another item requiring regulatory action is the current certification test fuel, which does not reflect gasoline currently sold
in California. When the SORE evaporative emissions regulations were adopted in 2003, Phase 1 California reformulated gasoline sold at California service stations contained no ethanol.

From 2004 through 2009, Phase 2 reformulated gasoline contained 6 percent ethanol; and since 2010, Phase 3 reformulated gasoline has contained 10 percent ethanol.

Fuel containing ethanol has a greater tendency to permeate fuel tanks and fuel hoses than fuel without ethanol. So the use of E10 fuel can increase evaporative emissions.

Since the regulations went into effect in 2006, ARB's SORE certification test fuel has contained no ethanol. As a result, the fuel currently used for SORE evaporative emission certification testing is no longer representative of the current fuel used in SORE statewide, potentially leading to an underestimate of emissions.

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AIR POLLUTION SPECIALIST DILBECK: The fourth issue staff has identified that requires regulatory action is the difference in ARB and U.S. EPA fuel tank testing requirements. Here we compare those requirements, which are similar but result in separate testing and higher costs for manufacturers. Differences between the
requirements include the number of tanks that must be tested, preconditioning temperature, the test fuel, and the durability tests. Another difference is that fuel cap emissions have to be considered for U.S. EPA either by testing fuel cap -- fuel tanks with fuel caps, testing fuel caps separately, or using a default permeation rate for the fuel caps. But fuel cap emissions are not currently accounted for in ARB certification.

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AIR POLLUTION SPECIALIST DILBECK: Now we will walk through these four elements of staff's proposal, mentioned previously, to address the issues identified with the current regulations.

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AIR POLLUTION SPECIALIST DILBECK: Staff believes the most important provision in the proposed amendments is requiring all SORE with engine displacement greater than 80 cubic centimeters, including design-certified engines, to comply with the existing diurnal emission standards. Adoption of this provision will ensure that ARB can uniformly enforce diurnal emission standards for all greater than 80 cc SORE under its authority in California.

Staff's proposal will retain the two certification pathways, preserving the flexibility that manufacturers desire to choose the method by which they
certify their engines will meet the diurnal emission standards. The proposal will also maintain the existing diurnal emission standards.

Bond requirements are needed for manufacturers who do not have sufficient long-term U.S. assets to ensure that ARB can collect penalties when noncompliant evaporative families are identified, even if the manufacturer stops selling SORE in California or goes out of business. Requiring all greater than 80 cc SORE to meet the diurnal emission standards, together with the strength and enforcement provisions I will discuss next, will greatly increase compliance with the diurnal emission standards.

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AIR POLLUTION SPECIALIST DILBECK: Staff proposes to strengthen the current enforcement provisions by using SHED testing to determine compliance for all greater than 80 cc SORE. The proposal will expedite compliance testing in a number of ways. It will correct the imbalance between certification and compliance testing requirements by allowing ARB to test one engine for compliance. ARB would retest an engine if compliance testing results exceed the diurnal emission standard by less than 5 percent. If the engine passes the retest, those results will replace the first test. However, if the engine fails
a second time, it will trigger a process requiring the manufacturer to test five engines randomly selected by ARB, after which a compliance determination will be made.

Staff also proposes to expedite compliance testing by omitting the 140-day preconditioning period prior to testing.

These time-saving measures, along with the screening program staff will begin, will allow ARB to conduct compliance testing on a greater number of evaporative families with the same amount of resources, identify noncompliant evaporative families more quickly, and halt excess emissions from engines that do not meet the diurnal emission standards.

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AIR POLLUTION SPECIALIST DILBECK: One of the guiding principles for staff while developing a proposal to address the issues with the current regulations has been ensuring the proposed amendments will enable the expected emissions reductions to be achieved without imposing unnecessary costs on compliant manufacturers.

While we have said much about the failures observed in the validation studies, approximately 50 percent of the manufacturers represented in the validation studies had compliant equipment. The proposed amendments minimize additional testing costs for these manufacturers.
and retain the two certification pathways to allow compliant manufacturers flexibility when certifying their evaporative families.

Compliant manufacturers can also carry over data for an evaporative family from one year to the next with Executive Officer approval when the family has not changed. This allows for faster recertification and reduces testing costs.

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AIR POLLUTION SPECIALIST DILBECK: Staff proposes to require certification test fuel that contains 10 percent ethanol beginning in model year 2020. This will provide three years of lead time, which is consistent with other ARB regulations.

Certification test fuel containing 10 percent ethanol is already required for exhaust certification starting in model year 2020. So beginning in 2020, the certification test fuel for all SORE emissions will be consistent with Phase 3 gasoline currently sold at California service stations.

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AIR POLLUTION SPECIALIST DILBECK: Because fuel that contains ethanol may produce higher diurnal emissions than fuel that does contain ethanol, staff tested SORE purchased at retail stores in 2014 using the proposed E10
certification test fuel. The equipment includes various types of lawn and garden equipment and generators. Seventeen greater than 80 cc units were tested, including some model year 2013 and 2014 units from the validation studies. Overall, 13 of the 17 units met the diurnal emission standards.

Not surprisingly, passing rates for performance-certified equipment were higher than for design-certified equipment. These test results suggest both the requirement to use E10 fuel for certification testing, and the proposed phase-in period for its use are reasonable.

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AIR POLLUTION SPECIALIST DILBECK: To resolve the differences between ARB's and U.S. EPA's fuel tank test procedures, staff proposes an optional streamlined fuel tank testing process that could allow one set of fuel tanks to be tested for certification by both ARB and U.S. EPA.

This optional streamlined process would combine elements of the two sets of requirements to ensure there is no decrease in stringency versus testing for either ARB or U.S. EPA.

This proposed process could save both time and money for fuel tank manufacturers, and will better
represent real-world emissions from SORE fuel tanks.

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AIR POLLUTION SPECIALIST DILBECK: There will be direct costs associated with the proposed amendments for manufacturers. Individual tests may cost more and additional testing will be required under the proposed amendments.

Other costs associated with certification are those for securing bonds. Staff estimates the maximum retail price increase per unit to be $3.68, assuming all costs over five years are averaged across all engines.

This price increase also includes manufacturer, distributor, and retailer markups totaling 75 percent on top of the direct costs to manufacturers.

In terms of a percent increase versus the current retail price, an increase of $3.68 would range from a 0.1 percent increase for a $5,000 commercial zero-turn riding mower to a 5.3 percent increase for a low-end $70 string trimmer.

The proposed amendments will capture the originally projected evaporative emissions reductions from the 2003 regulations through increased compliance, resulting in environmental and health benefits.

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AIR POLLUTION SPECIALIST DILBECK: The proposed
amendments are the result of extensive discussion between ARB staff and stakeholders. The amendments being proposed today reflect eight years of collaborative ARB-industry testing and over a year of public rule development. Staff held two public workshops to discuss the proposed amendments, formed a working group to discuss emissions mitigation opportunities, and met with individual manufacturers and trade associations on more than 20 occasions to share the validation study results and discuss staff's proposal and their ideas and concerns.

Throughout the rulemaking process, industry has expressed numerous concerns with staff's proposal. A number of ideas from industry are incorporated in the proposed amendments, and staff made numerous changes to the proposal presented at the most recent workshop based on concerns expressed by manufacturers and trade associations.

Despite these changes, industry continues to have concerns with staff's proposal, and have asked staff to make additional changes, including the removal of key elements of the proposal. Staff was proposing 15-day changes to further accommodate industry's requests, but must retain the proposed requirement for all greater than 80 cc SORE to meet the diurnal emission standards.

The accountability this requirement provides is
critical for achieving not only expected emissions reductions, but also further reductions in the future.

Industry may testify today to express how difficult it will be for them to comply with staff's proposal, and we know those concerns are sincere. However, we have to ensure compliance with existing emission standards before we can pursue further reductions from this category.

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AIR POLLUTION SPECIALIST DILBECK: Staff received approximately 46 suggestions for changes to the proposal from industry during the 45-day comment period, and had nine meetings with industry in the past several weeks to discuss their suggestions. Staff proposes to make changes to the proposal or provide clarification based on 40 of industry's 46 suggestions. The proposed 15-day changes include modification to the requirements for fuel caps, fuel lines, and carbon canister purging; editorial changes; and clarification of elements of staff's proposal. These changes will reduce costs for manufacturers, resulting in an estimated $2.00 per unit retail price increase.

Staff also proposed to make changes to the reporting requirements to include quarterly sales reports for zero-emission SORE equipment, quarterly sales by
engine family and fuel tank volume for spark-ignited engines, and component and equipment manufacturers' quality assurance and quality control plans.

Staff believes the 15-day changes outlined here will improve aspects of the proposed amendments and reduce costs without hindering ARB's ability to ensure emissions reductions are achieved.

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AIR POLLUTION SPECIALIST DILBECK: Because of California's ongoing air quality challenges, additional emissions reductions will be needed from SORE beyond those projected in 2003.

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AIR POLLUTION SPECIALIST DILBECK: ARB's Mobile Source Strategy, released in May of this year, outlines several targets to help California achieve its air quality, climate, and health risk goals. Those targets include an 80 percent reduction in hydrocarbon and oxides of nitrogen emissions from all mobile sources in the South Coast Air Basin by 2031, and a 40 percent reduction of greenhouse gas emissions by 2030.

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AIR POLLUTION SPECIALIST DILBECK: SORE are a significant source of ROG and NO\textsubscript{x} emissions, as shown in this chart. In 2016, SORE emissions are about 73 percent
of those from light-duty passenger cars in the South Coast Air Basin. While emissions from passenger cars are expected to decrease as a result of existing regulations, including California's Advanced Clean Cars regulation, SORE emissions are not expected to change significantly without new, tighter emission standards. SORE emissions are projected to exceed those from passenger cars in the early 2020s and to be about 2.3 times those from passenger cars in 2031.

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AIR POLLUTION SPECIALIST DILBECK: The amendments being proposed today are needed to increase compliance with existing evaporative emission standards. Meanwhile, staff has begun acquiring engines from manufacturers for compliance testing. There are currently six evaporative families being tested or scheduled for testing.

Staff will also begin an active screening program to identify gross emitters, and will begin streamlined compliance testing when the amendments become effective.

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AIR POLLUTION SPECIALIST DILBECK: There is significant work that remains to further reduce exhaust and evaporative emissions from SORE beyond the levels expected based on the existing standards.

Staff believes a transition to quiet,
zero-emission SORE equipment, like that shown here and in
the showcase outside the auditorium, will be an essential
part of meeting the hydrocarbon and NO\textsubscript{x} emission reduction
goal in the Mobile Source Strategy and the ambitious new
greenhouse gas emissions target set by Senate Bill 32.

Staff will perform a technology assessment to
study the availability, cost, and performance of
zero-emission equipment as compared to spark-ignited
equipment, building on an earlier assessment conducted by
staff in 2004, and using information garnered from lawn
and garden equipment exchange programs conducted by air
districts over the past 20 years.

Staff will return to the Board in 2018 to report
on this technology assessment.

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AIR POLLUTION SPECIALIST DILBECK: Staff will
also return to the Board to propose amendments to achieve
the needed emissions reductions from SORE. Staff will use
the findings of the zero-emissions technology assessment,
an updated population and activity and emissions
inventory -- excuse me -- an updated population and
activity survey and emissions inventory, and a technology
assessment for spark-ignited engines to determine whether
cleaner spark-ignited engines can contribute significantly
to achieving necessary emissions reductions from SORE.
Staff will begin -- or will develop tightened exhaust and evaporative emissions standards and develop strategies to ensure a significant increase in introduction of zero-emission SORE equipment in California.

Staff are committed to return to the Board by 2020 with these amendments.

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AIR POLLUTION SPECIALIST DILBECK: To summarize today's presentation, the proposed amendments will increase accountability for manufacturers to produce engines that are compliant with current SORE evaporative emission standards. Increased compliance testing by ARB will ensure that SORE sold in California are compliant with the standards, and the updated certification test fuel will reflect gasoline currently sold in California.

Additionally, the proposed amendments will not unfairly penalize manufacturers currently producing emissions-compliant SORE. The costs of the proposed amendments are expected to be modest, with an estimated retail price increase of $2.00 per unit.

Therefore, staff recommends adoption of the proposed amendments with 15-day changes.

CHAIR NICHOLS: Okay. Thank you.

We have a list of 15 witnesses who signed up on this item. So are we projecting it on the screen? I know
sometimes we do, so people can see where they are on the
list.

Henry Hogo is first. And we have a couple people
who've asked to organize a presentation and yield time.
So we'll do that when we get there.

Mr. Hogo.

MR. HOGO: Good morning, Chair Nichols and
members of the Board. Henry Hogo with the South Coast Air
Quality Management District.

The South Coast District staff is in full support
of the proposed amendments to the -- and I have to say
small off-road engine because we use SORE a lot.

(Laughter.)

MR. HOGO: As you're aware, we're focused on NO\textsubscript{x}
reductions to meet air quality standards. However, in our
analysis for attainment of the ozone standards, we still
need some VOC reductions in order to get there. But more
importantly, we're -- we want to continue to see reduction
in gasoline evaporative emissions, because there's air
toxics exposure to the public and continue to see that.

When we had our air measurements program as part
of our multiple air toxics exposure study, we found that
benzene and butadiene, two of the key components of
gasoline emissions, are about 16 percent of the total risk
in the South Coast Basin. So it's very important that we
see further reduction from VOC emissions.

And I know the industry is asking that you consider this item as part of the 2018 proposed set of amendments to the overall regulation. Because of the first-line exposure we believe that we need to adopt these amendments today. So we urge your board to adopt the regulations -- or proposed amendments as they're proposed today.

And we look forward to working with you on the future regulations.

Thank you.

CHAIR NICHOLS: Thank you.

Mr. Mabe.

MR. MABE: Good morning, Chair Nichols and ARB Board. My name is Daniel Mabe, and I am the founder and president of the American Green Zone Alliance. And we are in support of 16-10-2.

I just want to introduce who the American Green Zone Alliance is. Our mission is to reduce carbon emissions from the grounds maintenance industry and improve working conditions for the landscape maintenance workforce and surrounding communities. AGZA helps transition traditional carbon-powered grounds maintenance operations to zero and near-zero operations.

A few ways that we do this: We advocate for
policies and practices that address the many health and
environmental issues of small off-road engines; we train,
educate, and accredit grounds crews and managers as
AGZA-accredited service providers; and we also partner
with private and city property owners to establish
dedicated areas maintained zero- to near-zero-emission
operations as certified green zones.

Most recently, we celebrated the creation of the
nation's first AGZA green zone city down in South
Pasadena. This is dedicated all-electric, zero emissions
for routine maintenance, and it's a total of 41
serviceable acres.

And we are also putting the finishing touches on
the nation's first AGZA-certified golf course using
electric equipment; and then ARB's own Tier 4 compliant
tractor options.

We just want everyone to know that the equipment
out there is actually up to the task of scaling to
multi-acre operations.

AGZA applauds the advances in batteries and
industrial design that parallels the electric car industry
from all of the manufacturers represented here today. But
most notably we've been able to work with all-electric
manufacturers such as Mean Green, Green Works, and have
done some really good work with the Stihl equipment for
our dedicated green-zone areas. We can definitely confirm
that the latest battery-electric tools have commercial
power, performance, and run times.

We also want to introduce a technology working
with an aerospace company. It's a software that actually
monitors the battery, motor, power, speeds, and run times
of the equipment. It also tracks in real-time emission
reductions and will give you a readout of how much it
costs to operate the equipment on that very same day.

We hope that this technology will be adopted some
day to incentivize participation in the California
cap-and-trade economy. We are very honored to be here and
we really thank you for your dedication to zero-emission
and near-zero-emission technology for the grounds
maintenance industry.

Thank you.

CHAIR NICHOLS: Thanks. And thank you for
telling us about the work of your organization. It's very
interesting.

Gregg Knott, representing the Association of
Outdoor Power Equipment, is next up. And you are also
speaking on behalf of at least two other people, I guess.
So --

MR. KNOTT: That's correct, Madam Chair.

CHAIR NICHOLS: -- I assume you're asking for all
of their time. So that would be nine whole minutes if you
wish to use it.

    MR. KNOTT: Yes, Ma'am, they're prepared to yield
their time, if that's okay.
    CHAIR NICHOLS: Okay. Thank you.
    MR. KNOTT: Thank you.
Good morning, Madam Chair and Board members.
Thank you for the opportunity to present these comments be
today on behalf of OPEI. My name's Gregg Knott.

    OPEI is an international trade association
representing more than 100 manufacturers and their
suppliers of small spark-ignited engines and outdoor power
equipment.

    Outdoor power equipment is ubiquitous in America
households and is an important part of the California
economy. As manufacturers of SORE powered equipment, OPEI
members will be directly affected by the proposed
amendments. In addition to these comments, OPEI strongly
supports the comments of the Truck & Engine Manufacturers
Association.

    OPEI is deeply concerned with today's proposed
amendments for a number of reasons.

    Foremost, procedurally the rulemaking is
deficient because the record lacks the required economic
impact analysis and assessment for the proposed compliance
strategy changes. Specifically the record fails to account for an estimated 64 million to 224 million related to new SHED testing due to increased stringency directly related to compliance being determined by diurnal performance testing and limits.

Additionally, OPEI is concerned that the proposal looks to eliminate stand-alone design-based certification and compliance strategy that the majority of SORE equipment manufacturers rely on. OPEI is concerned that the conclusions, support, and rationale for the proposal, as outlined in the September staff report, are rooted in widely variable and unreliable test data and based largely on unrepresentative sample size.

In light of these new concerns, OPEI requests the Board to postpone a decision on today's proposed amendments until a new required cost analysis can be completed, a new validation study can be commissioned with more reliable data and more representative sample population, and the new data is applied to the off-road model in order to understand the effectiveness of today's regulations in meeting ARB's overall air quality goals.

In 2015, 84 manufacturers certifying more than 600 greater than 80 cc evaporative families relied on design-based certification, due largely to the non-integrated nature of their products, the cost
associated with diurnal emissions testing, and low
California production volumes for equipment in this
category.

Contrary to ARB staff's beliefs that most
certification will be conducted by engine manufacturers,
and engine manufacturers will most likely supply engines
with complete fuel systems to equipment manufacturers,
thereby saving equipment manufacturers testing costs, only
20 manufacturers are SHED testing certified any product to
the performance-based standard. In other words, more than
75 percent of manufacturers rely exclusively on the
design-based certification strategy without SHED testing
for a small percentage of the SORE population.

In similar situations, California and federal
cases have ruled that changes to the compliance
enforcement procedures made the existing certification
standards dramatically more stringent. This is the case
today. Today's proposal is a major change, with strategy
reconsiderations and significant cost impacts.

Our complete legal analysis has been prepared by
OPEI counsel and it's included in OPEI's formal written
comments.

In 2003 industry estimated the costs for an
individual manufacturer to build and operate a SHED for
seven years was $3.5 million. ARB staff deemed the
absolute cost reasonable. Therefore, if 64 manufacturers
invested in SHEDs, industry costs would be at least $224
million.

In September 2016, the staff report, ARB staff
estimated that eliminating the design-based certification
and compliance strategy would require ten additional
SHEDs, at least -- at test labs and would cost industry
more than $67 million.

However, these costs were not included in the
cost impact analysis. In order to meet its regulatory
requirements, ARB must analyze these costs across the less
than 19 percent of the SORE population that the proposed
changes would impact.

ARB staff proposed amendments rely largely on the
validation study results. However, OPEI has identified
several major concerns with the validation study that
undermine the ability to make a broad-based compliance
determination. Easily missed test-to-test variations such
as the application of an auxiliary fan during testing and
equipment handling throughout tests negatively influenced
test results and produced widely variable data with high
standard deviations.

Additionally the sample population was largely
unreflected of California's SORE population or evaporative
emissions inventory distribution.
2010 test unit 5AP3 was reported to have resulted in evaporative emissions ranging from 3.2 to 15.7 versus the 1.25 grams per day standard. Upon learning the results and the use of the auxiliary fan to circulate air in a SHED, the equipment manufacturer sent the test unit to a third-party lab for investigation. Working with the lab, the manufacturer was able to confirm that the fan position highly influenced the evaporative emissions results, duplicating ARB's test results with the fan blowing across the unit, but also duplicating certified limit values with the fan blowing underneath the unit when the unit was elevated.

ARB determined -- or it was determined that when the carburetor was exposed to the fan's constant air velocity, a Venturi effect drew fuel and vapors from the carburetor, resulting in large test-to-test standard deviation and artificially high evaporative emissions.

Coincidentally, the same model was selected by ARB for a five-piece compliant test shortly thereafter and was found compliant without the fan.

Unfortunately, no mention of the impact of the auxiliary fan was made and only the original validation study test results were reported in the 2016 staff report. Based on widely variable test results and large standard deviations for tests conducted by ARB, OPEI remains
concerned that the use of the fan throughout ARB's 2010 validation study artificially and negatively influenced results.

Additionally -- our additional test concerns are outlined in OPEI's formal written comments.

Of additional concern, the validation study data set was highly unrepresentative of SORE population in inventory distributions. Despite accounting for less than 2 percent of the 2016 inventory model, generators represented 42 percent of units tested. Other units, which would include generators, estimated to be 4 percent of the 2016 population and 13 percent of the inventory distribution, yet accounted for 64 percent of the units tested.

Additionally, ARB's proceeding E10 study, the most statistically reliable study to date, suggested 100 percent compliance with walk-behind mowers and less than 80 cc products, which account for greater than 81 percent of the SORE population.

In light of these new findings, ARB must commission a new validation study in order to determine if California's air quality goals are being met or if any changes are needed to the regulation order, test procedures and certification procedures.

Before I close I would like to take just a moment
to discuss the idea of the strategies being equivalent. The point of the validation study is clear, to confirm that the performance-based and design-based options are achieving ARB's overall air quality goals, not to audit units against the performance-based certification limit and determine if the strategies are equivalent in that nature. This could only be done by analyzing reliable data against the emissions model.

In order to appreciate the difference, I wanted to point out a few details about the emissions model. Number one, the emissions model accounts for liquid leakers. When testing and developing the model, ARB observed gasoline leaks in older units. ARB reported that lawn mowers and fuel leaks are not uncommon. Therefore staff found no compelling reason to exclude leaking units. Hence, leakage is reflected in the model and leaking units cannot be discounted for the purpose of determining if SORE are meeting the overall emissions goals. This is clear in the case of walk-behind mowers, which have a certification limit of 1.0 but a model limit of 1.6.

Therefore, the model is not directly reflective of the performance-based certification limit. Additionally, when developing the model, staff found generator test results to have high variability. As
a result, staff simply averaged the results across the new -- may I just summarize?

CHAIR NICHOLS: Finish your sentence at least.

MR. KNOTT: In closing, industry's been committed to working with ARB throughout the process, meeting with staff on more than ten occasions.

OPEI appreciates staff efforts, and is committed to working with industry and committed to working with ARB staff. This is especially true for the less than 80 cc category where we have found common ground on most issues.

Thank you, staff.

However, in the absence of a complete cost analysis, in light of new concerns surrounding the validation study, several challenges remain with the proposed amendments and more time is needed.

We ask the Board to postpone a decision on the SORE evaporative emissions rulemaking today.

CHAIR NICHOLS: Okay. That's a pretty comprehensive set of criticisms. Obviously I will allow staff to respond later. But we'll take this under consideration at the moment and then we'll have some responses later.

Thank you.

MR. KNOTT: Thank you, Madam Chair.

MR. GAULT: Good morning. I'm Roger Gault with
the Truck & Engine Manufacturers Association, otherwise
known as EMA.

EMA is a trade association that represents the
world's leading manufacturers of non-handheld small
spark-ignition engines. And more specifically, EMA's
members are the manufacturers of engines that CARB
regulates directly or indirectly through their equipment
manufacturer customers under the SSI, as opposed to SORE,
evaporative regulation for engines greater than 80 CCs.

Accordingly, EMA and its members have a direct
and significant stake in the regulatory proposal at issue.

EMA strongly supports the comments provided by
OPEI for engines less than or equal to 80 CCs not included
in EMA's comments and OPEI's comments for engines greater
than 80 CCs covered by both organizations.

EMA has worked with CARB staff and the Board
since the origin of CARB regulations for SSI engines,
including the original evaporative regulations being
revised in this rulemaking.

EMA has three areas of significant concern with
the proposed regulation and several technical concerns,
all of which are identified in the written comments
submitted earlier this week.

Despite EMA's efforts to work with CARB staff,
the three areas of significant concern remain, and EMA
strongly requests the Board reject staff's proposed regulatory changes until such time as those concerns can be addressed.

EMA supports CARB's objective to align test fuel utilized for evaporative compliance with test fuel utilized for exhaust emission compliance. That said, the majority of the changes being proposed under the SSI evaporative regulation amendments are ill-conceived attempts to improve compliance. Many of the changes proposed will shift manufacturers' R&D focused away from the development of products meeting future regulatory requirements to develop products that meet the proposed regulatory changes.

The three major categories of change are:
- The certification test fuel change;
- The certification process and test methods associated with demonstrating compliance; and
- The changes to the compliance determination.

First, the change to the E10 certification test fuel results in a significant standard stringency impact. EMA members recommend the applicable permeation and diurnal emission limits be increased 20 percent to adjust the standard stringency for test fuel changes based on CARB's test data that demonstrates up to a 50 percent increase.
Secondly, the change is a certification procedure, and related test methods are claimed to improve compliance with diurnal emission standards. However, there's no supporting information and in some cases counter-information used to justify the proposed changes. One fundamental assumption made by the staff is that the compliance rate will improve by requiring directly or indirectly testing by the SHED performance option. However, the compliance rates for both options in place today were similar in the most recent validation study.

In addition, changes being proposed to the test methods have not been validated or utilized for any testing that is utilized in any other data reported by the staff.

Third, the compliance determination changes proposed significantly reduce the burden on the agency but result in significant potential for manufacturers to be deprived of due process. CARB staff indicates the Initial Statement of Reasons: A significant increase in penalties, recall obligations, and future certification testing burden. But does not address these costs in the regulatory analysis.

The process associated with CARB testing one unit and declaring an Executive Order revoked, resulting in
fines, recall, and significant increases in certification testing, is both unfair and unprecedented.

At a minimum, the information the Executive Officer must consider associated with suspension or revocation of an Executive Order off -- Executive Order that provides due process is required.

EMA and our member companies have and will continue to work with CARB staff and the Board to achieve California's air quality goals. But that needs to be a cooperative process involving both parties.

Also, in the staff presentation is the first time we've heard of newly announced reporting requirements on a quarterly basis for product that apparently is not currently regulated or documented with ARB. And we wonder how this will possibly be accomplished.

I'm happy to answer any questions the Board may have regarding EMA's written comments or my testimony here today.

CHAIR NICHOLS: And what are you talking about with respect to this quarterly report on something that didn't --

MR. GAULT: In the staff PowerPoint they talked about quarterly reporting of zero-emission equipment that's not currently -- there's no certification process, there's no reporting process. So how are you going to get
those reports -- and all of the other reports that they
talk about are currently submitted annually for engines.
And to change it to quarterly is a big deal.

CHAIR NICHOLS: I see. I understand. Thank you.
MR. GAULT: Sure.
CHAIR NICHOLS: Okay. I guess we go -- it would
be -- Ms. Somorai would be next.

Yes. Hi.

MS. SOMORAI: Like to say good morning to the
Board and to the ARB staff.

First off, thank you for giving me the
opportunity to speak today. My name is Sarah Somorai and
I'm the senior certification engineer at American Honda
Motor Company for small off-road engines.

Honda is a member of EMA and OPEI and we are in
support of both their comments.

Honda is the largest manufacturer of engines
worldwide. In the U.S. alone, we sell over 1 million
small spark-ignited engines, and we sell to over 1,000
equipment manufacturers which are using a variety of
applications.

My comments are in regards to the ARB proposed
amendments to the diurnal emission test procedure, TP902
section 4.

We have been engaged with ARB staff since
September of last year starting with the validation study results, and soon thereafter with the 2016 proposed amendments. The draft proposal was released to industry May of this year.

We greatly appreciate ARB staff's engagement with industry. However, we do still have some concerns.

In the diurnal test procedure, the carbon canister purge requirement has been removed, which has caused concern with Honda. By removing the purge requirement, the test will begin with a fully charged canister. Because of this, we are concerned that the equipment will not pass the evaporative test as it stands today.

ARB's intent was to better replicate real-world use. However, they have made arbitrary determination of what occurs in the real world without conducting any tests or presenting any supporting data. The proposal simply removes the carbon canister purge requirement. This assumes that 15 minutes of engine operation will completely purge the carbon canister.

I like to point out that passive purge canisters are not affected by engine operation, as they purge in cooler temperatures. For example, when you leave a lawn mower in a garage overnight.

Active purge canisters are purged by engine
operation. However, there are many different types and
sizes of carbon canisters, in addition to many different
types of equipments and models. It is not conclusive at
this time if 15 minutes is enough to completely purge the
canister in all cases.

We would like to engage dialogue with ARB staff
to best determine what would be a real-world test. We
feel that this would be -- this would need to be a
collaborative effort with industry and ARB. Therefore, we
courage the Board to direct the staff to open up that
dialogue with us and the rest of industry.

Again, I thank you for your time.

CHAIR NICHOLS: Thank you.

MR. MERSCH: Good morning. Thank you for having
me out. I'm Zach Mersch with Mean Green Mowers. And I
want to thank ARB for inviting me to speak at this.

Mean Green Mowers is a manufacturer of
all-electric commercial products. We range anywhere from
zero turns, the big ride-on's, the stand-on's, all the way
down to the handheld equipment.

We're a U.S. manufacturer. We manufacture
everything in Cincinnati, Ohio. We've recently started
selling to Canada, the United Kingdom, and Australia as
well.

We went through a stringent CE certification on
all of our equipment, so all of our bigger equipment is now CE certified. They didn't know how to certify our equipment, so we had to go through the electrical certification and the mower certification.

We've recently partnered with one of the largest landscape companies in the country, with a purchase of over 200 mowers to be delivered this spring.

And we've also had programs with South Coast and the Bay Area districts as well over the past three years.

We also -- Mean Green's proud to bring the electric advantage across the country. The electric advantage doesn't only include zero emissions, but also includes zero gas, low noise, and low maintenance. So not only does it have to do with zero emissions but the operator, vibrations - there's a lot of different things involved in this as well.

So you can reduce, you know, operator health as well with going with electric equipment.

So with that being said, CARB is looking to make a commitment to reduce lawn-care equipment by 80 percent by 2030. I think with tax credits and green incentives, Mean Green believes together we can make this goal much sooner.

I'd like to thank you for having me out. If you have any questions, I'd be happy to answer them.
CHAIR NICHOLS: Thank you.

MR. GELLER: Good morning, Chair Nichols and members of the Board. My name is Michael Geller. I'm the deputy director for the Manufacturers of Emission Controls Association. MECA members represent -- we represent manufacturers of a variety of emissions control components for both criteria and greenhouse gas emissions, including evaporative emissions from small off-road engines.

We'd like to say that we support these proposed amendments and thank staff for its diligent work in this area. We believe that the proposed changes to the SORE regulations, including improving the certification procedures, revising the compliance testing procedure, and updating certification test fuel to be more representative of commercial available gasoline, and aligning aspects of the SORE requirements with those of the U.S. EPA are an important step forward in helping to ensure that existing evaporative standards are met and real-world emissions reductions are achieved.

MECA supports ARB's proposed changes to the design certification option, to require testing of evaporative emission control components and a configuration that represents their real-world operation, which will ensure robustness of these technologies.

In addition, testing to make sure components are
assembled and connected correctly will result in greater certainty that evaporative emissions will be controlled throughout the engine's full useful life.

MECA members that manufacture evaporative emission controls have responded to the challenge of reducing hydrocarbon evaporative emissions from mobile sources.

A wide range of cost-effective technologies have been developed to reduce hydrocarbon evaporative emissions, such as permeation emissions, diurnal, hot soak, and refueling hydrocarbon emissions. These are used on passenger cars. And these can also benefit SORE equipment.

MECA remains committed to supporting staff's continuing effort to demonstrate the potential for achieving additional emissions reductions from small off-road equipment, small off-road engines through the use of advanced engine and catalyst technology in the future.

We believe that the use of advanced catalysts, three-way catalyst technology, which is derived from 40 years of experience on passenger cars and motorcycles, can help SORE to meet tighter exhaust emission controls.

The types of issues that have been raised in the past such as heat management, packaging, poisoning, as well as durability, have been readily addressed.
To conclude, MECA would like to thank staff for their diligent work and also for bringing this proposal today. We look forward to working with staff in the future and looking for additional opportunities to help reduce emissions from SORE, small off-road engines, and also to help California meet their air quality goals.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. BARNABY: Hello. My name is Gerry Barnaby and I'm with EGO. I want to thank everybody for inviting us in from Michigan. That's where our design studio is based in large part.

We represent EGO, as I mentioned. I have in my hand the gas tank of the future. It is a battery that will run a string trimmer. And this is for residential at this point. We're engaging in research into the commercial realm. But this will run a string trimmer for about an hour, it will run a chainsaw that can cut down 25 trees of my circumference on a single charge. It will run a blower for over an hour. So the future is here now.

And as Dr. Sperling mentioned in his remarks, as goes California, so goes the world as far as the attitudes towards emissions and environment. And I'm happy to report -- we're exclusive to Home Depot. And at least in the Home Depot realm, we are part of the fastest growing
segment of outdoor power, and that is battery power. So the appetite on the part of the consumer is certainly here.

You'll hear from a gentleman a couple speakers hence who runs a lawn and garden service, Completely Green. He says he's turning customers away. And he's in the commercial application.

So I think that your work is honorable. Your mission is clear.

And I want to end with a quick story about a kid I just met down Louisville, Kentucky. We're at GIE, and he came up. He's a 10-year-old kid. And for the effort of getting straight A's in a year at school, his dad took him to GIE because since the age of 6 the kid has been a lawn and garden nut. He pulls all of his gas-powered equipment behind him in a cart behind his bicycle. He's got what he said were six solid accounts, two floaters.

And I turned him onto the battery power. And he said, "Sir, this is every bit as powerful as gas." And I said, "Well, what does that mean to you as a kid?" And he goes, "Well, the environment is my workplace. I'm in charge of tidying it up. And if I continue with gas, my thought is at the age of 10" - and I thought this was so profound - "I will not have a workplace in the future. And so it is my job to keep it clean, keep it green."
So thank you for doing the work that you do. And I fully support the bill in front of you today.

Thank you.

CHAIR NICHOLS: Thank you.

Mr. Serna.

Hold on just a second. A question for you, I think.

BOARD MEMBER SERNA: Thank you, Chair Nichols. I just had a quick question.

Do you have any information available about comparable decibel levels on --

MR. BARNABY: Yeah, we -- everybody anecdotally says we are less loud than a vacuum cleaner. So we have headlights on our mowers because you can mow first thing in the morning, late at night. So it is less than 80 dB; and that's on full power.

BOARD MEMBER SERNA: And you had that for -- especially for the leaf blower comparison?

MR. BARNABY: Yeah. You know, I could probably give you a new hairdo from here with my leaf blower --

(Laughter.)

MR. BARNABY: -- and it would not -- I mean, I could talk over it.

BOARD MEMBER SERNA: It will blow off.

MR. BARNABY: Well, there's a secret that needed
to be told.

BOARD MEMBER SERNA: Thank you.

MR. BARNABY: Okay.

CHAIR NICHOLS: Thank you.

MR. BARNABY: Well, you can actually check out the equipment out front. And that's the value of us being here today is hands-on stuff for all you folks.

Thanks so much.

CHAIR NICHOLS: Thank you.

MS. PHILLIPS: Kathryn Phillips with Sierra Club California.

Thank you, CARB staff, for working on this rule for as many years as you have. And thank you, Mary, for your calming and encouraging words at the beginning of the meeting.

Sierra Club California fully supports this measure as proposed. And we've submitted a letter with a number of our other colleagues outlining some of those reasons.

I just want to highlight two of them. And, that is, that most of these evaporative emissions occur while an engine is off and sitting in somebody's garage. And most garages in California homes are attached. They serve as -- do double duty as man caves, as family rooms, as children's playrooms. These are not places where we want
these kind of evaporative emissions to be available and to be exposing children and men and others.

So they have serious health effects. That includes lung disease, heart disease, cancer. So, again I just want to underscore the importance of this measure because of these sorts of health effects and the relatively close location to where people live.

Secondly, just to underscore. I know South Coast was up here, but there are other air districts that have to comply and submit plans to you. They go into the State Implementation Plan. It's very important for them to be able to depend on these rules to be enforceable, enforced, and effective, for them to be embraced and qualify for being included in their air quality plans.

Without these changes, the local air districts can't really rely on those rules to help meet their air quality goals. So, again, just to restate that Sierra Club California and a number of other environmental organizations, including some who will be testifying soon, support this rule.

Thank you.

CHAIR NICHOLS: Thank you.

MS. HOLMES-GEN: And good morning, Chair Nichols and members. Bonnie Holmes-Gen with the American Lung Association in California. And I just have to say that
it's happy -- I'm very happy to be here with you all moving forward with good work to protect public health in California Today. And I'm here because the American Lung Association in California is supporting the proposed amendments today and urge you to move forward to adopt these evaporative emission requirements and updates for small off-road engines.

We appreciate the extensive studies and work that's been done by the Air Board over the years and coordination and in outreach to the regulated community. It's clear at this point that there is a strong lack of compliance and the standards are failing to protect public health as is. So we've -- these updates are required.

We are of course very concerned about the substantial health impacts of these emissions, the contribution to elevated smog levels across the State, particularly in extreme nonattainment areas like the San Joaquin Valley and the South Coast Air District.

And just as with other combustion sources, we believe it's critical to move forward to cleaner and cleaner options and zero emissions. That's the ultimate goal here.

So my quick summary would be, SORE is core to our State's air quality strategy. There are many green and
economical options available. And, in fact, from my experience, the green options are much preferable to use.

The State and the air districts need these standards to progress toward attainment. The breathers need these standards to reduce the burden of air pollution and lung disease. So it's a win-win on multiple fronts and we urge you to move ahead.

CHAIR NICHOLS: Thank you.

MR. WALSH: Good morning. My name is Kevin Walsh. I operate a small landscape service company here in the Sacramento area that services residential and commercial customers. We use only battery- or people-powered equipment. I am here in support.

Using this type of equipment has both advantages and disadvantages. Some of the advantages are obviously their lack of fumes, emissions, no -- no emissions. The equipment that we experience requires little or no service, so there's a -- little maintenance costs.

And the disadvantages, I would say, in my experience, is that the equipment using battery power has limited capability in that the cutting quality is not as good as a -- as a gas-powered mower.

For example, I would have to mow, in my opinion, two or three times in once -- over -- take one pass as compared to a gas-powered mower with using the equipment
that I have.

And the battery life. And the cost of the batteries is -- the initial cost is high compared to obviously gas powered.

And also, using -- I have -- it's difficult to find quality -- I know there are a few manufacturers, but quality equipment in particular lawn mowers larger than 21 inch.

So what I would like to see going forward is an improvement in the performance, in the batteries, the cutting quality, the battery life. And also if I go to an automobile or -- automobile dealership and walk in and tell them I want to buy an electric vehicle, I will be hit with rebates from -- at least here, from the state, federal, and local level. You don't get that same experience when you buy an electric mower. There are -- from what I have experienced, there was no -- very -- no rebates or no incentives.

So going forward, the success of our company, Fresh Air Yard Care, is dependent on the quality and the breadth of equipment that uses electric or battery power.

Thank you.

CHAIR NICHOLS: Thank you. And thanks for raising that issue, because it's a question that I was going to bring up at the end about incentives. So good.
Mr. Magavern, you are the last on the list.

MR. MAGAVERN: Thank you, Madam Chair, and good morning, Board members. I don't know if I should call this a SORE subject, but certainly --

(Laughter.)

CHAIR NICHOLS: No, don't do that.

(Laughter.)

MR. MAGAVERN: But clearly it is an important subject, and we support the proposal from the staff. We know that the emissions from this sector are really significant. In fact, I was really struck by the slide in the staff presentation that showed emissions from this sector actually passing -- surpassing emissions from light-duty vehicles in the South Coast in a fairly short time frame. So we really need to get this under control both for local and regional air quality. And also I think we have to keep in mind the health of the workers who are operating this equipment in many cases all day long and exposed to those emissions.

The compliance rates that we're seeing currently are absolutely unacceptable. So certainly there's a very need for this proposal brought forward by the staff to fix that. And we need in this sector to see that real-world emissions are what has been promised, just the same as we need to see that in the motor vehicle sector.
And, finally, I think ultimately what we need to do is move to zero-emission equipment. And therefore, I really want to thank all the companies that have come here today with their zero-emission equipment for these off-road engines.

Thank you.

CHAIR NICHOLS: Thank you very much.

I believe that concludes the public testimony. And so I can close the record at the point. Any written or oral comments received after this will not be accepted as part of the official record on this item.

Before we proceed, however, to a decision-making point we need to make sure we have an opportunity for the Board to ask some questions of the staff or make comments. So does anybody want to start?

Ms. Mitchell, I'll start with you.

BOARD MEMBER MITCHELL: Thank you.

We heard from some of the manufacturers of their concern about the reliability of the testing, the need for a new validation study. So some of these things were brought up. I'd just like to hear staff's response on that first.

DEPUTY EXECUTIVE OFFICER AYALA: We'd be happy to -- we prepare a list of detailed comments, and we'd be happy to go one by one and provide the initial staff
response for the Board's benefit if you'd like us to do that.

CHAIR NICHOLS: How extensive is this?

DEPUTY EXECUTIVE OFFICER AYALA: It's not very extensive. But we do want to provide you a response from our perspective.

CHAIR NICHOLS: Yeah, I would imagine so, because they were pretty fundamental charges about the study.

DEPUTY EXECUTIVE OFFICER AYALA: Correct.

CHAIR NICHOLS: So why don't we just go ahead and do that right now then.

DEPUTY EXECUTIVE OFFICER AYALA: A couple of framing points before we go in detail. One is to underline the point that the staff presentation made for the Board; and, that is, when the Board first approved this regulation, the design-based approach was not a given. The Board reluctantly approved it as an opportunity as a flexibility, but they very clearly directed the staff to examine it, to actually go and get some experience with it. And that is really what we are doing.

The second point I want to make as an overall framing is -- industry has a number of detailed comments that are very technical and we'd be happy to address them. But they don't get to the key point why we're here; and
that is what Mr. Magavern just pointed out, and that is
the key issue is noncompliance and certification. And if
we have learned anything from the VW scandal is how
important certification processes and compliance and the
ability for us to make sure that this equipment are
meeting the expected standards is. The validation study
that you heard a lot about was developed in concert with
industry. And as Dr. Geller from MECA pointed out, SHED
testing in the process that we are using to determine
these emissions are well established. We have been using
these approaches in the automobile industry for years. So
we're not necessarily doing anything that we don't have
confidence in terms of how we are approaching the
emissions, how we're preparing the equipment, how we are
measuring those emissions.

So we think what we are bringing you is a number
of sensible updates. For example, updating the fuel. We
are updating the regulation to require the fuel that you
and I and others would use. Not necessarily a fuel that
is mythical, that it doesn't exist in real life.

So we have a number of points that we have been
working with industry on. But, again, from the staff
perspective, we feel confident that what we're bringing
for you is the right approach to improve the regulation.

And now I want to turn it over to Dr. Benjamin,
who's going to go in a little bit more detail in some of
the questions that industry raise.

CHAIR NICHOLS: That would be great. I do want
to though build off of your point, Dr. Ayala, and that is
that some of the criticisms appear to me based on my
review of this issue to be, even if correct, irrelevant to
the issues that are before us. That is, that you can
critique the studies, perhaps even if successfully, in
ways that don't actually make any difference to the basic
point of these engines complying with the regulations or
not. And I just want to make sure that we try to sort of
distinguish how the -- even if correct, if the criticisms
affect the conclusions that the staff has come to.

Go ahead, please.

MONITORING AND LAB DIVISION CHIEF BENJAMIN: So,
yes, industry has raised a number of concerns, and the
concerns that you've heard today are ones that we have
heard throughout the rulemaking process. So this is
nothing new to us. And we have worked -- as Dr. Dilbeck
has mentioned, we have met with them more than 20 times
over the past year, and we have made major concessions in
the rule that you have before you today.

But let me speak to specific concerns that were
raised by industry in today's testimony.

The first had to do with the inference or
implication that this rulemaking would eliminate the design certification pathway. That is quite simply false. We will retain the certification and performance pathways. We simply expect industry to meet the same emission standard regardless of the certification pathway selected. And that is a very important element for you to consider and to remember.

There were a lot of questions raised in the testimony today about this validation study. Let me start by saying that the validation study, which took place over eight years, was a collaborative ARB industry study that was agreed to by the Board in 2003 as a condition of allowing the design certification pathway.

There are very few sectors in which design certification is allowed either by ARB or U.S. EPA. In fact, the design certification option was not even on the table until 2003 when industry came to ARB in the initial rulemaking and said we would like this option.

Staff in the ISOR in 2003 did not support the design certification pathway because of many of the concerns that I think are now starting to show themselves in the results of the validation study. Staff said, "No, we do not think this is a good option." However, in the last hours of the 45-day comment period staff decided to move forward with allowing that. And that is what you see
today in the 2003 regulation.

However, wisely, the Board did decide that it would make sense to have this validation study to ensure that the design certification pathway provided the same emission reduction benefits as the performance certification pathway.

And in fact it is written into the regulation that the Executive Officer based on the results of the validation study has the opportunity to determine -- he may decide to discontinue that pathway. So that is an option before the Board.

Now, the data in the validation study. The validation study was conducted over eight years. Sixty pieces of equipment were tested over that eight-year period. Thirty pieces of equipment in the first phase, 30 pieces of equipment in the second phase. This is the largest testing program of small off-road equipment conducted by government and industry in the world. This is -- there is no need to do additional testing.

Now, when we first started the testing in this first phase, one of the things we wanted to ensure, as we do with all evaporative testing of equipment in the SHED -- this is the enclosure -- is to make sure that there is decided to use a fan to make sure that there is homogeneous mixing of the hydrocarbons.
This is in fact something that some industry manufacturers do themselves. And we have received correspondence from one of the major manufacturers today back in 2010 where they indicated they did indeed use a fan themselves in the SHED.

But the concerns that they raised about the first phase of testing in the use of the SHED, we looked at those results after that first study and we said we hear you; and we went back, and in the second part of the validation study, the next 30 pieces of equipment, we did not use a fan.

And the results that you see on the slide before you that we showed you today is based only on that second set of testing where there was no fan used. So this is the controversial fan that you see in the testimony, in the written testimony.

So we are focusing our staff presentation on what we believe to be the most robust elements of the validation study, which in itself is the most robust industry-government study conducted of this equipment.

To give you a sense of "Did it really make a difference whether a fan was used or not?"; in the first phase of testing, of the 30 pieces of equipment, 12 passed and 18 failed. That was for 2008 through 2010. The latter phase of testing, in which we believe we've reached
agreement with industry on the test method, 15 failed and 15 passed. So there's a slight difference. But the story, going back to what Chair Nichols said, the message is the same, is that clearly the validation study indicated that there are serious noncompliance problems.

Another issue that was brought up by commenters related to costs and how the amendments that we are proposing today do not properly take into account the costs of installing and operating SHEDs. The 2003 regulation assumed and accounted for the fact that all the manufacturers would install SHEDs.

One thing that I want to educate the Board on is even though industry has indicated that there are over 100 manufacturers, in fact only 12 manufacturers account for 95 percent of the sales in California. And almost all of those manufacturers have SHEDs currently. And if they don't, they should have installed SHEDs as a result of the requirements of the 2003 regulation.

And the cost of the SHEDs, the installation and operation of those SHEDs was fully accounted for in the 2003 regulation.

Therefore, the costs that were accounted for in today's amendments are only for some incremental costs related to additional testing, not the installation and operation of the SHEDs themselves.
There is also concerns raised about the requirement for E10. E10 results in more permeation of hydrocarbons. Industry feels that by aligning the certification fuel with real-world fuel, this E10 fuel, that in a sense we are making the standards more stringent. We are not. The standard is the standard, and we are simply having the certification fuel align with what is sold in the real world.

ARB has never in any of its regulations, when we have -- and this is -- this requirement to transition to E10 as part of the certification of fuel is not new. It's not unique. We do that all the time, in light duty and other sectors. And every time we do that, we do not relax the standard. In fact, in those cases we tighten the standard. And so this request to relax the standard by 20 percent to account for a change to -- of the certification fuel to E10 is simply inconsistent with what ARB and the Board has done in the past.

There are concerns about compliance, about the fact that our request in these amendments to change the number of units needed for compliance purposes from five to one will suddenly trigger a process by which, if we test a unit, that we will be revoking executive orders for manufacturers. That is untrue. Quite honestly, untrue.

What it will do is it will trigger a process.
And that process will consist of ARB then going back and testing an additional five units obtained from the manufacturer at an independent lab. And that will then give us an assurance that that piece of equipment is indeed noncompliant.

But it is absolutely critical that you approve the amendments today in which we go from five units for compliance to one in order for us to be able to have the resources to really do an exhaustive and ongoing assessment of compliance of this equipment going forward.

And so, those are really the key elements, I think the key concerns that I heard from industry, and staff's response.

CHAIR NICHOLS: Thank you.

Does that satisfy your questions?

BOARD MEMBER MITCHELL: Yes, if I could follow up with that then.

I wanted that response because they raised so many issues, the industry did, as they came forward.

But what I will say is that I have the highest regard for our staff and for our testing capability. We run very efficient laboratories, and I am quite sure that what our staff has done is reliable and we can trust those results.

I want to say also that this issue is very
important in the South Coast Basin. And it's been an issue that has come forward to our board in some rather interesting ways. One of my colleagues on the South Coast Board is Mike Cacciotti. He is the councilman in South Pasadena. And we have on many occasions started our meetings with this green equipment right there in the chamber and with Mike running around in front of us showing it off and demonstrating it.

(Laughter.)

BOARD MEMBER MITCHELL: And it is really a wonderful step forward to move into all-electric equipment of this type.

One thing that we've noticed is those terribly noisy leaf blowers are absolutely -- well, almost silent, but certainly a big improvement over what you normally here when you're at home and the neighbor's gardener comes.

My preference on this would be to see us move very quickly to a requirement for all-electric off-road equipment like these, this lawn -- lawn mowers and leaf blowers and landscaping equipment.

And also, as was suggested, to perhaps consider rebates or some kind of incentive program for this equipment.

In the South Coast, we run annually a lawn mower
exchange program where you can bring in your old
gas-powered lawn mower and exchange it for an electric
mower.

Now, we've been doing that for quite a few years,
and now we've also included leaf blowers as well in that
exchange.

So we have a pretty good history in the South
Coast of using this equipment and knowing that it is
serviceable, superior to the gas-powered equipment, and
provides very significant benefits to air quality and to
health.

So, I'm fully in support of the amendments that
are proposed here today and would like to see us move
forward with these as quickly as possible.

Thank you.

CHAIR NICHOLS: Thank you.

Other comments or questions?

Yes, Ms. Takvorian.

BOARD MEMBER TAKVORIAN: Thank you.

And thank you, Ms. Mitchell, for your comments.

Those were -- I had those same questions. And thank you
to staff for your comprehensive response.

I support the measure, and I too am interested in
where we go from here. I was interested in
Mr. Magavern's -- excuse me. Still getting over a
post-election something, I think.

(Laughter.)

BOARD MEMBER TAKVORIAN: Sorry. I am -- now it has a name. I'm afraid it's going to last a while.

Sorry. I was not going to go here.

But I am interested in the impacts to workers, to landscape and gardener -- gardening workers. And I am concerned about the -- and wonder if you might comment on -- I know it isn't directly applicable to the rule, but on the comments that were made in regards to their applicability in a more commercial setting. Because I think those are the workers whose health and safety we are -- we have strong concerns about. So that's a question.

And then I also have a question about the incentives and how those might be able to come into practice.

Thank you.

DEPUTY EXECUTIVE OFFICER AYALA: So let me address the first question, to make sure we clarify.

What we are trying to do today – and we are hoping that you agree with the staff recommendation – does not change in any way the availability of product to anybody, the personal gardener or the commercial entities. You may be thinking of -- in the future our vision is to
come back to the Board and share with you what we think the potential of sheer emissions in this particular sector is.

So at this time point in time we're not proposing anything that would change in any way the product availability for the current user. I think eventually—and the point that Mr. Walsh made is well taken—one of the things that we want to do with our technology assessment is understand, you know, where are the areas where we still need to see some improvement? Perhaps not for private use, but most importantly commercial use; where, you know, you've got major operations that are running, you know, 8, 10 hours a day, 7 days a week in some cases. So I think that's why we want to come back to you.

We hear you loud and clear. Clearly we're all interested in zero emissions. What you're going to see outside is going to be indication that the sector is ready for a transition as well. But we need to be deliberate. We need to make sure that we understand what the implications of that is. And we could very well be looking at a phased approach where some of the solutions that Dr. Geller pointed out -- Dr. Geller from MECA -- in terms of maybe in the interim we're going to see some opportunities to reduce conventional emissions as a
transition towards zero.

So I just want to make that clear that what we are proposing to you today is -- it's essentially a better mechanism to make sure that we have clean products for everyone out there, products that are actually fully compliant with the standards that this Board has approved.

CHAIR NICHOLS: Thank you.

Dr. Sperling.

MONITORING AND LAB DIVISION CHIEF BENJAMIN: I just wanted to -- this is Michael Benjamin. I just wanted --

CHAIR NICHOLS: Oh, sorry. Please.

MONITORING AND LAB DIVISION CHIEF BENJAMIN: -- to follow up and make sure.

Board Member Takvorian, I believe you asked a question about potential health impacts.

BOARD MEMBER TAKVORIAN: For -- especially for workers, yes.

MONITORING AND LAB DIVISION CHIEF BENJAMIN: Yes. And I can respond to that.

That is a concern that we have; and actually we have undertaken a pilot study on looking at near-source exposure, using exposure badges on operators of lawn and garden equipment with our Research Division. And, in fact, Research Division staff recently completed testing
in the past couple of weeks where we measured a range of pollutants of operators of this equipment. And what we are seeing in these preliminary results is ultrafine emissions, factors of 10 or more higher than what you see on the roadway. And this is extremely alarming, and we are going to be expanding that health assessment going forward into a larger scale program where we actually do benzene ultrafine, another exposure, measurements of workers. And those results will be incorporated into our 2020 rulemaking package.

But our initial assessment and measurements are that emissions from these pieces of equipment are currently extremely high and would pose a risk we believe to commercial users of equipment.

CHAIR NICHOLS: Well, anecdotally you see the gardening service guys – they are always guys – you know, walking around with these pieces of equipment with -- wearing face masks because it's pretty obvious that they're breathing a lot of dusts.

Dr. Balmes.

BOARD MEMBER BALMES: Well, if it's the right kind of face mask, it would protect against the particles. But benzene, which is a carcinogen, would not be protected by that dust mask.

So I thank you, Ms. Takvorian, for bringing up
the occupational health aspects of this.

CHAIR NICHOLS: Yeah, thank you.

Dr. Sperling.

BOARD MEMBER SPERLING: The -- I think this
is -- I think we all understand this is going in the right
direction. And that graph about comparing cars to these
small equipment, that was kind of eye opening that the
cars are going to be -- have less emissions in a few years
than all this equipment, which highlights the need to stay
on this path.

So I think the question's only about process
here. And, you know, it was disconcerting to hear so many
concerns. And I kind of apologize. I didn't realize this
was going to be so controversial so I didn't delve into it
beforehand to understand it as well. So I was just trying
to pay attention.

One part of it is, as I understand, in 2018 we're
going to be adopting new exhaust emission standards; is
that right?

DEPUTY EXECUTIVE OFFICER AYALA: (Nods head.)

BOARD MEMBER SPERLING: Are we going to do it in
2018 or we're going to start the process in 2018?

MONITORING AND LAB DIVISION CHIEF BENJAMIN: No,
we are not. So in the original -- in the ISOR that is
what we proposed, was to adopt more stringent exhaust and
evaporative standards in 2018. However, in the course of
discussions during the 45-day comment period and
previously to that, industry made the point that they felt
that they needed additional time in order to comply with
what are going to be really quite stringent requirements
going forward. So we have agreed to delay the 2018
rulemaking until 2020. And that will provide both
ourselves and industry additional time to do the studies
necessary to develop those new standards. So it'll be
2020, not 2018.

BOARD MEMBER SPERLING: Oh. Okay. How do -- so
here we're just talking about evaporative emissions. And
I tried -- in the graphs try to figure out how many
evaporative emissions there are relative to exhaust, and I
couldn't figure that out. What -- how big -- you know,
what proportion of total emissions from these devices are
from exhaust -- are from -- are evaporative emissions.

MONITORING AND LAB DIVISION CHIEF BENJAMIN: So
that the graph that everybody is talking about on --
towards the end of the presentation is both exhaust and
evaporative emissions of hydrocarbon and NOx. So it's the
total impact in a sense from --

BOARD MEMBER SPERLING: Right. And so what
proportion of those are evaporative?

MONITORING AND LAB DIVISION CHIEF BENJAMIN: So
of -- about 45 out of 110 tons. So about 40 percent is evaporative and 60 percent is exhaust.

BOARD MEMBER SPERLING: Okay. And so all the reductions that we're talking about from this equipment is only from evaporative emissions?

MONITORING AND LAB DIVISION CHIEF BENJAMIN: Correct.

BOARD MEMBER SPERLING: And it's going to be for quite a few years, right? Because if we don't do rulemaking till 2020, that means -- I mean, we're talking six, seven years before we're going to see any improvements on the exhaust emission side --

MONITORING AND LAB DIVISION CHIEF BENJAMIN: Correct.

BOARD MEMBER SPERLING: -- is that right?

CHAIR NICHOLS: We should do better.

(Laughter.)

BOARD MEMBER SPERLING: Yeah.

CHAIR NICHOLS: We should do better.

BOARD MEMBER SPERLING: You know, especially because all of this, as -- I think it was Dr. Ayala said, you know, all of this technology has been with us, not for years, for decades now. And -- but it does raise -- you know, I am struggling with this, because -- you know, Honda also raises the question about the carbon canisters.
Why is there -- I mean, we've been working with carbon
canisters also for decades. Why is there an issue there?

MONITORING AND LAB DIVISION CHIEF BENJAMIN: The
concerns raised by Honda are quite technical in nature,
but I can speak to that.

The current test procedure requires that before a
piece of equipment is tested in the SHED, that the carbon
canister is purged to make sure there is no hydrocarbons
in it before the test starts.

And so the way the current process or test
procedure, what that requires, is that the canister is
removed from the piece of equipment and purged with 400
bed volumes of nitrogen gas to ensure that it's completely
clean. The canister's then put back on the piece of
equipment and the piece of equipment is put in the SHED
for the testing.

Staff feels that that is not representative of
what happens in the real world. In the real world
canisters are not removed and purged with nitrogen, and
then -- before diurnal emissions occur. So what we are
proposing is that the canister remains on the piece of
equipment and that the piece of equipment is run and
operated, and that that operational process purges the
canister just like it's designed to do in the real world.

The concern that Honda has is that staff proposed
a 15-minute engine run time, and they felt that that might not be sufficient to purge the canister properly.

So we've actually had discussions with Honda in the past week about what would be an appropriate run time. And we're open to that discussion, and that discussion is actually ongoing. So what we don't want to do is have this test procedure where we have an arbitrary 400 bed volumes of purging. We would prefer to have a more representative purging of the carbon canister before testing occurs. And we believe that that can happen during the 15-day comment process.

BOARD MEMBER SPERLING: Okay. So that kind of leads me to where -- I mean, I would -- somehow -- I think we need a better response to industry concerns and, you know, I -- I assume we can do that in the, you know, 15-day -- extended 15-day period. I never understood 15-day periods that are months long, but...

(Laughter.)

BOARD MEMBER SPERLING: But I think that -- I think -- you know, I haven't heard quite so many small complaints in a while, and I think I -- at least I would feel more comfortable if there was a reengagement with industry and kind of working through it. There shouldn't be so many differences.

DEPUTY EXECUTIVE OFFICER AYALA: We certainly can
continue to work with industry on these detailed technical comments. And -- I mean, just to give you some reassurance.

Even beyond the approval of the regulation and the Board taking action -- and we do this with every other sector, and the automotive sector is a perfect example -- the fact that the Board takes action today doesn't mean we're going to shut the doors and then we're off on our round. We will continue to work with industry. We have very extensive collaborations because we too are interested in better procedures and better approaches to developing emission measurements. So this is by no means saying we're not going to be interested in hearing from industry and making improvements to our own process. To the extent that we can do it administratively, we will do that. If we need to come back to the Board with minor adjustments, we can certainly do that.

But separating the highly technical issues from the big issue we're bringing before you today I think is critically important.

CHAIR NICHOLS: I agree. I think that's a good response. And I see Dr. Sperling nodding as well. So let's not hold up a decision on what's in front of us.

But I think the message that you're hearing from those of us who have spoken at least -- and I hope I'm speaking...
for the rest of the Board - is that this turns out to be as a sector a more significant and growing part of the emissions profile of California. It's more difficult in many ways because we're dealing with multiple small engines and pieces of equipment with different applications. But the fact is that they share some characteristics. And one of them is that in every single product there is some zero emission alternative available. They may not be as durable, they may not be as tough or effective as they should be. But we have a history of finding ways to create a market for zero-emission equipment, and we should be trying to do that more aggressively than we have up until now.

And so that would include both looking on the regulatory side, which of course is our particular area of expertise, but also we have some experience with incentive programs now as well. And it may be that we should be looking at our existing pots of available funding or at others that might become available and doing a better job in partnership with South Coast of course, which has really led the way on this.

Talking about better public outreach too, because again we're dealing with equipment that's very widespread, many small businesses, very, very small businesses, and individuals who purchase this equipment, and a need to
find the ways to communicate with them more effectively as well.

Yeah, Dan, do you have another comment?

BOARD MEMBER SPERLING: Yeah, and to add to -- I agree with that totally. And maybe to add to that, even in the regulatory process we can think of incentives. You know, we -- we've gotten very creative at that, and maybe we can for -- you know, if they're going to do zero-emission equipment, they get some special credits for that. I mean, we want -- I mean, I think that's worked effectively in other sectors. So maybe think about that also.

CHAIR NICHOLS: So in case the team that's been working on this reg thinks that, you know, you're going to go out and celebrate and then go do something else, no.

(Laughter.)

CHAIR NICHOLS: You're going to be working on these issues for quite some time to come.

Dr. Balmes.

BOARD MEMBER BALMES: I just want to add my voice to exploring incentive options. Because if this is going to be as big of a source of emissions as motor vehicles -- we have incentives for motor vehicles -- we need to look at this sector as well.

CHAIR NICHOLS: Okay. With that, are we prepared
to move forward with the resolution?

BOARD MEMBER MITCHELL: I will move adoption of
the resolution.

CHAIR NICHOLS: There's a motion from Ms. Mitchell.

BOARD MEMBER BALMES: Second.

CHAIR NICHOLS: Second from Dr. Balmes.

All in favor pleases say aye.

(Unanimous aye vote.)

(Mr. De La Torre not present.)

CHAIR NICHOLS: Opposed?

Abstentions?

Okay. Thank you.

Good work. Thank you.

It's a quarter of 12. I suspect our court reporter would like a break.

(Laughter.)

CHAIR NICHOLS: And I think we should probably take a brief break, but then go onto the next item before lunch.

So let's take 5 minutes literally and get back.

Thank you.

(Off record: 11:43 a.m.)

(Thereupon a recess was taken.)

(On record: 11:55 a.m.)
CHAIR NICHOLS: A slightly extended concept of 5 minutes. We are ready to get onto the next item.

Okay. And we have quite a number of witnesses who've signed up to speak on this item. And for that reason we may break for lunch. But in any event, I think what we will need to do is to actually shorten the comment time. This is not a rulemaking item. There are plenty of other opportunities for interested parties to make their views known, including workshops that are ongoing. And so for that reason, I'm going to make the public comment period time 2 minutes instead of 3 minutes per speaker.

So, this is a discussion here on how we're proceeding with the scoping plan that the Board needs to develop for meeting our 2030 targets, and building on our earlier discussion including the legislative update, as well as the other items that we're going to be dealing with here.

Am I in the right order here?

This is the scoping plan, right? Yes.

Okay. Good. I'm just double checking. Okay.

So what we need to do here is to get an update from the staff on the progress that they're making in quite a complicated undertaking here, because we need to both update the work that's already ongoing and also to extend and expand our coverage from our previous scoping
plan to include elements that were not really addressed
the first or second time around.

When AB 32 was first passed - and we just did
celebrate the 10-year anniversary - it was the first
program in the country, and as far as I know first sort of
comprehensive program anywhere, to require a comprehensive
binding approach to overall reduction in greenhouse gas
emissions.

At the time, most people didn't have a clear
framework in mind for what policies should adopt or how to
prioritize efforts to meet the target, and many indeed
thought that AB 32 was going to lead quite quickly to
federal legislation, which California would then fold our
efforts into.

Obviously that didn't happen. And California
moved ahead with a process that built on very technical,
detailed economic and technical market assessments with
input from various experts, including those from industry,
from NGOs, from academia, and we spent thousands literally
of hours in public workshops, stakeholder meetings,
dialogue with experts. And it turns out that it was a
very good thing that we did that, because we don't have
congressional action yet at the federal level, but we in
fact have delivered a program which is providing
foundation for policies, many of which are being adopted
at least in part in other states and countries. Clearly formed part of the important backdrop for the Paris agreement and for ongoing commitments and discussions in the latest conference of parties in Marrakech. We've actually been able to measure declines in emissions and growth in our own economy that is outpacing the growth of the rest of the country.

And we also have been able to tie our work on climate change back to the original mission of the Air Resources Board with its primary focus on air quality and specifically air quality as it relates to public health; and to the particular injustice of the way that air pollution affects people, because it does hit hardest at those who are poor and those who are in positions where they are not in a situation where they can fight back on their own, including of course children.

So this scoping plan is going to be and already is a focus of a lot of attention and interest from all over the world. And we in turn have an opportunity, because of our clearer understanding and experience, of how we can improve upon our original program and, in particular, to respond to the directions that we've been given by the Legislature in terms of priorities that should be included in our planning.

So that's what the updated scoping plan is going
to reflect. And I think that it's important to assure anybody who's listening here today that in the process of developing this scoping plan, the ARB is committed to undertaking a very thorough and fair process in which we will consider the economic and the health as well as the environmental aspects of the program; and that our decision-making process will be guided by an understanding that what we need to do is to develop a program that benefits all the residents of our state including those in disadvantaged communities.

So the way we will do that is through a plan that presents alternatives, that builds on very detailed science-based analyses, and to give the Board itself an opportunity to weigh the choices that are available and to craft the best decision that we can.

I am particularly grateful right now for the wisdom of the Legislature in requiring that the scoping plan be reconsidered every few years as well as for the opportunity for the Air Resources Board to guide this process.

It really is enormously helpful for California that we are able to insulate our climate policies and our investments from some of the other forces that may be shaking our country at the moment, and that we're going to be able to move forward with a stable and comprehensible
and comprehensive effort to deal with the tremendous issue of global climate change. It certainly is important. And I've heard from many people, not just from those who are traditionally our supporters but from many in the regulated community as well, about how concerned they are about disruptions in the market, disruptions in expectations of programs that were moving forward. And that only adds I think to the importance of what we're doing.

So with that - no stress - I would like to turn the presentation over to our Executive Officer.

Mr. Corey.

EXECUTIVE OFFICER COREY: Yes, thanks Chair Nichols.

California's current climate strategy has driven down statewide greenhouse gas emissions and helped us move steadily in the direction of a cleaner energy economy.

From the renewables portfolio standard to low carbon fuel standard to energy efficiency to cap and trade, California has shown leadership in implementing groundbreaking programs. And collectively these actions are evidence that it's possible to break the historical connection between economic growth and associated increases in energy demand, combustion of carbon-intensive resources, and air pollution. We've
shown it's possible to break this chain by relying on cleaner technologies, more efficiency, and more renewable energy sources.

The process to develop the updates that will be heard today includes several Environmental Justice Advisory Committee meetings, public meetings to discuss the greenhouse gas modeling and economic analyses, and other sector-specific workshops, and opportunities for stakeholder engagement. And that process will continue through the remainder of this year and into the early 2017 in terms of a number of public exchanges as we refine and craft the recommended or the scoping plan.

So through coordination and collaboration, we're confident that the plan will help California to achieve its climate change goals, while also ensuring the vibrant economy and workforce, while being consistent with the legislative direction that was referred to.

So with that, I'll ask Rajinder Sahota to give the staff presentation.

Rajinder.

(Thereupon an overhead presentation was Presented as follows.)

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Thank you, Mr. Corey. And good afternoon, Chairman Nichols and members of the Board.
This next item is an informational update on the scoping plan. At times it'll seem pretty dense in details and technical information. But we're hoping that we can all get through that together.

We have tried to add some animations to help walk through that process for everyone's benefit.

(Laughter.)

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Like Mr. Corey mentioned, the scoping plan update on this item itself has been informed by several stakeholder meetings and legislative direction from summer with AB 197 and with technical analyses related to greenhouse gas modeling. And it should go without saying -- should not go without saying that we've had a lot of interagency communication and work in developing the scoping plan, draft scenarios that you will be seeing today. These are very preliminary, and we will be revising them over the next couple of months with more input from State agencies, potentially the Governor's office, and with stakeholders and the Environmental Justice Advisory Committee.

So the outline for today includes an overview of the scoping plan. It will help provide some overall legislative and directive context in which we are
operating and developing this update, a brief discussion about climate change and public health, some exciting updates on the natural and working land sector, and preliminary policy scenario valuations that are really related to the technical work that we've been doing with a contractor on the greenhouse gas modeling.

One of the pieces that Chairman Nichols alluded to that we really want to try and incorporate this time is local action, especially in the context of CEQA. We have the 2008 scoping plan, and that scoping plan had been picked up and utilized in the context of CEQA, but we feel like we can provide additional guidance, which is being requested by local agencies and stakeholders.

I will conclude with a slide on Next Steps and a calendar for the next few months.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: For directives and legislation it's important to remember that the scoping plan was required by Assembly Bill 32. AB 32 also requires the plan to be updated every five years.

Last year Executive Order B-30-15 was introduced by the Governor. It establishes a mid-term greenhouse gas emissions reduction target of 40 percent below 1990 levels by 2030. It also asks that the AB 32 scoping plan be
updated to incorporate the 2030 greenhouse gas target.

Because of the requirements in the Executive Order, this update is actually off schedule for a five-year update. And you'll see that when we talk about how this update will subsume some additional work that's already underway, and specifically other plans that are being developed.

Senate Bill 32 was passed this summer, and it codifies the 2030 mid-term greenhouse gas target. AB 197 also passed this summer, and it asks the scope -- it directs ARB to consider the societal costs of greenhouse gas reductions in developing the measures in the scoping plan, prioritize measures resulting in direct emission reductions. It also references back to AB 32 requirements that include considering cost effectiveness of the measures and minimizing emissions leakage.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: This slide lists some key objectives against which we are assessing different scenarios to achieve the 2030 target. A primary goal of the scoping plan is to achieve the 2030 limit and put us on the path to achieving the long-term 2050 limit of 80 reductions below 1990 levels.

We want to provide direct greenhouse gas emission
reductions in our largest economic sectors to ensure our
economy is transitioning to more sustainable production
and energy.

The plan should also minimize emissions leakage
and ensure any reductions in California are not just the
result of those sources and emissions moving out of the
state but are real reductions from the perspective of the
atmosphere.

We want to make sure we are able to work at
subnational and national levels to ensure greater
greenhouse gas reductions through collaboration. For
example, our Cap-and-Trade Program is currently linked
with Quebec's program and proposed to be linked with the
emerging Ontario program.

The final plan should also be cost effective and
provide compliance flexibility so that the economy can
grow and support a robust workforce while still reducing
emissions.

It is also desirable to have a scoping plan that
readily meets the mandates in U.S. EPA's Clean Power Plan.

Further, the scoping plan must also include a
mechanism to support climate investments for programs in
disadvantaged communities to ensure that these communities
can benefit from the clean technology, fuels, and become
more resilient in the face of climate change. To date
approximately $470 million from the Cap-and-Trade Program auction proceeds are being used for projects to benefit disadvantaged communities.

Importantly, the plan must also provide air quality co-benefits and protect the public health. This is a lot for one plan, but it's not impossible.

CHAIR NICHOLS: Well, Supervisor Gioia just whispered, sotto voce, there's not going to be a Clean Power Plan anymore, so you can eliminate one item from your list. Maybe it needs to be updated.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: We conferred with the Legal staff, and we were notified that it's still the law of the land, and so we're still reflecting it. But we understand there may be challenges moving forward.

CHAIR NICHOLS: All right. Sorry for the interruption.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Okay. This next slide is about climate change and public health.

Like other state agencies, the California Department of Public Health has been active in helping us with this plan update. We know that climate change impacts everyone, but the most vulnerable suffer the most. Climate change amplifies existing risks for things such as
asthma and other respiratory illnesses.

There are several key steps that can be taken to address climate change impact inequities. These include climate investments to promote economic development and health equity. Examples of these include climate investments in urban forests and sustainable communities that promote active lifestyles. Both of which lead to direct health benefits but also enhancements at the community level that result in attractive and sought out housing markets.

Another way to address inequities is to support access to clean technology. Providing solar panels for low income households and financial support for cleaner vehicles ensures that all residents, especially those in vulnerable communities, get to experience the benefits of green technology without having to pick between clean technology and other essential household expenses.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: This next slide begins a detailed discussion getting into the technical merits of the policy analyses the we are doing.

This pie chart is actually reflective of the 1990 level and sector emissions that underpin the 2020 target an 2030 target. You'll see the target of 431 million
metric tons off to the right-hand side. And you'll see
that transportation, industry, and electricity are the
largest sources of emissions.

What is not in the pie chart is the natural and
working lands sector. This sector is challenging to
quantify due to the complex nature of biological systems.
It is also not included in the statewide limit except for
some agricultural emissions.

However, this sector has a significant role to
play in climate change mitigation. The sector is
estimated to have approximately 898 metric tons of carbon
stored in just above-ground carbon livestock --
live -- carbon stocks. And that includes forest, grasses,
and scrub.

In this scoping plan we are approaching the large
sectors and some integrated system, which means
understanding and considering impacts to the natural
working land sector, just as with any other sector. For
example, the sector can provide sequestration benefits and
be a source of biofuels. In an exciting development, this
scoping plan will include new information on inventory
updates and new progress on modeling of scenarios or
practices in managing our lands.

These are the same type of technical updates we
usually include for the industrial and energy sectors.
SAHOTA: This is a familiar slide. It provides the trend in greenhouse gas emissions from 2000 through 2014. The yellow dashed line is the 2020 limit of 431 and the blue line is the actual emissions for each year.

You can clearly see how the economic recession is reflected in the drop in greenhouse gas emissions from 2008 to 2009.

Another interesting point is 2012. Emissions increased for that year, mostly due to increases in natural gas electricity generation in response for decreases in hydro power. This is not surprising as we have been in a multi-jeer drought.

SAHOTA: Now I'd like to focus for a bit on the natural lands sector. For this sector the overarching goal is to manage our natural working lands to be a net sink for carbon through 2030 and beyond. And when we think of natural working lands, that includes our oceans and green space in our urban environments, not just forests or ag lands.

We know that we need to protect the existing land base and carbon stock, enhance carbon sequestration, and
reduce climate pollution through active management and restoration.

A new development for this sector includes the release of ARB's natural working lands inventory, which will coincide with this update to the scoping plan. The new ARB inventory is consistent with IPCC international methods. Further, SB 859 directs ARB to complete the inventory by 2018 in consultation with the Resources Agency.

Also for this scoping plan, Resources Agency has contracted with LBNL to develop a crude wall-to-wall inventory for this sector and project a business-as-usual scenario to understand if we're moving in the right direction in terms of sequestration.

The contract also includes a step to model different policy scenarios of management and restoration practices to understand their impacts on the ability of this sector to sequester carbon.

Once the appropriate management and restoration practices are identified, we will need to choose the right mechanisms to implement those policies. Those could include incentives, regulations, best practices, or other guidelines.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: This slide provides some background information related to the modeling tools we were using in the scoping plan update. Models play an important role as they allow us to analyze the impacts of policies and measures over time and estimate the costs associated with these policies and measures. There are several models that could be used for this purpose. I will provide a brief description of the two models we are using for this scoping plan update for the industrial and energy sectors.

The California PATHWAYS model can be used to assess and compare the implications of different greenhouse gas reduction scenarios across a range of potential future technology costs and fossil fuel prices. This model also allows us to assess the impacts of policies across the large industrial and energy sectors and treats those as an integrated system where one sector may have an interactive effect on another. For example, an increase in electric vehicles for the transportation sector will lead to an increase in load demand in the energy sector.

Along with direct costs, implementing different scenarios to achieve the 2030 target will be reflected throughout the California economy. The REMI model is used to estimate the macroeconomic impacts of different greenhouse gas reduction scenarios on the California
economy including impacts to industry and individuals.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: This next graph shows the State is expected to achieve the 2020 target, but additional effort is needed to maintain and continue the greenhouse gas reductions to meet the 2030 mid-term target and 2050 long-term target.

The darker blue line at the top is the reference for business-as-usual case. If we took no new action, our emissions would hover around the black dotted straight line at about 400 million metric tons.

The horizontal light blue line intersects with the 2030 limit of 260 million metric tons.

The blue triangle represents the sum of emissions needed each year between 2021 and 2030 to achieve the 2030 limit. The cumulative emission reductions needed between 2021 and 2030 is 671 million metric tons if we chart a straight-line path between 2020 and 2030.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: Before we get too much into the details, it's worth taking a few minutes to understand the difference between the 2030 limit and cumulatively reductions.

SB 32 states the 2030 limit is 260 million metric tons. That is a limit in a specific year.
The 671 cumulative number is the estimated total reductions needed between 2021 and 2030 to achieve the 2030 single-year limit. There is no cumulative limit even though our analyses presents some results in cumulative a form.

There are several reasons to evaluate the scoping plan measures using the cumulative context.

Measures may perform differently over time. For example, in early years a measure of technology may be slow to be deployed, but over time has greater deployment and greater impact on emission reductions. If you were to look at its performance in 2021 versus 2030, you would see that it may not seem important in the early years but is critical for the later years. Using a cumulative concept allows for flexibility in evaluating the effectiveness of any measure over time instead of a snapshot for a single year.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: The challenge before us is to determine the suite of policies needed to close the gap between the business-as-usual future and 2030 target.

For every greenhouse gas reduction scenario there will be a set of core complementary policies that will be common to each scenario known as the baseline policies and
measures.

The modeling shows that the baseline measures and policies do not achieve the 2030 limit of 260 and instead get us to about 301 million metric tons in 2030.

Some baseline policies and measures are explicitly required in statute, such as SB 350 requiring a 50 percent RPS standard and a doubling of energy efficiency by 2030.

Other policies in the baseline include implementation of the currently proposed short-lived climate pollutant strategy, implementation of the mobile source strategy to help the State achieve its federal air quality standards, continuation of the LCFS to 2030 in order to reduce dependence of fossil fuels, and improving the efficiency of the freight system and deploying freight vehicles and equipment that are capable of zero-emission operations.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Our main focus then shifts to identifying how best to reduce the remaining emissions and achieve the 2030 target to close the gap between the baseline policies and measures and the limit.

Options include enhancing and extending existing programs, or new policies and prescriptive regulations in
various sectors. Examples of policies include the RPS Low Carbon Fuel Standard; and examples of prescriptive regulations include command and control style measures, such as industrial facility regulations.

To date, staff has constructed three policy scenarios - informed by the concept paper, public workshops and comments, and legislative direction from AB 197 and EJAC recommendations. These three scenarios include the scoping plan scenario that has a cap-and-trade program; a no cap-and-trade scenario, which is referred to as Alternative 1; and the carbon tax scenario, which is referred to as Alternative 2.

The no cap-and-trade scenario and carbon tax scenario were included in comments made by the EJAC and other EJ organizations. Each of the three scenarios rely on a mix of measures, including the 2030 baseline policies and measure discussed earlier.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: We will go over each of the scenarios in detail.

This is the Draft Scoping Plan Policy Scenario or Cap-and-Trade Scenario. It includes the direct regulation of emissions at refinery facilities equating to about 20 percent greenhouse gas reduction in the sector by 2030. It is not proposed as a cap on the refineries but rather
the development of a measure that would increase production efficiency that would result in less emissions for production of refined products.

In conformance with AB 197, this measure will in emission reductions at the largest stationary sources of emissions in the largest sector of greenhouse gas sources, the transportation sector.

This scenario includes a post-2020 cap-and-trade program with reclining caps that covers the shortfall of emissions that the 2030 baseline policies and measures and refinery measures aren't able to deliver. The Cap-and-Trade Program will deliver the reductions in the covered entities to ensure the State achieves its 2030 limit.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Alternative 1 includes enhanced 2030 baseline policies and measures. Similar to the Scoping Plan Scenario, this scenario also includes a refinery measure. But instead of a 20 percent reduction, this alternative relies on a 30 percent reduction in greenhouse gas emissions at the refineries.

This alternative does not include a post-2020 cap-and-trade program and therefore many of the existing baseline measures must be enhanced and new incentive
programs must be added in order to ensure the State achieves its climate goals.

Specifically the RPS would be increased from 50 percent to 60 percent. The Low Carbon Fuel Standard would be increased from 18 percent to 25 percent. And additional light-duty vehicle ZEVs amounting to 500- to 600,000 would be deployed in South Coast, and there would be accelerated retirement and replacement of 1 million gasoline light-duty older vehicles.

Industrial sector direct measures would include efficiency measures to result in 25 percent reduction in greenhouse gas emissions by 2030. There would be a renewable natural gas standard for end users that would mandate natural gas suppliers to acquire and supply at least 5 percent renewable natural gas to residential, commercial, and industrial end users.

And heat pumps would be required in buildings in addition to the doubling of energy efficiency in existing buildings as required by SB 350. The heat pump's measure would require the replacement of about 1.2 million existing furnaces in existing buildings.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: A second alternative is the carbon tax alternative. This is essentially the same as the scoping
plan scenario, but rather a carbon tax takes the place of the Cap-and-Trade Program. So it also has the refinery measure of 20 percent with fewer emissions per barrel of refined product.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: This table helps to understand how the draft scoping plan scenario with a cap-and-trade program and Alternative 2, the carbon tax scenario, would change the emissions in each of the major sectors over time.

The left-hand column lists the major sectors. The column with 1990 provides the greenhouse gas emissions estimated for that sector in the year 1990. The sector greenhouse gas emissions in 2030 indicates the sector's estimated greenhouse gas emissions in 2030.

The last column tells you the percent of change from 1990 to 2030 for the sector.

It helps to focus on one sector to really understand what is happening. We can first focus on the electric power sector. Here you can see the 1990 level of emissions for the sector was 108 million metric tons. Once you model for the scoping plan on Alternative 2 scenarios, you can see the 2030 greenhouse gas estimated level is 36 million metric tons. This equates to a 67 percent reduction in emissions from the sector from 1990
levels to 2030.

We can look at another sector, the high global warming gases sector. These substances are usually found in refrigerants and some industry. This sector actually grows from 3 million tons in 1990 to 10 million in 2030, resulting in a 217 percent increase over time.

And finally you can see the total emissions in 2030 in the highlighted square that demonstrates this scenario achieves the 2030 target for the mass limit and also results in a 40 percent decrease from 1990 levels as required by SB 32.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: The second table helps to understand how Alternative 1, the no cap-and-trade scenario, would change the emissions in each of the major sectors over time.

Again, the left-hand column was the major sectors. The column with 1990 provides the greenhouse gas emissions as estimated for that sector in 1990. The Sector Greenhouse Gas Emissions in 2030 indicate the sector's estimated greenhouse gas emissions in 2030. The last column again tells you what the percent of changes from 1990 to 2030.

We can focus on the Electric Power sector again. Here you can see the 1990 level of emissions for the
sector was 108 million metric tons. Once you model for
the policies in Alternative 1, you see the 2030 greenhouse
gas estimated level is 30 million metric tons. This
equates to a 73 percent reduction in emissions from the
sector from 1990 levels to 2030. These increased
reductions for this sector result from the higher RPS of
60 percent and the addition of more energy -- of energy
efficiency measures.

We can also look again at the high global warming
sector. In this scenario the sector grows from 3 million
tons in 1990 to 10 million in 2030, again resulting in a
217 percent increase. Since this measure was not enhanced
for Alternative 2, the results are the same for the sector
for all three scenarios modeled.

And, finally, you can see the total emissions in
2030 in the highlighted square. And that demonstrates
this scenario almost achieved the 2030 target for the mass
limit and is 1 percent short of the 40 percent reduction
needed for 2030.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: Beginning with this slide we will now examine the
estimated cumulative reductions from 2021 to 2030 for the
programs in the draft scoping plan scenario. The two bar
charts on the slide represent scenario outcome bookends.
Each bar contains the contribution of the measures listed on the right-hand side. So you'll see the list of measures and then you'll see the corresponding amount of cumulative reductions within each of the bar charts.

The left bar represents an ideal scenario where current and proposed greenhouse gas reduction programs begin today. Technology materializes and is deployed on schedule and meets expected emission reduction estimates, and sources meet all their compliance deadlines.

The right bar estimates uncertainty surrounding the measure of performance. This uncertainty was modeled by delaying the start for all measures until 2021, and represents implementation technology and other uncertainties with the scenario.

The green box highlights the contributions from the core baseline policies. These baseline policies achieve about 543 million metric tons of cumulative reductions, with 40 million metric tons attributed to the refinery measure.

While the baseline policies achieve the majority of reductions to get to the 2030 target, there is still a gap of about 98 million metric tons in the ideal scenario. And that gap would be closed by the Cap-and-Trade Program to ensure that we get all the cumulative reductions to
achieve the 2030 limit.

What is also worth noting is that in this scenario if there is any uncertainty or measures don't perform as expected, the Cap-and-Trade Program would scale to limit emissions and make sure that we achieve that target.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: This slide shows the same information as the previous slide but shows the estimated cumulative reductions from 2021 to 3030 for the programs modeled as Alternative 1, which is the no cap-and-trade scenario.

Each bar contains the contribution of the measures listed on the right-hand side. And there are more measures in this one, so I apologize for the very small writing on the screen.

A key difference to note from the draft scoping plan scenario is that even though under the ideal scenario Alternative 1 misses the numerical 2030 target, it could produce more cumulative greenhouse gas reductions than the needed 671 as highlighted by the green box.

If programs underperform and trend towards the uncertainty bookend in the right bar chart, then we could be left with a deficit represented by the red arrow.

In this scenario, if measures fall short of
projections, there is no program to replace -- in place to close that gap. Therefore, additional action will be required to meet the 2030 target.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: That concludes the review of the preliminary modeling results. We can now look at the different scenarios on how they compare against the objectives discussed in an earlier slide in terms of benefits and drawbacks.

For the Draft Scoping Plan Scenario, which includes a cap-and-trade program, this slide begins to list some of the benefits.

As depicted in the prior bar charts, this scenario delivers a majority of the total cumulative reductions from baseline policies and measures that are required by statute or mapped out in other plans that are being subsumed into the State's overall climate policy.

Consistent with AB 197 and prioritizing direct emission reductions from the largest stationary sources, this scenario contains a new measure facility-level refinery greenhouse gas emission reductions.

While uncertainty is part of any path forward, this scenario has the benefit of a post-2020 Cap-and-Trade Program with a declining cap that can deliver additional
greenhouse gas reductions beyond the baseline policies and measures to close the gap and ensure we achieve the 2030 limit.

Where certain industries are vulnerable to trade exposure, the Cap-and-Trade Program incorporates free allocation to help minimize emissions leakage.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Continuing with the benefits. The inclusion of a market mechanism to incentivize reductions provides options and compliance flexibility for sources that are covered, and will enable continuation and expansion of program linkages both at the international and subnational level towards promoting a clean energy future.

Because this scenario retains the Cap-and-Trade Program, the corresponding auction proceeds will continue the support the GGRF to help support various emission reduction projects, many of which have directed benefits to disadvantaged communities.

And the scenario was consistent with the State's proposed measures plan for compliance with the Clean Power Plan.

The primary drawback of this scenario is the ongoing differing legal interpretations about authority for post-2020 Cap-and-Trade Program.
SAHOTA: In addition to looking for new policies and measures to reflect the direction in AB 197, staff is also evaluating changes to the design of the Cap-and-Trade Program to induce greater onsite reductions at covered facilities.

For example, possible design changes that could induce greater greenhouse gas reductions at a faster rate may include:

Further limiting offsets in a post-2020 program;

Changing allocation methods to reflect a declining compliance obligation with the expectation that onsite action is being taken each year to reduce emissions;

And decreasing allocations if a covered facility's emissions of criteria pollutants and toxic air contaminants increase.

Such program adjustments would apply to the compliance period starting in 2021. The specific amendments and potential design changes would be developed outside of the scoping plan in a separate regulatory process to meet all requirements of the Administrative Procedure Act and ensure a robust public process with an associated economic analyses.
INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: This graph depicts the estimated emission trajectory for the Draft Scoping Plan Scenario and Alternative 2 - or the Carbon Tax scenario - which is represented by the solid green trend line out to 2030.

As you can see, in the initial years the green line from today trends below the straight-line dotted 2030 target path as programs are implemented and emission reduction benefits are realized. This is represented by the shaded green area.

Around 2025, the scenario trend line starts to migrate back up and crosses the dotted 2030 target line due to population and energy demand growth overtaking the rate of reduction.

The post-2025 shaded green area represents the greenhouse gas reductions that would be delivered by the Cap-and-Trade Program or a carbon tax to close the gap and meet the 2030 target.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: For Alternative 1, the no cap-and-trade scenario, potential benefits include the following:

As depicted in the prior bar charts, this scenario delivers a majority of the total cumulative
reductions from baseline policies and measures that are required by statute or mapped out in other plans that are being subsumed in the climate strategy.

Consistent with AB 197, this scenario contains new measures to deliver greenhouse gas reduction for all industrial sectors and all facilities in those sectors.

The drawbacks of this scenario include the following:

Current law does not provide all the necessary authority for certain policies and measures. For example, there is no statutory authority to fund and implement a program to retire and replace the additional 1 million older light-duty vehicles.

With prescriptive regulations, there are fewer options to minimize emissions leakage. To address this each regulation would need to evaluate the specific sector concerns and unique design elements to address leakage.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Continuing, the additional drawbacks include:

Few opportunities to link subnationally or internationally.

The absence of a GGRF to help support further investments in green technology and other emission-reducing projects including those that benefit
disadvantaged communities.

And since the current State strategy from compliance with CPP is a state-measures-based plan that includes the Cap-and-Trade Program, California would need to identify other measures to meet the federal requirements for electricity-generating units.

And since this scenario includes new incentive-driven measures aimed at additional light-duty vehicle replacement and gas heating unit electrification that do not have a current funding source, going forward with this scenario would require additional funding to ensure the success of these new programs.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: This graph depicts the estimated emission trajectory for Alternative 1 or the No Cap-and-Trade Scenario, which is shown as a solid green trend line out to 2030.

Similar to the other two scenarios, a portion of the reductions are realized in the earlier years as the green line from today is below the straight-line dotted 2030 target path.

Some time after 2025 the scenario emissions creep back up over the dotted 2030 target line; and due to -- again due to population growth and associated energy
While this scenario has the potential to generate more cumulative reductions than the other two scenarios in the ideal case, the current set of programs modeled actually misses the numerical 2030 target by about 3 to 4 million metric tons in 2030.

The January draft scoping plan document will contain updated results to demonstrate how we will close that gap and actually achieve the 2030 limit for the alternative without a cap-and-trade program.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Alternative 2 is the Carbon Tax Scenario. It shares similar benefits as the Draft Scoping Plan Scenario.

This scenario delivers most of the total cumulative reductions from baseline policies and measures that are acquired in statute or contained in other state plans.

The new refinery efficiency measure will deliver greenhouse gas emission reductions at the source and consistent with the priorities to reduce direct emissions per AB 197.

The existence of a carbon tax to close any gap not realized with the baseline policies and measures
provides options for compliance and thus promotes flexibility that can be tailored to an individual facility's circumstances.

And the carbon tax could provide revenue to the GGRF or other incentive programs or be used for other purposes.

While the scenario does have a number of benefits, there are several observed drawbacks. A fundamental difference between a carbon tax and cap-and-trade system is that the carbon tax sets known price on emissions, but does not constrain or limit emissions through a strict cap. The carbon tax sets the price and lets the market determine the environmental outcome.

There are always challenges in setting the appropriate tax rates that will incent action and produce the desired emission reductions. If the price fails to produce the desired result, then additional measures will have to be implemented quickly to generate those unrealized reductions and make up for that time.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Additional drawbacks include the need for new statutory authority to adopt a carbon tax, including how the tax would be structured and who would pay.
Options for reducing emissions leakage may include exemptions for certain trade exposed sectors, putting a higher burden on those that remain subject to the tax.

Uncertainty surrounding the right carbon price ultimately means that this scenario may fail to achieve reductions beyond the known baseline policies and measures.

The tax option provides no clear path to continue linkages and expansion of climate goals with international and subnational parties.

And because this option does not include a built-in emissions limit guaranteed by either economy-wide cap or stack-based emissions limit at each generating -- electricity-generating plant, other measures for compliance with CPP would need to be developed.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: This slide should look familiar. It is exactly like the slide for the draft scoping plan scenario and shows the same shaded regions of emission reductions that would result per the policy scenario but with a carbon tax instead of a cap-and-trade program. This assumes we have set the carbon tax at the right value to drive the reductions that we need to close the gap and achieve the
SAHOTA: There is still a lot of work to be done and we're looking for input from stakeholders and the economic reviewers. Specifically ARB requests input on the structure of the carbon tax in Alternative 2. The Scoping Plan Concept paper and the economic analysis for the Cap-and-Trade Program amendments have included a carbon tax at the U.S. EPA social cost of carbon. However, the specific implementation of that tax has yet to be defined for the scoping plan modeling.

We also request input on the return of value under a carbon tax and how and whether administrative or program costs should be included in the economic modeling. An example would be a 5 percent administrative adder to each measure to estimate the cost of implementing the measures outlined in the greenhouse gas reduction scenarios.

We will continue to refine the costs of various measures and ensure they are represented appropriately in the models.

ARB will also work to incorporate the AB 197 requirements into the analysis and estimate the economic impact of the greenhouse gas reduction scenarios on disadvantaged communities. Work has already begun to
disaggregate the macroeconomic preliminary modeling results by geographic region which can help identify impacts on different populations throughout California. That work will also be included in the draft scoping plan in January.

Also, as part of the draft scoping plan, we will present results for each final scenario for the greenhouse gas reductions, costs, sensitivities and uncertainties for the models, and documentation that describes all of our work.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: And now I'm going to switch gears to local action.

Local governments are uniquely positioned to reduce emissions because they have broad influence over activities that contribute to significant direct and indirect greenhouse gas emissions. This includes their planning and permitting processes, discretionary actions, local ordinances, outreach and education efforts, and municipal operations.

And given the 2030 target, we recognize that climate action must occur at all levels for us to be successful.

Fortunately, many local governments are already
leading efforts to address climate change through regional Climate Action Plans. In addition, many local air district rules and regulations aimed at reducing criteria and toxic pollutants generate concurrent greenhouse gas reductions.

Nevertheless, recent court proceedings and case law as well as other stakeholder feedback have highlighted the need for the scoping plan to provide guidance on how to address greenhouse gas emissions from local projects under actions such as CEQA, and to ensure that those actions are consistent with the State's climate action goals.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: In response to the request for more specific CEQA guidance consistent with the scoping plan targets, ARB staff is recommending a per-capita goal of 6 metric tons by 2030 and a 2 metric tons by 2050, that would be implemented through a regional Climate Action Plan or General Plan. This goal was presented at a November 7th workshop, and staff is currently taking comments on these values.

The values represent the 2030 and 2050 targets divided by the Department of Finance population projections, and are therefore consistent with the
statewide greenhouse gas limits in AB 32 and SB 32. They also provide parity with the Under 2 MOU "fair share" and Paris Agreement, as well as demonstrate local level leadership in supporting the State's climate strategy.

The per capita approach does not limit regional growth, but does facilitate the concept that growth should occur in a sustainable manner.

The recommended goals may not be possible for some regions due to the types of sources. Therefore, the scoping plan would propose that as part of a climate action plan, the local agency identify what unique circumstances may result in a climate action plan with a different 2030 or 2050 goal.

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INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Beyond plan-level actions local governments can also support the State's climate goals when considering discretionary approvals and entitlements of individual projects through CEQA.

Absent conformity and an adequate regional climate plan, ARB staff is recommending that all new land-use development projects implement all feasible measures to reduce greenhouse gas emissions to ensure that they do their share in supporting the State's goals.

ARB staff believes that achieving a no-net
increase in greenhouse gas emissions is the overall objective, but understands it may not be feasible for every project. Lead agencies may develop an evidence-based numeric threshold consistent with the Scoping Plan and the State's long-term goals. Projects with emissions over that threshold may be required to incorporate on-site design features and mitigation measures to avoid or minimize emissions to the extent possible.

If a project requires additional mitigation, ARB staff is recommending the lead agencies prioritize on-site design features first, followed by with mitigation within the air basin, and then elsewhere.

If all on-site mitigation cannot be achieved, we would propose the establishment of a green fund. Developers would pay into this fund for any unmitigated GHGs at the social cost of carbon. This fund could be used to implement energy efficiency or other projects in the region to support state goals and provide jobs in the region. These projects could be directed in EJ communities.

Where further project design or regional investments are infeasible, it may be appropriate to mitigate project emissions through purchase and retirement of offset credits from a voluntary registry.
INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: This slide provides the next steps in work on this update to the Scoping Plan. ARB staff will hold additional topic-specific workshops to obtain stakeholder feedback on the preliminary policy scenarios and modeling results, the measures modeled to close the gap, and other related topics.

As mentioned, ARB staff will also continue to work with stakeholders and the economic advisors to refine the economic analyses.

We are targeting an end-of-November release of a discussion draft for the Scoping Plan.

We anticipate that the complete draft for the 2030 Scoping Plan, including the full environmental and economic analyses, will be released in early January 2017 and will be accompanied by a 45-day formal comment period. The Draft Scoping Plan will be presented to the Board later that month for initial consideration.

Staff is targeting the release of the Final Scoping Plan, along with the formal written responses to comments received on the Draft Environmental Analysis, during the first quarter of 2017. The Final Scoping Plan will be presented to the Board for consideration in Spring 2017.
There are also additional EJAC and community meetings that will be taking place throughout this time. This concludes the presentation. At this stage I would invite the EJAC members up to testify. But I believe we have an update on their status for their attendance at this meeting.

INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA:
Yes, I'd be happy to update the Board.
At this point, like Rajinder said, the EJAC members would normally come up and provide some testimony. And a couple of them were planning to attend today but came down sick or otherwise had conflicts come up. So they do apologize for not being able to come.

They did want me to point out that they participated in last week's workshop and provided their comments at that point. The Committee is looking forward to discussing the Scoping Plan further at its next meeting and reviewing the next draft of the -- the discussion draft that Rajinder just pointed out when it hits the streets.

They also wanted me to point out that the EJAC will be looking for an EJ analysis of the scenarios that were discussed earlier. As you heard Rajinder say, we are doing that. And we'll be focused on the options -- they will be focused on the options that provide the strongest
air quality improvements at EJ communities. So definitely something we're looking forward to working with them on that.

CHAIR NICHOLS: We do have a letter from them also outlining their interest and concerns - am I right - on that specific issue or --

INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA: I don't think they provided a letter for this hearing.

CHAIR NICHOLS: Okay. I must be confusing it with something else then.

INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA: Yeah.

CHAIR NICHOLS: Thanks.

Okay. I think we should probably just move to the people who have asked to speak to us then, unless we want to break now. Because I'm going to suggest that we probably should break at 1 for half an hour just for lunch.

So we could break till 1:15 if we're really serious about keeping it short. Let's do that. All right.

People are beginning to fade, I can tell.

(Laughter.)

CHAIR NICHOLS: There's a need for calories here. Okay. We will break until 1:15; and we'll try to
be back promptly. Thank you.

(Off record: 12:46 p.m.)

(Thereupon a lunch break was taken.)
AFTERNOON SESSION

(On record: 1:23 p.m.)

CHAIR NICHOLS: So I think we should get started
with the witnesses, beginning with Shelly Sullivan.

Good morning -- good afternoon.

MS. SULLIVAN: Good afternoon, Chair Nichols and
Board, and Board out in space.

(Laughter.)

CHAIR NICHOLS: Board members are unseen. But,
you see, they're beginning to move in.

MS. SULLIVAN: I know you're there.

My name's Shelly Sullivan. I represent the
Climate Change Policy Coalition. And we were formally the
AB 32 implementation group. But we're a group made up of
organizations representing the building industry,
retailers, manufacturing, agriculture, taxpayer, and
forestry sectors.

We are here to talk to you today about the
scoping plan and raise a couple of concerns with some of
the recent issues that were raised during the November 7th
workshop. We will definitely be submitting comments for
the Monday deadline that go into further detail. But we
wanted to talk to you about a couple of issues right now;
specifically the policy scenarios presented.

With the lens of developing a program that
minimizes leakage, we urge the Board to direct the staff to conduct individual workshops on each of the policy scenarios to assure we're reaching GHG emission reduction goals in a cost-effective and technologically feasible manner.

CCPC is also concerned with the proposal of facility-specific caps. And we believe that those will result in less efficient and more expensive design concepts. So we really urge the Board to take a look at that and see what we can do to minimize leakage.

And then, finally, we continue to advocate that -- within the updated scoping plan actually, that we have an industrial advisory board so that industry and manufacturing can play a more significant role in the State's efforts in its 2030 and beyond goals.

So those are our three top-line comments. And again, we've made more in the letter, but we're just hoping that you take a look at those.

CHAIR NICHOLS: I just wanted to follow up on quickly on your question or your point about separate workshops on each scenario.

MS. SULLIVAN: Yeah, it just seemed that -- you know, that there was a lot of information covered on the November 7th workshop. And then we got a couple of those scenarios that were very different from the scenarios, the
concept paper scenarios. And we just think that a lot of
those really need more time and more analysis and more
reflection.

    CHAIR NICHOLS: Okay.
    MS. SULLIVAN: So that's our plan.
    BOARD MEMBER GIOIA: I have a question.
    CHAIR NICHOLS: Yes.
    BOARD MEMBER GIOIA: What I don't understand is
since there was a lot of overlap in those different
scenarios, it would seem that for the public that it would
make sense to see all those scenarios compared against
each other at one time in one workshop, so you could look
at -- as the different pieces were scaled up or down or
different elements were added, that you have -- I
don't -- I guess it doesn't seem to me to make sense why
we would have separate workshops on a different scenario
and not just comprehensively deal with them in one.
    MS. SULLIVAN: And maybe that's --
    BOARD MEMBER GIOIA: Because all your members re
smart people.
    MS. SULLIVAN: Maybe that's the solution. But
what we are asking for is a workshop on the different
scenarios so that we are able to look at them and compare
and contrast and try and figure out which are the most
cost-effective technologically feasible ways to move
CHAIR NICHOLS: So what I understood was that just you felt that all of them were covered too fast and --

MS. SULLIVAN: Exactly.

CHAIR NICHOLS: -- and there wasn't enough time to dig into --

MS. SULLIVAN: Exactly.

BOARD MEMBER GIOIA: Oh, okay. Not separate workshop on each separate --

MS. SULLIVAN: No, a separate workshop that covers the policy scenarios.

BOARD MEMBER GIOIA: Okay.

MS. SULLIVAN: So thank you.

CHAIR NICHOLS: Thank you.

MS. ROBERTS: Good afternoon, Madam Chair and Board members. My name is Tiffany Roberts from Western States Petroleum Association.

And I'd like to just say that WSPA continues to hope that we can find a workable pragmatic approach to California's post-2020 climate policy. I think everybody recognizes that reducing greenhouse gas emissions 40 percent below 1990 levels is going to be difficult and is going to come at a cost. And in fact at the November 7th workshop, there was economic analysis that was presented
which shows that a post-2020 path would cost the State in terms of jobs as well as gross state product. Moreover, that analysis did show that direct regulations will cost nearly 6 times as much as the State's Cap-and-Trade Program. That analysis really demonstrates that there's an urgent need to balance economic vitality and environmental regulation and integrity.

You know this. Economists have long recognized that market mechanisms such as a well designed cap-and-trade program can provide the most cost-effective approach to reducing emissions. And it's imperative that ARB go further to embrace a well functioning market mechanism that moves the State in the right direction.

However, the paths that we've seen presented seem to be going in the wrong direction. And specifically when it comes to a couple of different measures that were offered up, specifically the refinery measure that would have a 20 to 30 percent greenhouse gas emission reduction by 2030 and an 18 to 25 percent LCFS target by 2030, let me just quickly delve into the refinery measure and give you a little bit of information.

So it really does single out refineries for those direct emission reductions. And there's not a lot of explanation as to how it was determined that a 20 or 30 percent reduction would actually be feasible. So we'll
follow up with information, but we would like to ask that we can work with you and your staff to delve into that a little bit more so that we can try to understand the feasibility of that.

Thank you.

CHAIR NICHOLS: Okay.

MR. PATNEY: Arjun Patney with the American Carbon Registry. I'll try to abbreviate my comments.

Thank you, Chair Nichols and the Board for the opportunity to speak today.

The issue we'd like to place front and center when we talk about environmental justice in the context of the Scoping Plan is specifically climate justice. For when we think back to Hurricane Katrina, we must remember who in our society was most hurt, who lost their homes and their lives?

When heat waves strike, the most vulnerable are those without the means to escape dangerously high temperatures.

Looking at other parts of the world, when there's a drought and crops are devastated, we know that some eat and some go hungry.

Climate risk is what we should be talking about when we talk about environmental justice in this room today with respect to the Scoping Plan. The moral
imperative is to reduce greenhouse gas emissions dramatically. And the only way to achieve that is by ensuring the resources we dedicate to this crisis are used to maximum effect. Every dollar spent must buy as much greenhouse gas mitigation as possible. And that is what cap and trade does.

Offsets accelerate our progress further. Every offset credit represents a real emissions reduction. That was written into AB 32 and the Cap-and-Trade Regulation. And anyone who doubts ARB staff's commitment to upholding that standard is misinformed.

Allowances on the other hand are permits granting the right to warm the atmosphere we all share. But every time an offset is used instead of an allowance, our atmosphere warms a little bit less, and the disadvantages in our society are a little bit safer from the destructive weather events brought about by climate change.

That is why questions raised about cap and trade and offsets are misguided. We should want as much as climate protection as we can get for every dollar spent, and we should want the credits used to represent emissions reductions. We need more greenhouse gas mitigation and more offsets. The current offsets use limit of 8 percent is in fact too low. It should be increased. It's a limit that unnecessarily impedes our ability to fight climate
change and protect our most vulnerable from climate risk.

And thank you for the opportunity to share our thoughts.

CHAIR NICHOLS: Thank you Mr. Patney.

MR. SMITH: Hi, Chair Nichols and members of the Board. My name's Adam Smith. I'm the manager of climate policy with Southern California Edison.

I'd like to just touch on three topics:

First, voice our support for the Cap-and-Trade Program.

Second, discuss the importance of the Scoping Plan to future utility planning efforts.

And then finally just touch upon the important role of electrification.

Southern California Edison continues to support the State's Cap-and-Trade Program, and therefore we support the Draft Scoping Plan scenario that explicitly includes the extension of cap and trade.

A well-designed market, as you've kind of already heard, can deliver and actually find maybe in the first instance least cost abatement opportunities across cap sectors. I think ARB staff has come up with a pretty good list of those benefits of the Cap-and-Trade Program already. I think when you guys do the speaking tour and further economic analysis, you're going to reaffirm and
probably expand that list.

Pivoting quickly to utility planning. The Scoping Plan will be critically important to utility planning in the future, in a way I don't think other scoping plans have, as it will likely set a range of emissions that the State wishes to see come from the electric sector out to the year 2030. This is because of SB 350 and the creation of the integrated resource plans. That range will be taken by the CPUC and CEC and used to inform electric utilities in those IRPs.

So it is crucial to ensure that any electric sector targets or ranges that come out of this scoping plan update don't just consider the appropriate abatement effort of our sector, but also include the appropriate abatement effort of other sectors as well.

I'm especially thinking about here the transportation sector, which has its own executive order mandating that it achieve 80 percent below 1990 levels by the year 2050.

If you look at ARB's proposed draft scenario, you see that the electric sector would achieve something like 67 percent reduction from 1990 levels by the year 2030, while the transportation sector would only achieve something like, you know, a 30 percent decrease.

With that, I'll let it go. But thank you for the
(Laughter.)

CHAIR NICHOLS: Thank you. It's amazing how much you can do to squeeze three minutes into two.

(Laughter.)

MR. SHILLINGLAW: I'll try to continue that tradition here.

My name is Brian Shillinglaw. I direct the U.S. operations for NewForest's Timberland, an environmental market investor and a supplier of offsets into the system. We located an office and have increased hiring in the State of California precisely because of the passage of AB 32.

I'd like to make a few brief points.

First, as we consider post-2020 options I'd urge the Board to direct staff to evaluate empirical evidence around the efficacy of carbon taxes now that we have some empirical data coming in from British Columbia where that system has had some difficulty in achieving the targeted emissions reductions, and they're reconsidering. So I think that should be part of the Scoping Plan analysis.

Second, I think there's broad consensus that the post-2020 program should be designed to ensure the maximum possible criterion pollutant reductions. I urge the Board
to ask staff to develop a menu of policy interventions both within the program design and uses of auction revenues that would deliver the most criterion pollutant reductions and also the cost of those. And that would inform which of those tweaks and which of those policy designs are chosen both with -- between alternatives and within alternatives. And I suggest that once that menu is developed, the elimination or reduction of offsets will not be a top priority for reducing criterion pollutants.

Finally, the offset program should not just be viewed as cost containment. This a program of economic diplomacy for climate mitigation. There are landowners and businesses around the country that are seeing that society values climate mitigation because they are getting paid for taking action to reduce greenhouse gas emissions. And that's vitally important. And it's even more important to deliver on the mandate of California leadership on climate under AB 32.

Finally, I note that as we look at the offset program, it should be noted that tens of millions of dollars have flowed to rural landowners often with environmental justice concerns, including Native American tribes around the country; and that as we consider the post-2020 plan, that should also be factored in.

Thank you for your time.
CHAIR NICHOLS: Thank you.

MR. MOONIN: Good afternoon. My name's Elmer Moonin. I am Sugpiaq from Port Graham, Alaska, and I'm the chief operating officer for Port Graham Corporation. I'd like to take a quick second to thank you for the opportunity to share my thoughts and our Port Graham Corporation Board for the same.

Today I'd like to talk a little bit about Port Graham Corporation and the community before touching on our anticipated participation in the program and the positive impact it already has on the community.

Port Graham is a small Sikwiup subsistence village located on the tip of the Kenai Peninsula in south central Alaska and has a population of 170 people. Port Graham Corporation is a village corporation that was created under the Alaskan Native Claims Settlement Act in 1971. When the United States Congress passed ANCSA, Port Graham Corporation has conveyed over 106,000 acres of ancestral lands surrounding the community and the Gulf of Alaska for future economic development.

Our ancestors carved off a subsistence lifestyle on these lands for generations. As a matter of fact, our current chairman's grandfather was born on these lands in Yalik Bay.

The Port Graham Corporation is currently in the
process of enrolling in an improved forest management project into the Cap-and-Trade Program. These efforts have contributed to ten seasonal jobs in the community that has a nearly 30 percent unemployment rate. And with proper training and education, if all goes well, can provide stable income to shareholders for the next century. Through these activities during the 2016 field season our shareholders were able to spend time connecting with their ancestral lands while earning a wage.

As the project moves forward, Port Graham Corporation is working to ensure shareholders and descendants will benefit from our participation. This includes increasing shareholder hire, creating a settlement trust, and preserving our cultural heritage for future generations.

Port Graham Corporation supports extending the Cap-and-Trade Program through 2030 that can provide other ANCSA corporations the opportunity to realize the same benefits we're anticipating.

Thank you for your time.

CHAIR NICHOLS: Thank you.

MR. KOMPKOFF: Good afternoon.

CHAIR NICHOLS: We're giving you two people's time, right?

MR. KOMPKOFF: Two people's time.
CHAIR NICHOLS: You and Mr. LaBelle.

MR. KOMPKOFF: Yes, he's a shareholder that yielded some time to me.

So my name is Gabe Kompkoff. And if I look like I'm sweating, it's because it's so darn hot in here compared to Alaska, where I came from.

(Laughter.)

MR. KOMPKOFF: I am both the CEO and a shareholder of Chugach Alaska Corporation. I'm originally from a small town called Cordova of about 2,000 people, which is a big city compared to my friend Elmer's town in the village that my father grew up in.

We are a for-profit Alaska native corporation that was established under the Alaskan Native Claims Settlement Act of 1971. We're unique in our indigenous ownership, but we're just like every other corporation. We're regulated and taxed and operate just like any other corporation.

We represent more than 2500 Alaskan Native shareholders. And you heard and you can see some of our shareholders here today.

We're deeply committed to preserving the economic well-being of our shareholders preserving our heritage, and our lands are at the very core of our mission and our assets. Our land holdings include 5,000 miles of coast
land that go from the tip of Kenai Peninsula where Port
Graham is all the way up through almost to Yakutat.
Beautiful Kenai Fjords, Prince William Sound. Who's been
on a cruise in that area, it's just -- I recommend it to
everybody. Our lands are filled with timber and minerals
and wildlife, which we manage to the benefit of our
shareholders.

We plan on participating -- Chugach plans on
participating in the Cap-and-Trade Program through an
improved forestry management project over the Bering River
Coal Field. We think it will supply offsets into the
system in 2018.

As a side note, it will also forever retire our
rights to develop the coal.

The carbon offset project is a unique opportunity
to create long-term sustainable economic benefits for our
shareholders and our region. We provide professional
development opportunities, jobs, scholarships, cultural
preservation programs. And our job is to produce these
benefits for multiple generations.

As I said before, our land holdings are the
single largest asset of the corporation. Managing our
land's responsibly means finding a balance between
extracting resources and taking care of our land for
generations to come.
We've harvested our timber before, and we continually evaluate and explore our lands for additional mineral resources.

If we participate in this program, it allows us a unique opportunity to meet our mission and our goals of economic development, while maintaining land for traditional uses for many generations to come.

So on behalf of our corporation, our shareholder community, we applaud your leadership here in California. As you know, you're having a huge impact beyond your borders.

As you evaluate your Scoping Plan, we urge you to keep in mind the positive impact you're having on communities outside of your lovely state and support continuation of the Cap-and-Trade Program beyond 2020.

Thank you.
Sealaska is the Alaskan Native Regional Corporation for southeast Alaska, south of Chugach.

These forests and coast lines are the traditional homelands of the Tlingit, Haida, and Tsimshian peoples. Sealaska represents the interests of 22,000 shareholders of native descent.

Sealaska shares the concerns of the environmental justice communities. Its shareholders know about the public health consequences that can result when decisions are driven by economic concerns alone. At times their ancestral forests have been overlogged and their coasts overfished.

For people so deeply rooted in these lands, this can and has had adverse health effects. It also bears mention that Alaska rural villages are some of the most disadvantaged in the U.S.

While Sealaska has engaged in natural resources extraction, it supports California's commitment to addressing climate change. Northern communities are amongst the most impacted by climate change. Sealaska therefore supports extending the Cap-and-Trade Program beyond 2020, and specifically the Forest Offset Program. It has enabled the conservation of hundreds of thousands of healthy forests both within California and outside the State. It has locked up millions of tons of greenhouse
gases. It helps to contain costs. It also provides economic and environmental co-benefits.

Sealaska's forest project will bring important economic improvements to the native peoples of southeast Alaska and will do so in a way that will promote public health.

It also will preserve and protect large forests, including some selected because of the marine -- sent to the marine habitat and protecting them too.

Alaska's project -- Sealaska's project also demonstrates another important benefit, what Brian Shillinglaw called economic diplomacy. The results of the elections last week demonstrated the need for California to continue to provide leadership in addressing climate change.

As Rajinder noted earlier, cap and trade is unique among the three scenarios in that it provides for collaboration with other jurisdictions via linkage and via offsets, enabling projects like Sealaska and in places like Alaska, Pennsylvania, and West Virginia demonstrates defining climate change need not be an environment versus economy battle. In parts of the country that may not appear to share California voters values, these projects demonstrate that people there too have an interest in fighting climate change.
Sealaska supports extending the program and asks the Board to consider raising rather than lowering the 8 percent limit on offsets.

Thank you.

CHAIR NICHOLS: Thank you.

MR. VILLEGAS: Good afternoon, Madam Chair and Board members. I'll try to squeeze this three-minutes presentation into the two.

My name's Ernie Villegas and I live in Fillmore, California, a small agricultural town of 14,000 residents in Ventura County. Much of our community is comprised of Hispanic families, many living on low income salaries.

Although I do represent myself today, I am the former mayor and city councilman of Fillmore and was a 29-year employee of Southern Cal Edison serving as a public affairs manager and supervisor of our energy efficiency programs.

I come before you because I have some concerns on what unintended consequences may arise if there are even more stringent regulations put upon AB 32 Scoping Plan update. This may have some impacts placed upon our families and our businesses.

During my time as a mayor and councilman, I was also a board member of the Ventura County Air Pollution Control District, having served there for four years,
including as chair of the board.

I was very proud of being a member of the board because we worked hard at engaging with all of our community advocates from all sectors and including them in the process so we can make the best decisions possible to maximize our positive outcomes and minimize our negative results.

My fear is that some of the recommendations from the advisory committees will be much more difficult to achieve and could come at a price which means or could mean a loss of jobs, production, and increased energy costs. These are important factors we cannot afford.

As I understand it, at the ARB workshop last week there was an acknowledgement that any climate policies that the State does pass will be tough and will have an economic impact. There is a need to make these policies as cost effective as possible. Let me be clear. These policies should have and continue to have an emphasis on cost effectiveness. Our citizens depend on it.

Thank you for your time.

CHAIR NICHOLS: Thank you.

MR. GONZALES: Madam Chair, members of the Board. My name is Bob Gonzales and I come from the small town of Santa Paula in the County of Ventura, population of about 30,000.
I come here to share my thoughts with you related to some of the Environmental Justice Advisory Committee recommendations made to the ARB on how they may impact a city -- bless you -- on how they may impact a city like mine including the members of my community.

First of all I want to share with you that my community's known for its lemons, oranges, avocados. And Unocal 76 opened their doors 126 years ago last month.

I was a police officer in the city for 33 years, the last seven serving as the chief of police. After I retired I became a council member and served for eight years, two years as the mayor. I also served eight years on the local community college board and 11 years on the local school boards. I believe I have a good pulse and a read on the community.

I mentioned there are 30,000 people in the city of Santa Paula. Unfortunately the medium income for a citizen in Santa Paula is just over $20,000. And if my math is right, that's like $1,500 plus a month.

The unemployment rate stands at 7.1 percent, and the national average of unemployment I think is about 4.9, maybe 5.

The recommendations submitted by the Environmental Justice Advisory Committee are very good. However, many are pie in the sky. Some have much merit,
but yet some are very expensive. And it will be the
people that live in my community that will have to pay to
implement a lot of the recommendations, as well as other
people who are going to be having to travel and buy
energy.

Many of the recommendations that have been
submitted by the Environmental Justice Advisory Committee
will make things worse for the community of Santa Paula.
When the Environmental Justice Advisory Committee makes
recommendations but -- to not build more gas stations or
when they extol the benefits of higher gas prices, let me
say we are not speaking for the people of my community or
like communities.

Let me be clear and emphasize the fact that we
too believe in clean air and clean water in Santa Paula.
But there must be a balance between environmental
integrity and economic vitality.

And I thank you for your time.

CHAIR NICHOLS: Thank you. Thanks, Mr. Gonzales.
I appreciate people shortening their time just in the
interests of hearing everybody.

Bonnie Holmes-Gen.

MS. HOLMES-GEN: Madam Chair and Board members.
Bonnie Holmes-Gen with the American Lung Association in
California.
The American Lung Association and health community throughout California believe the Scoping Plan is a critical opportunity for California to continue as a climate leader for the country and the world, and demonstrate that we can and will achieve clean air and a healthy climate and improve the health of millions of people.

We know Californians today face the most difficult air pollution challenges in the United States, with health impacts falling disproportionately on our most vulnerable populations. And we also understand that climate change is already upon us and worsening our air quality. Drought-related impacts, for example, have worsened particle pollution levels in the San Joaquin Valley.

Clearly we need a plan that will meet and exceed our GHG reduction targets, while building in protections for communities.

I'm glad to see the repeated mention of the need for refinery and industrial efficiency measures to reduce community impacts. But I want to focus for one minute on transportation that represents more than a third of the GHG emission reductions -- or emissions in California and contributes to the majority of smog and soot emissions.

My focus and plea is that we need a strong
direction to push for deeper reductions in the transportation sector. This means moving away from combustion, driving down dependence on dirty petroleum fuels, and moving to zero emissions.

One key fact from our recent Clean Air Future Report, conservative estimate of passenger car impacts, climate and health impacts adds up to 15 billion in California, or about $18 of health and climate impacts for every fill-up of gas. So we want to express the strong importance of reducing transportation emissions through transforming technologies, transforming fuels, and directing more focus and support on local land-use and transportation policies to reduce VMT.

Transforming technology and fuels is covered of course through clean cars, zero-emission vehicles, and low carbon fuel standard. But let's work together on SB 375 and improving 375 targets and community strategies.

Thank you.

CHAIR NICHOLS: Thank you.

MR. MICHAELS: Madam Chair and members of the Board, I appreciate the opportunity to be here. My name's Ted Michaels with AJW. I'm here representing the Third Party Delivered Energy Efficiency Coalition. The Coalition's members include companies and organizations that provide a wide range of energy efficiency services
and technologies that help reduce greenhouse gas emissions, save energy, and provide a significant amount of economic benefit.

Examples of third party delivered energy efficiency include deep retrofits at public sector and private sector buildings that are most often provided by energy service companies under performance contracts. It includes energy -- industrial efficiency and optimization that are done in the manufacturing and industrial-based increase competitiveness and reduce energy consumption as well as material loss and other benefits.

In addition, it includes above-code energy efficiency approaches such as LEED that will provide large benefits in the commercial sector as well as other sectors.

As ARB noted in the previous scoping plan, buildings in California represent the second largest source of greenhouse gas emissions. And California has had a fair amount of -- a significant amount of success in addressing energy efficiency through utility and rate-payer programs.

Third party delivered efficiency is different. This is voluntary, private sector delivered, energy efficiency projects that can provide a significant amount of greenhouse gas savings, economic drivers, and high
quality jobs both in the service sector and the construction sector.

So as we -- as California continues its climate leadership, we encourage you to more effectively utilize third-party delivered energy efficiency. And we encourage you to work with your partners at the energy agencies such as the CEC and the CPUC and in other governments' agencies such as the Legislature and the Treasurer's office to make sure the third-party delivered efficiency contributes to the solutions that you're searching for here.

Thank you.

BOARD MEMBER GIOIA: Thank you.

Chair Nichols is out briefly. So I will just temporarily ensure this meeting is orderly run for a while.

Orderly.

MR. PENRITH: Good afternoon, members of the Board. My name is Sean Penrith. I'm the Executive Director for The Climate Trust. We're an NGO 19-years old based in Portland, Oregon. We've been heavily immersed in the carbon market world of protocol development and policy for all of those years.

One of the most central issues when you look at the global challenge of course is mobilizing the trillion dollars a year to combat the temperature ranges that we
want to maintain ourselves within. We cannot leverage
public finance because those balance sheets are too thin,
and so we have to rely on private capital.

To bring private capital to the market, we need
to have certainty and we need to avoid as much risk as we
can.

The Climate Trust launched at the beginning of
the year Climate Trust Capital, which was an impact
investment fund specifically designed to invest in
land-based sectors to generate credits into the California
system.

A lot of those investors are extremely concerned
when they hear that certainty may be in jeopardy. We
understand from Marrakech and the Paris Agreement that the
cost of compliance can be reduced by 32 percent by using
carbon trading. And so we would urge the Board to
continue their pursuit of a cap-and-trade system post-2020
that includes the allowance and the offset sector. Along
with my colleagues, I would urge you to not consider
reducing the offset limit but instead increasing it to 12
percent, to further enable linkages, lubricate the market
and stimulate much more innovation into the sectors.

Cost effectiveness is the prime consideration as
far as we're concerned. It should be a central equity
issue. And so the ability to reduce the containment and
compliance costs are first and foremost, and that should be the central equity issue. We do not dispute the issues that the EJ Advisory Committee raised at the workshop last week. We don't denigrate them or dismiss them whatsoever. But if the central purpose of the program is cost effectiveness, we urge you to consider moving forward with cap and trade and increasing the limit.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. KRAUSSE: Good afternoon, Supervisor Gioia and Board members. I'm Mark Krausse here on behalf of Pacific Gas & Electric Company.

I'd like to start by repeating something you've heard us say many, many times before. Pacific Gas & Electric strongly supports California's efforts at climate change -- at reducing the impacts of climate change and the Cap-and-Trade Program in particular as a critical and cost-effective component for meeting our State's goals.

At a time when we've probably moved away -- further away from a national approach to combating climate change, it's more important than ever that California demonstrate a renewed commitment to the path it embarked on a decade ago and one on which it has demonstrated significant success. Now is not the time to change course.
At the same time we must achieve these reductions while also addressing local air quality impacts. As a utility that serves some of the communities most impacted by air quality -- air pollution, we wholeheartedly agree that ARB must continue its important role in ensuring better health outcomes for all.

PG&E firmly believes that the draft scoping plan policy scenario, that first scenario that you heard with both Cap-and-Trade Program and program measures, is the best, most cost-effective approach to reducing carbon. Cost effectiveness is not only desirable but critical if California's approach is to serve as a model for national and international action in proving that environmental protection and economic success are not competing goals.

I'll add that the combination of cap-and-trade and program measures that has been proposed is consistent with AB 32, SB 32, SB 350, and AB 197. And I'll point out that the author of AB 197 himself, Eduardo Garcia, Assemblymember, testifying in the Natural Resources Committee, said, and I quote, he is -- that he is supportive of the Cap-and-Trade Program, the leadership of the Senate is supportive of the Cap-and-Trade Program, and leadership of the Assembly is in support of the Cap-and-Trade Program. So we join those authorities in saying we too at PG&E are supportive of the program.
I'll just finish by saying we stand ready to make reductions in transport -- in our own sector obviously, but also in transportation and any other areas we can.

Thank you.

BOARD MEMBER GIOIA: Thank you.

We have a list up, so I'll call the names.

Bishop Ron Allen, Brock Costalupes, Alex Jackson, Roger Williams.

Oh, there we go.

If those who are here on the list can appear.

Is Bishop Allen here?

No.

Is Brock Costalupes here?

Okay. So Bishop Allen is not here. All right.

MR. COSTALUPES: Hopefully, I'm not jumping up on the Bishop -- an actual Bishop.

BOARD MEMBER GIOIA: No.

MR. COSTALUPES: Brock Costalupes, representing the Modesto Irrigation District.

I would like to also lend our support to the Cap-and-Trade Program as an effective low-cost means of achieving our 2030 emissions goals.

I'd like to point out that our service territory in the Central Valley is classified almost entirely as a disadvantaged community. And as such, a cost is of
paramount importance to our ratepayers. I'd like to point out that the more expensive direct command and control measures contemplated by Alternative 1, and also it seems some potential adjustments to the Cap-and-Trade Program, would disproportionately affect our disadvantaged ratepayers simply by virtue of people have to keep the lights on, and electricity cost represents a large portion of these people's income. And by forcing them to base the cost of the additional direct control measures is a disproportionate effect on their rates.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. JACKSON: Good afternoon. Alex Jackson with the Natural Resources Defense Council. And half of my testimony was an ode to the Chair. So since she's not here I will take only a minute, I presume.

BOARD MEMBER GIOIA: She's probably listening, so she can hear you.

MR. JACKSON: Well, then, Mary -- no, just kidding.

(Laughter.)

MR. JACKSON: I want to first and foremost be heard to support staff's preferred scenario, which rests on a strong and enhanced suite of performance standards, which has always been the foundation of our climate
policy. I think it's somewhat frustrating that these forms tend to devolve into fighting over the backstop of how we're closing a gap, when we lose sight of all the work that's been done on our RPS, low carbon fuel standard that have really been the engine of our progress and will continue to be the engine of our progress.

But we do support the preferred scenario and the continuation of the Cap-and-Trade Program as that backstop. As we move out to much more aggressive goals, that is the only pathway that provides that emission certainty that can ensure we hit our statutory goals.

And the other alternatives: The tax can only approximate that reduction certainty; and a pure direct measure approach cannot assure that certainty.

I think the staff's presentation analysis does a good job of outlining the advantages of, you know, not making it an either/or between a market-based approach and a suite of complementary measures.

But I think in light of the darkness that will be descending upon DC shortly, it is worth highlighting one additional benefit which we've heard from today, and that is I think the leadership role for California on a global stage will be more important than ever. Subnationals will emerge more than ever as the locus of change on climate policy. And we're facing an administration and even
throughout the west a broad turn towards isolationism. We can argue the merits of that as an economic policy, but it will surely fail as a climate policy. We need to demonstrate leadership that others can join. I think turning away from our linked partners would be a great mistake at this moment.

But, however, I do want to emphasize, I think the construction of the scenarios right now where a lot of the policy innovation is in that Alternative 1, we would ask be included in the scenario with a cap, as we know a carbon price alone will not overcome all these barriers.

BOARD MEMBER GIOIA: Thank you.
MR. JACKSON: Thank you.

BOARD MEMBER GIOIA: And we plan to continue to be that shining light in a sea of darkness.

(Laughter.)
MR. JACKSON: Thank you.

MR. WILLIAMS: Good afternoon. Roger Williams with Blue Source. I'd like to thank the Board for the opportunity to provide a couple of comments.

My company, we work with governments, companies, and nonprofit organizations to reduce and mitigate environmental impacts. And we have been very focused on providing offsets into the California program since its inception. And we've registered more credits than any
other company in the program so far. So we're very active participants in this market.

Just a couple of quick comments. The first one is in regards to the question of what we're solving for under AB 32. And there has been a lot of comments regarding local air quality issues, which are ones that definitely resonate with us and we agree with. I think we're proposing the question that, how much are we trying to solve for within the AB 32 legislation itself, which at its inception was geared towards reducing greenhouse gas emissions in a cost-effective way?

And I think it's our view that local air quality issues should be solved with local air quality regulation and legislation. That would be point number 1.

Number 2 is just to report a little bit from the field here that the offsets component of the program is working really well. We have registered dozens of projects and over 6 million credits into the program. And that is working with landowners here in California and in other states. And we've seen a shift in thinking around how you can fund and get rewarded for environmental stewardship, which is a huge benefit of this program. We've seen it with large conservation organizations that have -- are able to fund their work through participation in this program. And also seeing a shift in thinking from
other landowners that heretofore were not that interested
in environmental stewardship but are based on this
program.

Final comment I'd like to make is that more than
ever California's leadership on a global scale is
something that will be highlighted. So please stay the
course, don't stutter-step, because the program is
working.

Thank you very much.

BOARD MEMBER GIOIA: Thank you.

Jerry Green.

MR. GREEN: Jerry Green, Southern California
Black Business Expo. And I came up this morning to speak
on -- we hear a lot about disadvantaged communities and
things like that. But my question is, where is the real
outreach into these communities? I know you've done an
event in Wilmington and San Bernardino. And I'm in the
Inland Empire, so there's a lot of community out there
that you're not reaching.

And to go -- and I'm going to give you some
advice also. To go to the church and then go to community
organizations is not how you reach the black community.
You've got to go through the black press, who have the
connections in the community to bring the community
together. So the approach you took is not going to reach
the community and real dig -- dig down into what's going on, because that's how the information is disseminated to the black community.

Also, give you a quick story -- a couple stories. Working in the community with businesses, truckers. So after the housing disaster, now truckers who have lost their house was looking to now make a down payment to purchase a house. Now they had to buy more trucks, because of the new regulation. So the money they were going to use for a down payment now for a house had to be to buy a new truck. So now they go from going from one to two to three trucks back down to three to two. So many of them are disenfranchised, discouraged and saying that they feeling that this is a movement from big business, big trucking companies to put them out of business as small businesses. So something else to think about as you move forward.

BOARD MEMBER GIOIA: Thank you.

If folks can be ready to come up, this will go quicker if the -- when you see your name on the list, be ready to come right up.

MR. TUTT: Good afternoon. Tim Tutt representing Sacramento Municipal Utility District. I also want to express our strong support for the draft screening plan scenario, including the robust and well-designed
Cap-and-Trade Program. We know that it's an existing program that's successful and we want to continue that. It achieves the climate goals at lowest cost; will result in certain emission reductions at direct sources; establishes a carbon price which is important in resource and investment decisions, very important for that price to still be there; and it allows continued and expanded linkage with other places.

I'd like to point out that the modeling shows that at least 67 percent of the reductions in this scenario come from known commitments from direct emission sources, and that the Cap-and-Trade Program will also result in direct emission reductions from those sources. So it's going to be even greater on a cumulative basis. It's at least 85 percent from direct emission reductions.

Also like to point out that the 8 percent offset limit is proportional to compliance, not to reductions. So as the cap decreases and compliance decreases on a quantitative basis, there are fewer and fewer offsets that are going to be available or used in the market up to the limit.

But reductions will increase as we move forward. And then the last thing I'd like to say is it's important as -- to have a robust and well-designed Cap-and-Trade Program. We're working with staff and other
stakeholders on doing that in another proceeding here.
And we're not quite there yet. We're questioning a little
bit whether some of the places we're at will result in
increases in ratepayer costs in California. And so we
need to work in that other area for that.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. BIERING: Good afternoon, members of the
Board. My name is Brian Biering. I'm here on behalf of
Turlock Irrigation District.

Turlock, like Modesto, primarily serves
disadvantaged communities. And we are very concerned
about the potential for ratepayer impacts by pursuing one
of the alternative scenarios to the referenced scenario.

So we'd like to express our strong support for
the Cap-and-Trade Program. We believe it is the most
cost-effective method of minimizing cost for ratepayers,
particularly for disadvantaged communities.

We're supportive of the staff's efforts to redo
the economic analysis and, in particular, look at the
economic costs of some of the policy scenarios on
disadvantaged communities. One of the goals of AB 197 was
to include the social cost of carbon. As part of that in
the statutory definition, that includes the system energy
costs. So we would encourage you to look at those system
energy costs and at the various policy scenarios, and
support the cap and trade going forward.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. BREUNINGER: Good afternoon, Honorable Board.

My name is Dan Breunigner. I'm the president of the
Mescalero Apache Tribe. We are the descendants of Cochise
and Geronimo, and our homelands are in the Sacramento
Mountains of southern New Mexico.

Our tribe has one of the best and most productive
commercial forests in the southwest. This resource is
both sacred and financially vital to us. The Mescalero
Apache Tribe has constantly been recognized for prudent
management of our natural resources.

In 1983, we won a case in the United States
Supreme Court that established our right to manage fish
and wildlife on our own reservation. When it made its
decision, the U.S. Supreme Court took note of how well we
managed our resources. The Court reasoned that being able
to effectively manage natural resources is one of the
cornerstones of tribal sovereignty, and proper management
of natural resources promotes the ideal of self-governance
and self-determination.

The same is true for our forests. Proper
long-term management of Mescalero forest is essential to
an effective tribal government. Mescalero would not participate in any program that did not protect the long-term health and sustainability and productivity of our forests.

With these considerations in mind, I'm very pleased to report the Mescalero Apache Tribe is participating in the California Cap-and-Trade system by developing an improved forest management project for Mescalero's forests. Our project will supply offsets in the system in 2017.

Mescalero's participation in California's cap and trade reflects our strong belief in the merits of your system. We would not have participated otherwise. Our forest is just too important for us to take chances. My tribal council and I believe that California's system as constituted has the potential of greatly improving the health of forests throughout Indian country.

It would help bring about jobs, economic development to some of the poorest places in America.

In Mescalero's case, these offsets will help the tribe invest in the sustainability management of our forest. We will help reduce wild-fire risk and will improve our forest's health.

BOARD MEMBER GIOIA: Thank you.

MR. BREUNINGER: Thank you very much.
MR. CARMICHAEL: Good afternoon, members of the Board. Tim Carmichael today on behalf of both San Diego Gas & Electric and Southern California Gas Company.

San Diego Gas & Electric and Southern California Gas Company continue to support a well-designed market-based mechanisms for reducing greenhouse gas emissions such as the Cap-and-Trade Program. Both utilities also support the continuation of ARB's effective cost-containment mechanisms such as the steady increase of consigned allowances in the encouragement of offsets that reduce emissions in sectors not currently covered by the Cap-and-Trade Program.

The Cap-and-Trade Program is an effective way to reduce greenhouse gas emissions that can complement other equally important programs to reduce air pollution in communities throughout California.

Please don't assume that this is all of our comments on the Scoping Plan update. We're actively engaging with the staff and in the workshops, and we'll be presented more comments in writing.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. HOCHSCHILD: Good afternoon, Board. My name is Lenny Hochschild from Evolution Markets representing IETA, which is a nonprofit representing over 150
corporations that believe that the use of market mechanisms is the most efficient way to reduce greenhouse gas emissions.

We cannot stress enough that California's entering a critical stage in its international climate action and leadership position. Now, more than ever, California is recognized globally as a climate leader.

California WCI market model is being watched and replicated globally, including China. And California and the other WCI member partners are receiving significant coverage from other regions around the world who are working on implementing their own programs in the most efficient -- cost-efficient manner possible.

On offsets, while I would hope that everyone in this room sympathizes with the genuine concerns over local particulates and associated health issues that numerous members of the environmental justice community have passionately voiced, I respectfully am here to suggest that the argument they have made to remove offsets as a way to reduce local particulates may not lead to that outcome.

We would suggest that in fact offsets provide numerous co-benefits to California's beyond-cost-containment and cross-border cooperation, and I'd like to share one example with you today.
And that example is jobs creation for the specific purpose of reducing emissions. Within Compton, California, is a facility owned by a company called Appliance Recycling Centers of America, or ARCA. For ARCA, carbon offset revenues have been a critical driver in the recycling of more than 1.5 million appliances at this location over the last number of years, which has resulted in the company currently employing between 25 and 100 people at any given time depending on the rate of appliance recycling.

Substantial investments have been made at this location. These investments would not have been made without California's carbon offset signals.

BOARD MEMBER GIOIA: Thank you.

MR. HOCHSCHILD: And ARCA hopes to invite the Board and other interested parties to their facility in the coming months.

Thank you.

BOARD MEMBER GIOIA: Thank you.

MR. SANCHEZ: Hello. Good afternoon, members of the Board. I'm Jared Sanchez representing the California Bicycle Coalition. Thank you for your time.

So about a month ago we along with several other organizations submitted a letter detailing nine different issues. But in the sake of time, I just want to raise up
one issue right now, and that is regarding active transportation in regard to the Scoping Plan. This is brought up in several of the visionary documents up and to this point and a lot of the public workshops and meetings. But I just wanted to support that, and including the support for implementation of active transportation to reduce VMT.

I just wanted to stress that even more for future and ongoing investment in active transportation in all of its form, especially in low-income communities of color as a key strategy, not as an afterthought since many times it's just a fraction of total transportation funding.

This includes new investment also being discussed in special session in the Legislature, which is an additional 7 billion also to be regarded for active transportation, meant to ensure that all transportation funding and not just GGRF are invested in to meet our climate goals.

Beyond funding I also wanted to bring up social equity issues and also for it to be a strong focus for the plan. This is also an important part of the visionary documents and was pleased to see it, especially for cycling and active transportation as low-income communities walk and bike at higher rates than other groups and suffer disproportionately from injuries and
fatalities, and to ensure this is important for
disadvantaged communities of color.

Thank for your time and for your ongoing
commitment.

BOARD MEMBER GIOIA: Thank you.
MR. HELLER: Good afternoon. Miles Heller with
Tesoro. Thanks to the Board for the opportunity to
comment.

There have already been some concerns expressed
on refinery measures. There's lots of concerns there. I
just want to touch on a few items that are kind of --
perhaps we're uniquely situated to comment on.

To the extent that the proposal will target the
most efficient refinery in terms of a performance
standard, we don't think that's necessarily a valid
approach. We have probably one of the most efficient
refineries in California, and we have other facilities
that are not as efficient. But they're all unique and
complex in their design. And it's hard to imagine how a
one-size-fits-all approach would work in a refinery
measure such as that.

Secondly, don't discount the effective
cap and trade to provide direct emission reductions. We
have a project for an optimization project in Southern
California right now. It's a business optimization
project. But greenhouse gas reductions that come with that optimization play a key role in that business analysis.

Also on the refinery measure, I would ask that we examine the potential for conflicting policies. I've been in this room many times and heard encouragement that we as refiners ought to look at ways to comply with the low carbon fuel standard using our facilities. We've actually announced a couple projects using our facilities. But it gets difficult to invest in those projects at facilities for one policy when other policies are going to drive changes at those facilities or hamper those investments.

Okay. So the last comment I would have on the broader scenario issue. I would like to see a scenario that includes more cap and trade to balance out that mix. I think it's important from a cost-effectiveness standpoint and a leakability standpoint with other sectors. And I think all of the scenarios that are being considered now are diminished or eliminated -- or eliminating cap-and-trade proposals. So I think it would be more balanced if there was an additional scenario that looked at more cap and trade.

Thanks.

CHAIR NICHOLS: Thank you.

MR. GRIFFITHS: Good afternoon, Chair Nichols and
members of the Board. My name is Dan Griffiths for the California Municipal Utilities Association.

CMUA supports the continuation of the Cap-and-Trade Program and believes that it represents the most balanced and cost-effective approach to achieving California's long-term greenhouse gas goals.

In combination with the complementary measures, such as energy efficiency and 50 percent renewables portfolio standard, if the Cap-and-Trade Program will continue to lead to emissions reductions within California, the structure of the Cap-and-Trade Program ensures that California will meet statewide emissions reductions targets while allowing EDUs to minimize compliance costs. Any reduced role for cap and trade would likely lead to increased costs for consumers as well as negatively impact the programs that currently are supported by funds generated from the Cap-and-Trade Program.

CMUA appreciates ARB staff's efforts on the Scoping Plan and looks forward to reviewing the discussion draft.

Thank you.

MR. LARREA: Good afternoon, Board. John Larrea with the California League of Food Processors.

First of all I'd like to say that the food
processors are in support of continuing the cap and trade post-2020; however, it's kind of a qualified support. From what we've seen for the changes that are being contemplated for the cap and trade, it doesn't resemble the current one. We are very much in favor of the current one and would like to see that extended even further, especially since we are unsure what the federal policies associated with this are going to be, and see if there's some alignment that we can make there.

Secondly, on the development of the alternative proposals, we were somewhat disappointed again because we've been asking for an industrial advisory board, and they could have helped develop those alternative proposals and maybe just not limited them to those two. And we'd like to see you consider putting together an industrial advisory board that would be able to input to staff and to give them some legitimacy in terms of being able to put forth ideas, because we're all going to have to work together if we plan to meet that 2030 goal.

Finally, I can't say enough about cost effectiveness. We've heard a lot about that. However, it also comes with "technologically feasible." It doesn't do any good just to make it cheap if we can't get to where we're trying to go in terms of the actual emissions reductions. And for those companies that are subject to
the cap and trade, technology is going to be the route
that we're going to have to take.

So we'd like to see some efforts to make more
investment from the cap-and-trade funds back to the
industries that are subject to the cap and trades so that
they can actually apply those to technologies to help them
reduce their emissions. And the benefit of that -- a
co-benefit, if I could be so bold, is that direct
emissions resulting from that also comply with AB 197. We
don't need to go bend over backwards in order to try to
work it in. We've got the ready-made solution right
there. Direct those funds back to the facilities for
direct investment into new technologies.

Thank you.

MS. VANDERWARKER: Good afternoon, Board members.

My name's Amy Vanderwarker with the California
Environmental Justice Alliance.

We believe environmental justice must be a
central component overall goal of the Scoping Plan. And I
courage to see efforts from the ARB staff to include EJ
community concerns and thank everyone for their hard work.

I want to reiterate the importance of an EJ
analysis of which scenarios and programs bring the
strongest air quality improvements and direct emission
reductions in EJ communities. That continues to be a
I also want to emphasize the importance of rigorous analysis on carbon tax scenario and the social cost of carbon, both of which are quite complicated. I am a little concerned that in the timeline ARB is on that it will not allow for the best possible analysis or modeling of both those complicated concepts.

The staff presentation also included a lot of potential drawbacks to the carbon tax, and there are, without -- goes without saying, a range of benefits that the staff should further explore.

Another priority for CEJA is ensuring implementation of the data provisions in AB 197. It is incredibly important that the air quality management districts and other databases with criteria air pollutant information are linked to the ARB greenhouse gas data and reporting. And that data should be included in the scoping plan process as well.

I'd also like to echo comments earlier made that there should be more analysis on the transportation sector. Mobile sources continue to be one of the bigger sources of exposure for our communities. And our members have consistently struggled to ensure environmental justice issues are incorporated in the SB 375 process. But there is very little -- there is almost no mention of
transportation at all in the presentation.

I also would like to emphasize that more analysis needs to be done around what the program could look like without offsets. You've heard a lot about the benefits of offsets. However, there continue to be strong environmental justice concerns with the offset programs and also increasing evidence that maybe it is not functioning as well as many folks say, as shown in the Manuel Pastor report that was recently released. So want to see continued analysis around what it can look like to actually remove the offset program.

Finally, just wrapping up, I would echo the comments that California has an opportunity to continue national leadership in the face of a new federal administration, and in a time when both communities of color and the climate are going to be under attack. It is critical that ARB show that climate policy and justice for communities of color can go hand in hand.

Thank you.

MR. KENNY:  Good afternoon, Board Chair Nichols, members of the Board. My name is Ryan Kenny with Clean Energy. We're the nation's largest provider of natural gas and renewable natural gas transportation fuel. And it is of course early right now, but we'd like to offer our initial support for extending Cap and Trade, the LCFS, and
for the Scoping Plan.

Concerning cap and trade, it of course would provide a steady revenue stream for the programs that would benefit both climate and the environment, and send a strong market signal to those that are engaged in such programs.

Also concerning program for greenhouse gas reduction -- greenhouse gas reductions, we do think that a greater emphasis should be on heavy-duty vehicles that meet a performance standard of a 0.02 NO\textsubscript{x} standard, and that it should be more expeditious because waiting too long is going to hurt the marketplace.

Regarding the LCFS, we do think that passage and extension passed 2020 is important as a market driver. As you may know, our company has 165 fueling stations here in California, and nearly all of our fuel is from renewable natural gas. And it's because of the LCFS. So we do want to see that passed post-2020 as soon as possible.

Thank you.

CHAIR NICHOLS: Simeon Gant, are you here?

Okay. Brent Newell.

MR. NEWELL: Good afternoon, Madam Chair and members of the Board.

I want to thank the Board for its incredible hard work, and all staff, and getting the Scoping Plan this
far, and in getting California this far in terms of reducing emissions. We have a long way to go with the 2030 target. It's a huge endeavor and it will take all of us working together to get it done right. And we should, because we are now literally even more so the world leader in accomplishing this challenge.

I want to make two points about the presentation and about the scoping plan. The presentation talked about how the AB 197 elements including would be 20 percent reduction from the refinery sector through efficiency measures. AB 197 goes beyond just the refinery sector. It includes stationary sources and mobile sources. So I urge staff to make sure that we capture and prioritize direct emission reductions from cement, from power, and from mobile sources. That will allow us to deliver even more health benefits and even more localized reductions in communities of color that are suffering from a denial of benefits right now from cap and trade.

So let's make sure that happens.

The second thing is that the evaluation of the carbon tax assumed that a carbon tax operated without any type of cap or limit on emissions. And that's just a program policy choice. There's no reason why a carbon tax cannot operate together with a cap on emissions, both in the industrial sector and at the facility-specific level.
So I encourage staff to not proceed with their analysis assuming that a carbon tax is just something, you know, without anything else along with it. Because it can be. It can be something that protects local communities and delivers ensured reductions while a huge source of revenue.

Thank you.

CHAIR NICHOLS: Thank you.

MR. COSTANTINO: Good afternoon, Board members.

Jon Costantino on behalf of the Southern California Public Power Authority, here today to bring to your attention two points:

First is there's an open comment period on the Scoping Plan Workshop that happened a couple weeks ago, so we will be submitting detailed comments along the lines of what I'm about to say.

I want to highlight local action. As municipalities, the members have shown leadership in their fleets, their codes, the municipal operations, and are producing direct reductions while there's a Cap-and-Trade Program. So they're not mutually exclusive. I wanted to highlight that.

And then the second point is a support for cap and trade and a support for the scoping plan alternative, and to highlight that this is a policy choice.

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that was made seven years ago. All three of these options are very similar to what was on the table in 2007 and '8: A tax, solely direct regulation, or a Cap-and-Trade Program. And the benefits of the Cap-and-Trade Program which were highlighted by staff outweigh the benefits or the disadvantages of the other programs. So policies such as this that are big and long term really need to be thought about before they're reversed. And we're going to get into the weeds with cap and trade. But this is not a weedy issue. This is a big global issue.

So with that, thank you very much.

MR. JATKAR: Good afternoon, Chair Nichols and members of the Board. Shrayas Jatkar with Coalition for Clean Air.

I'd first like to start with a quick anecdote of the significance of California's climate laws beyond the Golden State. Before moving to California a few years ago I was working in New Mexico. And the environmental laws here had a direct effect and now are leading to millions of tons of fewer greenhouse gas emissions, fewer tons of carbon dioxide from coal-fired power plants in New Mexico. This is a direct result of SB 1386, Emission Performance Standard, a law that addresses utility investments that's not often mentioned in the context of our clean energy and climate laws but has had significant impact beyond the
State. And thanks to that law, people are breathing cleaner air in New Mexico as well.

Coalition for Clean Air supports and favors Alternative 2 of the scenarios that have been outlined in the scoping plan update.

And first we of course support and want to see a continuation of the measures and in some cases a strengthening of the measures that we know have proven to reduce emissions, such as our renewable electricity and building energy efficiency standards.

We strongly support the refinery measure, and want to see that achieve at least a 20 percent reduction. And the staff noted this is a -- the largest stationary source of emissions in the leading sector of our greenhouse gas emissions and also our criteria air pollutants in the state. So it's time to begin that measure.

And we also think that it's time to begin strengthening some of the transportation sector measures, including stronger targets for SB 375 for the MPOs, higher targets as we've mentioned before for cleaner freight vehicles and equipment, and swift action to move forward with the mobile source strategy in those measures.

And if cap and trade is continued, we definitely want to see AB 197 implemented to limit offsets, auction
off virtually all allowances, and decrease allocations if facilities report increased emissions of on-site criteria pollution.

Thanks.

MS. McCAIN: Good afternoon. I'm Christina McCain with Environmental Defense Fund. I want to thank you for this opportunity to provide comments this afternoon.

EDF recognizes that this effort to consider policy alternatives is an important one both to meet statutory requirements and to seek stakeholder input. We look forward to submitting comments.

That said, we do support ARB's effort to begin the process to extend cap and trade beyond 2020 because we believe that cap and trade is an essential part of California's climate package. It is the only policy that places an absolute limit of carbon pollution and ensures that California does not exceed the carbon budget that it has set for itself.

For many sectors the Cap-and-Trade Program represents the first time their carbon pollution has been regulated and has had a cost. That benefit of creating the reduction incentive is an important one, and so is providing some flexibility and the cost effectively to achieve our climate goals.
We also know that too many communities in California face serious air quality problems and we know those impacts are disproportionately borne especially by communities of color. We absolutely have to work to improve that. We should be able to find not an "either/or" but an "and" solution. And that incorporates the benefits of cap and trade but also reduces the real need to reduce pollution in communities.

These are complex issues, which is why this scoping plan process is so important. And we look forward to continuing to work with the Board, the Legislature, and engaging in dialogue with our colleagues who represent a range of stakeholder perspectives on these issues.

So thank you very much.

MS. BERLIN: Good afternoon. Susie Berlin for the Northern California Power Agency and the M.S.R. Public Power Agency. Both M.S.R. and NCPA are joint powers agencies comprised of municipal utilities that provide electricity to approximately 800,000 residents and businesses in northern and central California.

We support continuation of the Cap-and-Trade Program. When coupled with the remaining suite of measures that has proven to deliver emissions reductions, it is also the only program that will be able to immediately capture shortfalls that may occur when other
measures do not perform as expected. A program that includes this certainty is critically important to compliance entities.

In contrast, both of the alternatives are wrought with uncertainties. Electric utilities are already called upon to effect significant emissions reductions through existing programs and measures. Replacing the Cap-and-Trade Program with additional and enhanced mandates will only increase utility compliance costs; and for our customers, that means more expensive electricity. It also reduces the flexibility to tailor emissions reductions programs to the communities that we serve.

The lack of analysis and studies demonstrating the feasibility and cost effectiveness of the alternatives is problematic. Alternative 1, for example, would mandate 60 percent RPS at a time when the CPUC and the CEC have not even completed their rulemaking to implement the 50 percent RPS mandate that was prescribed by SB 350. The feasibility of these alternatives, and particularly Alternative 1, is far too speculative to form the basis for a sound policy decision.

We also want to echo Edison's comments regarding the impact that the Scoping Plan GHG targets will have on the long-term procurement planning obligations of the electric sector. They don't take into account the impacts
of increased electrification; and in a program that calls for 40 percent reduction by 1990 levels, preliminary estimates look at the electricity sector to reduce by an average of 70 percent.

This will have a significant impact on our long-term obligations, and we ask that that be considered with the other energy agencies before a final number is set.

Thank you.

MS. PASSERO: Good afternoon. I'm Michelle Passero of the Nature Conservancy. Thank you for the opportunity to speak. I guess the advantage of going this late on the list is that everybody covers your points.

We're pleased to see the inclusion of natural working lands in the Scoping Plan. I'm really happy that ARB is conducting a broader analysis to see the contribution that our landscape in California can make to meeting 2030 and 2050 goals.

We're doing an analysis as well and are finding that at least on a preliminary basis that the contribution our land base can make through management and conservation is material.

With respect to the scenarios that were highlighted today, we do support ARB staff preferred scenario. I just returned from the UN Climate Conference
yesterday. And it really became clear to me how important California's program is now more than ever. California's program really is a beacon for a number of its initiatives, including the Cap-and-Trade Program.

And as Rajinder I think highlighted very well earlier, the Cap-and-Trade Program in particular connects us directly with the rest of the world through our leakage agreements and through its offset provisions.

And the offset provisions do provide an opportunity to connect us to more rural areas who tend to be more resource dependent.

We do hope that you'll keep the door open to reductions from tropical forest communities as well. As you know or may know, that 12 to 15 percent of our overall global emissions are due to land degradation and forest loss. While California alone may not be able to solve this problem, there is tremendous power in providing proof of concept.

So in the end we hope that the Scoping Plan will maintain the Cap-and-Trade Program, its offset provisions, as well as leave an open door to including tropical forest reductions, and do this while we're also advancing investments in California communities. We think that these things are not exclusive.

Thank you.
MR. SKVARLA: Good afternoon. My name is Mikhael Skvarla. I'm here on behalf of the California Council for Environmental Economic Balance. Appreciate all your time.

Nature Conservancy really summed up some of the big points that we had with regards to offsets and the continuation of the Cap-and-Trade Program.

CCEEB does support cap-and-trade post-2020, with provisions such as offsets, linkage, and the leadership values that that extends beyond our border. Cap-and-trade truly is the only program in our suite that can link with other jurisdictions. You’re not going to see other jurisdictions link with a carbon tax.

Additionally, we've noticed in north of the border in Canada carbon tax had some downfalls. Even at $30 a ton, it's unable to achieve the emission reductions that we're seeing in the Cap-and-Trade program.

Cap-and-Trade Program truly does drive emission reductions and provides investment opportunities with the revenues that it raises at auction.

CCEEB would urge the Board and staff to examine the other scenarios also in terms of dollars per ton per measure. Along this line, we need to know the costs for low-income households, medium and small businesses, as it’s not just the compliance entities that have to conform to these policies. It does trickle down to the entire
economy. While it may seem right that, you know, at a hundred dollar a ton carbon tax, which might drive down emissions from some of the studies that we've seen with regard to the Canadian provinces, that at the pump would have significant impacts on say a small contractor. A business man who's out there trying to work, maybe has one or two pickup trucks, he's not able to drive a Nissan Leaf, it's going to cut down into his margins. And we've seen wages stagnate. The economy's not growing as robustly at that lower level. While traditional big businesses, Fortunate 500, may have some growth right now. We're not seeing that with low and middle income households, nor are we seeing that with small businesses.

So, again, CCEEB supports cap and trade moving forward. We hope to engage staff in a more robust analysis as we look forward.

MR. STARK: Good afternoon, Chair and Board. Joshua Stark with Transform, an organization dedicated to sustainable and equitable transportation and land-use policy.

Thank you so much for this work. It's at this point, as you know, in light of last week's events, it takes on a new and profound urgency, and we really appreciate all the time and effort that you all and that advocates are putting into, you know, real -- real changes
for the world.

I'm going to keep my comments brief and focused on transportation policy. In the transportation realm, which is the State's single largest emitter, we urge the Board to consider a number of strategies in reducing greenhouse gas emissions by reducing vehicle miles traveled, such as lane pricing through, for example, high occupancy tolling, without building new road miles.

But also identifying and preparing for transportation infrastructure investments that will -- that can both reduce and increase VMT and identifying those projects that will reduce VMT over time, especially and directly connecting California's much larger state transportation funding sources. The GGRF is an important source of revenue for many really important projects. But in the end it's not going to solve all of our problems. And in the transportation world alone we're looking at huge backlogs in maintenance for transit operations and transit capital projects. And it is -- it's absolutely vital that transit -- public transportation, active transportation, that these projects come to the front in all of our funding systems -- all of our funding sources, not just the GGRF but also in the larger transportation funding conversation that's occurring now before the Legislature and the Governor.
Thank you.

MS. FLETCHER: Good afternoon, Board and members of the -- or good afternoon, Chair, members of the Board. I am sick today, so I am going to try to get through this without coughing or sneezing.

So my name is Chanell Fletcher and I'm the associate director of Climate Plan. We are a network of over 15 nonprofit organizations, and we represent a broad range of interests. So it's in public health to conservation to environmental justice.

And so actually a number of our partners actually did come and testify to I think as staff at least about the transportation piece of this at the Transportation Workshop. And I think unfortunately a number of those couldn't attend this piece. So I'm going to attempt to speak on some of what they -- what we talked about in our letter that we submitted to that.

I also wanted to say that I really do echo the comments from Cal Bike and CEJA, the Nature Conservancy, Coalition for Clean Air, American Lung Association, and Transform. I think again these are all things that are very close to our network.

I think one of the things that's very close to Climate Plan's heart really is around the SB 375 targets. And so I really wanted to come here today and urge both I
think the Board and staff and the regions to really think
about ambitious SB 375 targets as the key part of this
scoping plan strategy. I think the presentation clearly
stated that, you know, our 2030 baseline policies are not
going to get us there. And one of the questions I had is,
well, how do we know if we don't know what the targets
are.

And so I think that that's something that we
should be thinking about and taking into account, is that
we have an opportunity right now to really push for these
ambitious targets to really show like: This is where we
need to get to. The gap is huge. How are we going to do
it? These targets can help us get there.

And these targets don't just represent I think
GHG reductions. That's the beautiful thing about VMT
strategies, is that there's a number of co-benefits that
come along with it, including in public health, including
in conservation.

And I think that when we're talking about GHG
targets, we need to be very explicit about what those
coeffects are. And so I'm asking that the scoping plan
is clear and explicit in that, showing that there's a
multitude of benefits that we can get from this in
addition to GHG reduction.

Thank you so much.
MS. BUSSEY: Good afternoon, Board. My name's Julia Bussey. I'm with Chevron Corporation.

First of all, I want to echo what a lot of people have said today but I think is extremely important, which is that based on the policies that California's considering, a cap and trade is really the most cost effective and therefore is the best also for California families.

We also ask, however, that you do not needlessly hurt California industry. Free allowances don't affect your ability to make an environmental difference, and they also don't affect whether or not direct regulation -- direct emission reductions are made. But they can hurt companies that have invested in California.

We're also very concerned that the curve after 2020 is so steep, that we need to increase how well we can link our program to other parties. We feel encouraged that there will be people to link to. But will they want to link with a very expensive program. So we ask that you think about that.

Lastly, we want to provide support for offsets; not only as cost containment, but also because it adds environmental benefits. For example, improving forest management practices reduces the chances of forest fires.

So thank you very much.
MR. TEMPLEMAN: Should I talk into this?

Good afternoon, Chair and Board and staff. I didn't see my name on the list and I figure I should say something, just because I always do.

So I was sitting here and I was thinking over the last couple of weeks about the theoretical basis for cap and trade, which in many cases was the SO\textsubscript{x} program, which was a very effective program that came out in the '80s. And I'm probably dating myself. But I remember when I was growing up in the '80s there was really this fear that acid rain was going to ruin all the trees where I was living in Canada. And when you look now, those fears are generally -- sort of seem to have been solved. And I think -- so I do is I look -- went back and looked at the SO\textsubscript{x} program, at their Cap-and-Trade Program, and there were many periods of time, including at the beginning and at different periods of time, where emission reductions were slow or not as fast as people expected.

But I think one of the things that people can look back at -- and most experts will say -- that that program was very effective, ended up reducing emissions dramatically and at a very low cost. In fact, much lower than most experts expected when they brought out the program.

And so basically my -- my recommendation would
be: Look, this program's been going for less than four years. It's a well-designed program. CARB has put an awful lot of time and science into coming up with it. It's the right program to do. It's working. But it must be given time to fully meet its potential. And so I would advocate at this time really not to give up on a program that has just started, but to give it the time to fulfill everything that we all know it can do.

Thank you.

CHAIR NICHOLS: Thank you, Mr. Templeman.

That concludes the list of witnesses that I have. So that was 44 people. They got through that pretty quick. But we still have two more items ahead of us today. So it just tells us where we are.

The discussions are interrelated though. And to kick it off, Supervisor Gioia wanted to say a few words.

BOARD MEMBER GIOIA: Yeah. I just had a -- I had a couple comments and a question.

On the -- in the section of the scoping plan that discusses local action, can I just understand how detailed you'll be. It seems to me, as someone in local government, that identifying a number of suites -- a suite of measures and how much GHG reductions in a range, knowing it depends on how you implement them, one can get. So I'd like to hear more how you're going to write that
section or develop that section. Because I think it's useful for folks in local government to see from ARB's standpoint the types of local measures that can be most effective.

So I'm encouraging more detail of that section. Maybe you're already planning that. So can you talk about that.

DEPUTY EXECUTIVE OFFICER KARPEROS: Supervisor Gioia, maybe I can take a first shot at answering your question.

In our conversations with local air districts and other local entities, one of the things they came back to us with as we were developing this draft of the scoping plan is just the point you were making, that they were looking for much more detail in terms of how they could move forward. And also one of the things we heard from them is a more quantitative, not necessarily a specific target, but a more quantitative measure that they could use in terms of their local climate planning.

And you heard staff and their presentation talk about the two metric ton target for 2050 as one mechanism for helping to guide local planning. We think that is a way to really drive some innovation at the local level in terms of how they can get those sort of reductions. We're hoping in -- we will be articulating in some of the -- in
the next draft of the scoping plan some of those ideas.

There was a document released by the administration at the end of October, the first part of November which has generated some spirited debate on both sides in terms of what is possible at the local level. It was called Vibrant Communities and Landscapes. And it ranged everywhere from tighter SB 375 targets to potentially pricing mechanisms, parking -- new parking strategies. Add on to that innovative ways to think of local mobility.

Professor Sperling isn't here. But yesterday -- for the last two days he was hosting a conference on options for autonomous vehicles. And one of the things that was discussed there was how local agencies -- transit agencies can play in this sort of arena. And --

BOARD MEMBER GIOIA: No, I appreciate that.

So my recommendation would be, the more detail you can go into, the more helpful it is, not just for local air districts, but local government that's looking for guidance and doesn't have to then recreate the wheel to understand what type of GHG reduction it can achieve with certain types of strategies. Knowing that obviously it's a range and you have -- you know, you can't be specific.

So hopefully -- and we'll see that level of
detail when the first draft comes out later this month. And then maybe we can have further comments if we think it should be even more detailed. I just think there's no replacement in local government for seeing some really specific recommendations.

Second, in the economic analysis. I assume the economic analysis is not just the cost of implementing these measures but does factor in sort of the social cost of carbon. And we don't often quantify the cost of doing nothing. So we have out here, here's cost to implement these strategies. But those aren't costs on top of nothing. Those are costs on top of a cost of not doing anything. And that's a little obviously harder to quantify.

Tell us how you're going to try to address that.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: So AB 197 specifically asks for us to do that kind of analysis. It wasn't specific in the statute that we tie it to the U.S. EPA social cost of carbon values, because they've published those values for CO₂. It tells us to consider the societal costs of greenhouse gas emissions. In the absence of anything specific -- for California at this time, we're going to be using the U.S. EPA values. So what we will do is estimate the range of emission reductions by measure. And then use the $36,
which translates to about $50 in 2020 and then a little
bit higher in 2030, to estimate the costs of social --
avoided social cost by taking action by reducing that much
amount of emissions.

The danger is trying to use that as a test to
whether or not you should move forward with any kind of
mitigation. So we are writing in a caveat about the
shortcomings of the U.S. EPA social cost of carbon because
they have identified the things that that doesn't
consider. And we're also trying to make sure that folks
understand the difference between cost effectiveness of
measures versus the social cost of taking action.

BOARD MEMBER GIOIA: Okay. And then my last
point, could you tell us a little more about -- and of
course we'll see it in detail -- about the refinery
efficiency measure strategy.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: Yes. There will be additional detail in the
discussion draft that we are going to be releasing at the
end of this month just in time for the holidays. It is
really based on an analysis --

BOARD MEMBER GIOIA: I know a number of folks who
are probably going to read that section very closely.

(Laughter.)

CHAIR NICHOLS: I was thinking about it as a gift
item.

(Laughter.)

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: We could have put it out before Thanksgiving.
BOARD MEMBER GIOIA: Great holiday reading.
INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: Yes.

So what we did was we undertook an analysis inside ARB to look at what the potential reductions could be in the industrial sectors. We had efficiency data, production data, then emissions data from surveys that we did to set the benchmarks in the Cap-and-Trade Program.

So within the refinery sector we identified the most efficient refinery. We don't advertise what those values are and who that is because it's CBI for those entities.

BOARD MEMBER GIOIA: You all know who it is, but you're not going to tell us?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: I can tell you the number, but I can't tell you who.

BOARD MEMBER GIOIA: All right. Could you tell us what city it's located in?

(Laughter.)

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: So what we did was we took the 2014 data, the
production data in 2014. We assumed that every refinery was as efficient as the most efficient refinery based on the data we had. And we calculated the difference in emissions in 2014.

BOARD MEMBER GIOIA: And this is a refinery based -- efficiency based on throughput?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: That's right.

BOARD MEMBER GIOIA: It's per unit.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Per unit -- per unit production.

BOARD MEMBER GIOIA: And how do you factor that knowing that different refineries have -- you know, some of them more complex than others?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: So what we did was we estimated a range based on some uncertainties, looking at the range of efficiencies between the benchmark data that we had, because that tells you what the range is of potential efficiency across all the refineries in California.

And what we did was estimated that. We think we can get a 20 percent reduction, because most of that technology is in use and available and is deployed.

When we push it up to 30 percent, we're being a bit more aspirational there. But in that alternative that
has no cap and trade, we're being aspirational in a lot of
the measures that we put there.

BOARD MEMBER GIOIA: So you're going to go in a
more detailed in the discussion draft. We'll get to read
it.

So is it 20 percent goal across all facilities,
not by facility?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: That's right.

BOARD MEMBER GIOIA: Because some may be more
efficient than others and have less room for implementing
efficiency measures.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA: That's correct. So it's not a facility-specific
cap or a facility-specific number. It actually is across
that sector.

BOARD MEMBER GIOIA: Great. Thank you.

CHAIR NICHOLS: I have a comment on your comment.
I think I've said this before, but I want to say it again.
With respect to local government, and measures
that can be implemented at the local level, I'm not
convinced that we have mined all the good ideas that are
out there for specific policies that we could be
recommending. Even if these are things that we don't have
a legal authority ourselves, or maybe even the State of
California doesn't have the legal authority at the moment to implement them. And maybe they require new funding or new sources of funding, et cetera.

But the fact is that this -- we know this is an area of opportunity. And so if there are references or experts that we should be talking to, I think this is an area where the Board could play a big role.

BOARD MEMBER GIOIA: I think local governments would be -- really be looking to ARB for some really good specific recommendations and quantification of -- or what the reductions would be.

BOARD MEMBER MITCHELL: Let me mention one thing in that regard. There are some programs out there now that are being discussed called Community Choice Aggregation. Marin County has implemented such a program. And that allows for local governments to opt in and obtain more renewable energy than might be available otherwise. So I just wanted to mention that as one choice.

But I think it's hard with local government. They're all very different and they all have different resources. But I think it would be good to have a menu of possibilities that might be included in our -- in somewhere in our draft or in guidelines for local governments to look at.

Thank you.
CHAIR NICHOLS: Okay. I know we have Board members with challenging schedules today. But I still think we should hear from people if they have specific ideas.

Do we have -- Diane, would you like to speak next?

BOARD MEMBER TAKVORIAN: Thank you. Just a couple of questions. Thank you so much. A great report and very comprehensive.

I would agree on the local actions piece. I think that we have a Climate Action Plan at the port, at the city, and now at the County of San Diego that's coming that could very much benefit I think from involvement with CARB and vice versa. I think there's good ideas that can come from the local level, so I would agree with that.

I would like to get a response about the carbon tax option that was asked and the inclusion or exclusion of the cap, that question. So if we could get a response on that.

I'm also interested in the question in regards to the 375 targets and their inclusion. And I thought I saw some different opinions from staff going back and forth. So be great to hear where we are on that.

And then I'd like to know about whether the paper that will be coming out will include a response or some
kind of inclusion of the equity report on cap and trade.
    And then lastly the status of the OEHHA study
that's coming out on cap and trade.
    So those are my questions.
    Thank you.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF
SAHOTA:  So I can take a couple of these.  And then I
think some of these may be answered in the next
presentation as well on adoptive management, such as the
question about the equity report on cap and trade.

    On the carbon tax and cap question that was
posed, that we could try and do both, we are trying to
understand how those would interact with each other.  It's
not clear at this time how they would.

    The Cap-and-Trade Program is a carbon pricing
mechanism.  A carbon tax is the same, a carbon pricing
mechanism.  You're trying to get to a certain objective in
2030.  And what you're essentially doing is trying to
price carbon twice.  And we're trying to figure out can
that option be structured in a way that you're not levying
the same price on the same emission reductions that you're
trying to achieve.

    It's not clear how you would structure those two
together right now.

    We can go back and talk to the economic
reviewers. But they really are two very separate carbon pricing mechanisms that are meant to be used individually to get the same objective.

When you think about the carbon tax, you're going to be generating some revenues. When you think about the Cap-and-Trade Program, there's auction proceeds. There's increased emissions leakage potential because you're levying a -- almost the same price twice on the same facilities for carbon liabilities. And there would have to be some mechanism to almost return some of that value back. And those are the kinds of questions we're still trying to work through on how you would even structure something like that if you were to try and do it. It's never been done that we're aware of.


BOARD MEMBER MITCHELL: I'll just mention a few things.

CHAIR NICHOLS: Oh, I'm sorry.

BOARD MEMBER MITCHELL: Oh, I'm sorry.

CHAIR NICHOLS: You weren't finished. Go ahead.

Excuse me.

DEPUTY EXECUTIVE OFFICER KARPEROS: The 375 question.

BOARD MEMBER TAKVORIAN: Yes.

DEPUTY EXECUTIVE OFFICER KARPEROS: So in the
mobile source strategy that was referenced early in the presentation that we're building the transportation and activity measures off of for the scoping plan, that included an estimate of about a 7 to 8 percent reduction of VMT from baseline in the 2030 time frame, paired up with the changes in fuel and vehicle technology in order to meet the 2030 target.

We've given that number to the MPOs as a starting place for their bottom-up analysis of what's possible for SB 375 targets. We expect to get the results of their analysis in the upcoming month, and then would -- in December, and we would be rolling those into the update of the targets that we'll be bringing to you first part of next year. And then as the timing works out, be able to work them into the scoping plan.

BOARD MEMBER TAKVORIAN: Thank you.
CHAIR NICHOLS: Okay. You had some additional comments?

BOARD MEMBER TAKVORIAN: No, that was it.
CHAIR NICHOLS: Okay.
BOARD MEMBER MITCHELL: Well, just a couple of comments. One is that the -- I think it's important the continuation of our existing programs, the low carbon fuel standard. I feel very strongly we should be continuing that. People have invested based upon that program and I
think we need to make sure that these programs continue including that one.

The other thing is, we have long pushed for a policy of getting the co-benefits of criteria pollutant reduction, and I think -- you know, I hope we continue with that.

I'm in support of your refinery efficiency measure. I think there's probably a number of refineries where we can get some substantial reductions from just efficiency in their existing operations.

And reductions in mobile sources of course continue to be very important.

Thank you.

CHAIR NICHOLS: I heard a number of comments that suggest that there's things that need to be better explained, better integrated, or possibly even organized somewhat differently when we come to the next draft of the scoping plan. And I'm not going to try to detail them all here. But I do think that the balance between mobile sources and stationary sources is an issue that's been raised in various places by different people. Clearly, we are going to need all of the efficiencies and all of the improvements from both. But both -- because of the way we regulate and the way we handle these issues, and the fact that you really can't trade mobility for production in
many instances, it's important that we think a little bit more about how we make sure that we're -- that we have a parallel emphasis on those things as well as in the natural resources versus technology areas.

We've made huge progress in terms of quantification in these areas in just the last few years, but there's still a lot more work that needs to be done. And so those are just among the kinds of thoughts that I think I'll at least be wanting to explore with staff as to how we can do a better job of sort of articulating what the choices really are and organizing the choices, because this is a very complex system that we're now working with here.

But with that, I think that we'll wind up the discussion and that we should move onto the relate -- oh, sorry. One more.

BOARD MEMBER FLOREZ: No, I -- I just have a quick question.

CHAIR NICHOLS: Good.

BOARD MEMBER FLOREZ: On the models that we are putting forth in terms of the transportation side of it. I'm not sure how this fits in, so it's kind of an odd question.

So where does high-speed rail fit into this model? If indeed -- you know, you showed kind of some
scenarios, made some assumptions in terms of mobile sources. And I'm just wondering if President Trump pulls the plug, which it sounds like he probably will, on high-speed rail at the federal level for funding, what happens if that project doesn't come about?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: So we talked about how we have the reference level, like if we took no further action would be around 400 million metric tons. As part of that reference scenario, we have things like a 33 percent RPS, and we have the high-speed rail project as a base condition because we've already broken ground on it. Obviously if it doesn't --

BOARD MEMBER FLOREZ: Right. But is the base condition zero? Because even though we've broken ground, we've broken ground on Shafter to Oakland.

Okay. So there must --

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Well, in the early years it's zero.

BOARD MEMBER FLOREZ: Yeah.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: And then over time you expect to see some reductions because it does start to displace other modes of transportation and reduce fossil emissions.

BOARD MEMBER FLOREZ: How big of a part of that
is the data -- the model?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: I'd have to go back and look, but I can follow up with you on that.

BOARD MEMBER FLOREZ: Yeah. Just wondering.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: And if anything is taken out of the reference scenario or taken out of any of the measures, that obviously means those are emission reductions we have to try and gain somewhere else.

BOARD MEMBER FLOREZ: Exactly. And so given the conversation about how big of a project at least from a cap-and-trade perspective, how much money that takes, if you will, in some sense. You know, I'm kind of wondering if that project were not to go forward, you know, what does it -- one, what does it do to the model? Two, where do we find the other reductions? Three, what happens to the dollars that were, you know, in some sense generated from that and where do they go, you know? Do they go to other projects? Do they go to the EJ communities? Do they go to other reallocations? We've had some legislation passed in terms of percentages. What happens with those dollars?

So just maybe that little segment on that, given we still don't know ultimately what that decision will be.
But if we follow Mr. McCarthy and others in the Congress and given where they're at and this new president, I'm just wondering, you know, should we be prepared or at least have some sense of what that looks like?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: Sure. And just so that -- we're setting expectations. The numbers that we used for the expected reductions from high-speed rail came from a recent updated study that they did earlier this year. So we didn't recreate those reductions. We just incorporated them.

But we can get all of that for you.

BOARD MEMBER FLOREZ: Yeah. No, I'm just asking, if it's zeroed out completely, what does that look like? What does the world look like, you know.

CHAIR NICHOLS: Okay. Thank you very much.

We move on to a related item, which is going to be the adaptive management discussion.

So move a few chairs here.

Okay. The next item is going to be an update, as I understand it, on the Adaptive Management Plan, which was a term that we I believe first used as we were crafting the original Cap-and-Trade regulation and the CEQA review that went with that. The program was designed to specifically track emissions and identify potential local air quality impacts from the Cap-and-Trade Program.
And a portion of the staff's presentation today is going to cover that specific item.

However, it seems like an opportunity also to raise a broader and perhaps more useful conversation about looking at air pollution more broadly in the context of the scoping plan and of cap and trade, looking at the progress California has made from local, State, and federal programs that are aimed at reducing criteria pollutants as well as toxics and greenhouse gases, and what else this Board could be doing to address all of these pollution types especially in environmental justice communities.

Simply put, air pollution impacts people's health, and we need to ensure that our programs are continuing to reduce those impacts in California, and to do it in a way that's as cost effective as possible, which means never or hardly ever only thinking about one pollutant at a time.

We put into place new measures and efforts to achieve further reductions, particularly for communities around ports and railyards and freight distribution facilities, and other disadvantaged communities.

Over the past year, the staff has worked closely with an expert stakeholder work group and continue to work air district staff to develop a comprehensive process to
review annual emissions from cap-and-trade covered facilities and to identify potential adverse impacts. After staff sets up the regulatory framework under which air pollution is controlled in California, staff will describe the adaptive management process for cap and trade, including the multi-step screenings and further analyses, and then provide some preliminary results of the screening and analysis that they've been doing.

So this then will lead to a broader look at air pollution control efforts, as I noted earlier. Staff will highlight the broader efforts looking beyond adaptive management, which will be begin a conversation hopefully that will allow us to look at our progress overall and to look at what tools we can use to further reduce community exposures overall.

So we're trying both to address the specific topic of the Adaptive Management Program; but recognizing that it was limited in its concept and implementation, to take a broader look at how we're integrating our various programs to deal with the three major types of air pollution - regional health-based pollutants for which we have standards; toxic air contaminants; and greenhouse gases.

So, Mr. Corey, would you please introduce this
EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

And as you mentioned, the Board approved an Adaptive Management Plan to monitor for potential localized air quality impacts from the implementation of Cap-and-Trade program. Board further directed staff to work with the air districts on the implementation of that plan.

But in staff's presentation as you noted, staff will first provide some important context for this effort, establishing the local, State, and federal framework for air pollution control in California. We'll then discuss the progress we've made at the regional local levels, which are noteworthy. But the message I want to convey is that we've heard loud and clear from our scoping plan development efforts and our extensive engagement with the EJ Advisor Committee and local community meetings that more needs to be done, to look beyond adaptive management, and implement measures to further reduce community exposures, especially for those communities around ports, railyards, freight distribution facilities, and other heavily impacted, disadvantaged communities. We'll tee up how we have a plan for achieving these further reductions and how adaptive management is one tool, among many, that are part of the needed broader effort to further reduce community exposures.
We'll then pivot to a specific discussion on adaptive management, the multi-step screening process and analytical framework we've developed with stakeholders, some preliminary results from the screening and analysis, the development of process we've worked through and then the next steps.

And finally, we'll close out the presentation by discussing plans for developing the broader levels of action beyond adaptive management that are needed to further reduce community exposures.

Now, with that, I'll ask Johnnie Raymond to give the staff presentation.

Johnnie.

(Thereupon an overhead presentation was Presented as follows.)

STAFF AIR POLLUTION SPECIALIST RAYMOND: Good afternoon, Chair Nichols and members of the board. Thank you for the opportunity to update you on our progress in further developing the Cap-and-Trade Adaptive Management Program.

As Mr. Corey indicated, we will discuss the adaptive management program within the broader context of our overall approach to clean air and how adaptive management is but one part of that broader effort to reduce community exposures.
STAFF AIR POLLUTION SPECIALIST RAYMOND: My presentation will cover a number of items. I'll first put the Adaptive Management Program in the proper context of our overall air pollution control program by:

- Laying out the landscape for California's air pollution control program;
- Describing the various jurisdictions that collaborate to reduce air pollution in California;
- Highlighting the progress made to reduce regional emissions and local community exposures; and
- Acknowledging that more work needs to be done to reduce those emissions.

This leads to a discussion of the multi-pronged approach that we will need to pursue in order to address the concern which we have heard loud and clear from our extensive engagement with the Environmental Justice community and other sources; that despite our significant progress, emissions remain unacceptably high for a number of environmental justice communities, and regional emissions and communities exposures need to be reduced further. That multi-pronged effort extends well beyond adaptive management, which is a very targeted program intended to look specifically at weather there are potential emission increases caused by cap and trade.
This leads to a discussion of Adaptive Management Program itself, our current thinking on how to track and respond to any emission increases from cap-and-trade covered facilities, and a discussion of some preliminary results from our use of the Adaptive Management process developed to date.

I will then go over the public process for getting us to this point with Adaptive Management.

And finally, I will outline the next steps for both Adaptive Management and the broader effort to further reduce localized emissions and community exposures.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: For decades, California has implemented a comprehensive set of air pollution control laws and emission reduction efforts. At the federal, State, and local level, air pollution control programs are designed to reduce emissions of smog-forming criteria pollutants, toxic air contaminants, and greenhouse gases throughout California, improving the health of all residents.

State and federal legislation in the 1950s, '60s, and '70s established the local air districts, ARB, the U.S. EPA. At that time, most of our collective focus was applied to reducing smog-forming or criteria emissions. In the '80s and '90s we began a parallel effort targeting
toxic air contaminants, including diesel exhaust particulate matter and air toxics. These efforts continue today. More recently global climate change has become a significant concern, and we have led the world in developing and implementing climate change strategies like cap-and-trade and low carbon fuel standard that are watched closely by numerous countries and other jurisdictions hoping to emulate our successes.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: The regulatory roles served by the local, State, and federal agencies in the previous slide are shown here. They are complementary and require substantial coordination between the agencies to ensure effective implementation.

At the federal level, the U.S. EPA sets:
National ambient air quality standards;
National emissions standards for cars, trucks, and equipment; and
National standards for hazardous air pollutants.

At the State level, ARB:
Sets motor vehicle, fuel and consumer product emission standards;
Develops and implements reduction measures targeting criteria pollutants, toxics, and greenhouse gas sources;
Provides primary oversight of the 35 local air districts; and

Monitors and reports air quality.

At the local level, air districts have authority to:

- Develop, implement, and enforce stationary source rules;
- Establish and implement a permit system governing the operation of these sources of air pollution; and
- Monitor, collect, and report air quality data.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Now that I've described the different roles of the air quality agencies, I will summarize how these jurisdictions apply their authorities to regulating smog-forming emissions, air toxics, and climate change pollutants.

The role of mobile sources is implementing at all three levels. Both ARB and U.S. EPA establish motor vehicle emission standards, while local air districts establish fleet rules and other in-use and operational controls. The mobile source control program is aimed at achieving regional criteria pollutant reductions that combat the formation of smog and make heavy-duty trucks cleaner by reducing diesel particulate matter.

Sources of air toxic contaminants are identified
at the State and federal level and are controlled through
taxic control measures at the State, local, and
federal levels.

For climate pollutants, the State has primary
authority under AB 32, SB 32, and other laws to regulate
greenhouse gases and other climate forcing pollutants. We
have implemented programs for motor vehicles, large
stationary facilities, transportation fuels and other
sources of climate forcing pollutants. ARB also has an
important role in working with sister agencies to develop
comprehensive plans targeting the reduction of climate and
other pollutants through the Scoping Plan, Short-Lived
Climate Pollutants Strategy, and other efforts.

For stationary facilities, local air districts
and U.S. EPA have primary authority to directly control
emissions through the air district and Title 5 permitting
programs. These efforts focus on criteria and toxic
pollutants. ARB has an oversight role for district
permitting and implementation as well as the development
of model rules as Suggested Control Measures and Best
Available Retrofit Control technology determinations.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: The
sustained multi-jurisdictional effort described previously
has produced substantially positive results over several
decades. This and the following slide show long-term trends of air pollutant levels that affect California communities.

At the regional level, you can see from these graphs that the State has made remarkable progress in reducing regional pollutants - like oxides of nitrogen and benzene emissions - in areas such as South Coast Air Basin.

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STAFF AIR POLLUTION SPECIALIST RAYMOND:

Similarly at the local level, we've also made steady long-term progress driving down emissions of pollutants such as diesel particulate matter and PM$_{2.5}$ that are impacting local communities.

These graphs demonstrate that ambient concentration of these pollutants have decreased at a significantly faster rate in environmental justice communities as compared to non-EJ communities.

However, these graphs also show that, despite our progress, there is still a gap that exists between measured concentrations in EJ communities as compared to non-EJ communities.

Although the gap has been closing, it is still there. We've made progress but more needs to be done. We view closing this gap permanently as a high priority.
across all our programs. Moreover, I'd like to underscore that additional emission reductions are needed to protect California's most vulnerable communities, such as those near railyards and distribution centers.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: It is clear that more needs to be done to further drive down emissions both regionally and for local environmental justice communities. That message has been informed and reinforced by a number of sources, including:

Our extensive engagement with the Environmental Justice Advisory Committee at numerous local community meetings we have participated in throughout the State;

The various community visits and tours many ARB staff from different programs have attended;

Recent findings that shed light on evaluated exposures in these communities, such as chromium levels in some communities in the South Coast; and

Studies focused on community exposures and benefits, such as studies conducted by OEHHA coming up in December, the Luskin Center study on climate program benefits, and the Cushing study that was discussed at the September hearing.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Over the
next several slides we will look beyond Adaptive Management to the broader effort that is needed to reduce regional emissions and localized community exposure to air pollution.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: As I mentioned, Adaptive management is a focused program designed to detect and address unlikely but potential localized air quality impacts caused by cap and trade. It is but one part of a broader effort needed to reduce regional emissions and localized community air pollution.

That broader effort beyond Adaptive Management will focus on cutting current emission levels further, address mobile and industrial sources, and employ multi-agency coordination.

Ultimately, it is our top priority to take actions within our authority - and work with the local and federal jurisdictions to implement measures within their respective authorities - to reduce regional emissions and community exposure to air pollution.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: The broader, multi-jurisdictional effort will need to employ a multi-pronged approach to address regional emissions and community exposures. These efforts will be guided by a
number of key principles, including:

   Working with the air districts to further reduce
industrial source emissions, with an emphasis on reducing
near-source toxic exposures;

   Integrating our various inventory and program
databases for air toxics, smog-forming criteria
pollutants, and greenhouse gases;

   Informing our programs and efforts with the
latest science to better assess health impacts and
prioritize needed actions;

   Looking closely at tools within our own toolkit
to improve existing or develop new State measures to
reduce criteria, toxics, and GHG emissions. This includes
programs such as our Sustainable Freight Strategy and our
Mobile Source Strategy.

   And, as I noted earlier, we will implement the
Cap-and-Trade Adaptive Management Program to avoid and
address emission increases due to cap and trade.

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   STAFF AIR POLLUTION SPECIALIST RAYMOND: To
implement this multi-pronged approach, we will identify a
number of primary actions that are needed, including:

   Working with the air districts to extend their
successes to date by identifying and implementing
opportunities to reduce stationary source emissions even
further;

Implementing our own Sustainable Freight and Mobile Source Strategies;

Continuing the toxics review process to reflect the recent risk methodology updates by OEHHA;

Continuing the implementation and enforcement of our diesel reduction measures; and

Improving our emissions inventory and making related information more accessible to the public.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: The needed actions also call for us to assess our climate strategies for potential enhancements that can yield co-benefits and prioritize measures that result in direct reductions as provided under AB 197.

Moreover, better data informs better actions, so it is imperative that we continue to collaborate with researchers on assessments of community impacts, research to fill gaps, and development of appropriate responses.

As you can see, our plan is to use all of the tools in our toolbox to develop new ones as appropriate. To this end, we expect to present to the Board in 2017 more details on our broader actions needed to further reduce regional and community air pollution.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Now that I've described the broader context of California's emissions control landscape, now I will switch to a discussion of the Adaptive Management program itself and some preliminary results in our application of the process developed to date.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: In the next several slides, I'll define Adaptive Management and its objectives, and present key questions governing the design of Adaptive Management.

When the Cap-and-Trade regulation was first considered by the Board in 2011, the Board concluded that cap and trade is unlikely to contribute to increased localized emission impacts.

However, to address some comments and concerns raised, the Board approved the Adaptive Management Plan to closely track the effects of the Cap-and-Trade Program on localized air quality.

Adaptive Management provides a focused public process and tool to track emissions from cap-and-trade covered facility. The program also provides a transparent and public process for vetting recommended actions to address and avoid emission increases from cap-and-trade covered facilities.
The proposed process and emissions visualization tool also allows anyone to follow and replicate staff's analysis. And we will present a short video demonstrating this tool later in this presentation.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Here we will show the key questions governing our application of the Adaptive Management Program.

Here, have we observed an increase in criteria pollutant emissions from cap-and-trade covered facilities and disadvantaged communities? This question identifies one primary purpose of Adaptive Management, which is to monitor for emission increases from cap-and-trade covered facilities in disadvantaged communities.

Does the observed emission increase warrant a deeper investigation? Here we identify whether the increase is real, and, if so, warrants intensive deeper analysis of the cause. An example of this is where an air district has changed accounting methodologies that might indicate a potential increase in emissions from the previous year but may not be an actual emissions increase. Only a deeper investigation will shed light on this type of scenario. This question also involves prioritizing the deeper analysis for those communities with the largest observed increases.
Is the increase caused by cap and trade? This question is probably the most challenging question to answer since increases in emissions can be caused by a number of factors, which can include but not limited to the implementation of cap and trade, and those causal factors can often operate simultaneously and in confounding ways that make it difficult to tease out a primary cause or causes.

Finally, what are the potential responses? Emission increases from cap-and-trade covered facilities need to be addressed irrespective of whether the increased is caused by or attributed to cap and trade. The potential response to an emissions increase can be informed by the answer to the attribution question. If the increase can be attributed to cap and trade, then a further evaluation of a program design and implementation is designed to determine how best to address the increase.

But the inquiry doesn't end if we cannot show an increase was caused by cap and trade. Ultimately substantial emission increases need to be understood and addressed. And that leads us to the broader, multi-pronged effort to reduce regional and community air pollution that I discussed earlier.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: In
developing the Adaptive Management Program, we've broken it down to four key steps. In the next couple slides I'll go over the first step: Annual monitoring for criteria pollutant emissions using ARB emissions visualization tool.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: To monitor annual changes in emissions we will use a new version of the Emissions Visualization and Mapping Tool. An older version of this mapping tool is already available to the public.

In a previous hearing, we demonstrated this mapping tool in an earlier update on Adaptive Management. But that version of the tool contains only greenhouse gas data. For today's update, we will be demonstrating a new version being developed by our staff from our Air Quality Planning and Science Division.

Currently, the three tool displays by location greenhouse gas emissions data reported directly to ARB by over 500 entities as required by the Mandatory Reporting Regulation. The general reporting threshold for facilities is 10,000 metric tons of greenhouse gas emissions per year. These data are validated by third-party verifiers and reviewed by ARB staff.

We will add criteria pollutants later this year.
When completed, this will allow staff and the public to identify emission increases from cap-and-trade covered facilities at disadvantaged communities in a number of different ways. Under AB 197, we will plan on adding air toxics data to this tool before 2018.

We will now pivot briefly to show you a short video demonstrating our progress in updating the tool. We are currently working with the air districts to ground-truth the emissions data, and we anticipate that an updated version of this tool will be released to the public by the end of this year.

(Thereupon a video was played as follows:)

THE NARRATOR: ARB is in the process of updating its Interactive Facility Emissions Visualization and Mapping Tool originally released in 2012. This web-based tool displays the locations of mandatory recording facilities in California and their greenhouse gas emissions. After the update the tool will be able to display criteria emissions for these facilities.

Let's start by reviewing the tool's user interface and features. The user interface consists of three panels: A control plan, a display panel, and a facility list panel.

The control panel allows users to search facilities by name, geographic region, primary sector, or
whether a facility participates in the Cap-and-Trade Program. It also lets users select the pollutants and the years for which data can be displayed.

The display panel shows the locations of mandatory reporting facilities on a map, and users are able to pan and zoom the map. Facilities are color coded based on their primary sector.

The right-side bar displays a list of facilities along with their emissions. This list and the map respond to the filter selected in the left-side menu.

Note that one new feature added to the tool is that it now displays cap-and-trade covered emissions.

Now, let's take a look at new information the tool will provide. Using the tool search feature, we'll look for XYZ Company. Notice the facility bouncing on the map.

Let's zoom in, which can be done using the zoom and pan controls or the mouse wheel. Notice the 5 tabs in the pop-up window when we click on the facility. As before, the first half shows information about the facility. The "emissions" tab shows greenhouse gas and criteria pollutant emissions reported in 2014 for this facility.

The "GHG trend" tab shows a trend of a facility's greenhouse gas emissions over time, along with a table of
the emissions reported for each year.

   Similarly, the "criteria trend" tab shows the
trend and emissions table for criteria pollutants.

   And lastly, the "compare" tab allows users to
plot greenhouse gas and criteria pollutant trends on the
same chart.

   Now, let's reset the map to revisit a very useful
feature of the tool. The "shape" options in the tool
allow users to select several facilities at once, using a
circle, a rectangle, or a polygon. Let's demonstrate.

   Using the circle tool, we'll draw a perimeter
around a number of facilities. When we click on the
shaded area, the tool displays information about the size
of the area and the number of facilities in it, a list of
facilities, the total aggregated emissions, and the GHG
and criteria pollutant trends.

   This concludes our demonstration.

   CHAIR NICHOLS: Okay.

   (Laughter.)

   CHAIR NICHOLS: It's cute. I hope it's going to
be useful. It looks like it's going to be useful. I
really like the 3-panels idea. I don't know who all
you've tested it on or how many ten-year olds versus, you
know, slightly older folks.

   (Laughter.)
CHAIR NICHOLS: But definitely seems like it has the potential to be useful. So glad to know you're doing this.

I'm really most excited about the potential for allowing -- enabling people to go facility by facility and to get a bigger -- a more comprehensive picture of what we know. And I do think it exposes also then some of the questions about timeliness of data and then the formats of data and all of that. So I know not everybody thinks emissions inventories are as exciting as I do, but I think this is actually a pretty powerful item.

BOARD MEMBER BALMES: Well, it will be more powerful when toxics are added in 2017.

CHAIR NICHOLS: Yes, exactly, because that's really I think where most of the community interest is.

Okay. Thank you.

INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA:

Chair Nichols, I apologize. That was the end of the video, but we still have a few more --

CHAIR NICHOLS: Oh, I know you have more presentation. I was just commenting on the tool, that's all. Giving a little review, you know --

(Laughter.)

CHAIR NICHOLS: -- a little feedback.

Okay. Go ahead.
STAFF AIR POLLUTION SPECIALIST RAYMOND: So I will continue.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: The next two parts in our current thinking for the Adaptive Management process consist of a number of analytical steps:

First, we would screen emissions data to identify emission increases from cap-and-trade covered facilities in disadvantaged communities. Specifically, we're looking for increases in aggregated levels of volatile organic compounds, oxides of nitrogen, and fine particulate matter.

Next, we would prioritize for deeper analyses those disadvantaged communities showing the largest observed increases, then conducting the deeper analysis for the remaining disadvantaged communities showing any observed increases in criteria emissions.

We would then analyze individual facility emissions in the disadvantaged communities with observed increases to determine whether those increases are real; and, if so, what factors are causing the increases? The intensive investigation into the validity of the observed increase and their cause will require close collaboration with the local air districts.
STAFF AIR POLLUTION SPECIALIST RAYMOND: As noted on the previous slide, the two analytical parts of the Adaptive Management process involve a number of steps which we elaborate future on this slide.

To identify disadvantaged communities for analysis, we first determine which disadvantaged communities are co-located with at least one cap-and-trade covered facility. So far we have identified 80 communities with at least one such covered facility. Those 80 communities are co-located with approximately 100 cap-and-trade covered facilities.

We then use the mapping tool to create a study area with a 2.5 mile radius from the center point of those communities. As you'll recall from the September hearing, a 2.5 mile radius has been used by researchers in defining a study area in research involving environmental justice.

We will then use the mapping tool to aggregate criteria emissions from all cap-and-trade covered facilities within a study area. Those study areas indicating an observed emissions increase in any of the criteria pollutants will be identified for a deeper analysis, with those study areas showing the largest increases prioritized for the initial deeper analysis.

As I noted in the previous slide, we will work
closely with the local air districts in both the analytical and attributional phases to determine whether an observed increase is real and what is causing the increase.

It's important to notice that careful interpretation of the analytical results is needed so that the recommended actions can be effective in addressing an actual emissions increase.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: In the next several slides we are presenting preliminary results from our analysis using the Adaptive Management process I just described. For this initial stage we started with many of the communities we visited as part of the local community meetings hosted by the Environmental Justice Advisory Committee this year.

The first preliminary analysis in today's presentation is for the Southern California community of Wilmington. There are ten cap-and-trade covered facilities within 2.5 mile radius of Wilmington's center.

As you can see from the graph, criteria pollutant emissions from these facilities are generally at or below their pre-recession levels.

--o0o--

STAFF AIR POLLUTION SPECIALIST RAYMOND: This
slide shows a similar analysis conducted for Oakland in the East Bay Area. There is one cap-and-trade covered facility within the 2.5 mile radius of Oakland. And VOCs, NO\textsubscript{x} and PM\textsubscript{2.5} appear to have increased in recent years.

We are working with the Bay Area Air Quality Management District to investigate whether these observed increases are real; and, if so, what are the underlying causes.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Here we list the preliminary screening results for ten communities we reviewed. Six out of ten initial study areas show emission decreases or no change in criteria pollutant emissions. This includes the communities of Wilmington, Barrio Logan, Brawley, San Bernardino, Bakersfield and South Sacramento.

Four out of initial ten study areas indicate potential emission increases, which we are currently investigating with the local air districts. This includes the communities of Richmond, Oakland, downtown L.A. and Fresno.

It is important to acknowledge the significant progress each of the air districts covering these communities – the Bay Area, South Coast, and San Joaquin Valley air districts – have made in reducing overall air pollution.
pollution over the years. As I noted earlier, we will work with the air districts to validate whether these are real emission increases; and, if so, identify appropriate targeted actions to reduce emissions in these communities.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: In the process of analyzing observed emission increases in the study areas noted previously, we've encountered a number of challenges in determining whether an observed increase is real and what are the underlying causes of the increase.

Observed emission changes can be attributed to a wide variety of factors, and multiple causal factors quite often can occur simultaneously. Examples of this include differences in emission estimation methodologies over time, misreported data, and historical data that have not been updated using current methodologies. Of course these factors may not explain an observed increase entirely, so an intensive investigation is often required to obtain further insight.

As I noted previously, we've identified approximately 80 EJ communities with at least one cap-and-trade covered facility. We plan to continue our evaluation of the initial set of ten communities, along with the rest of the estimate 80 disadvantaged
communities, and include the results of our analysis in the draft Adaptive Management Report released in spring 2017.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: In the next two slides I will discuss the public process for the Adaptive Management Program.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: As shown on this slide, the fourth step of the process includes releasing results for public review and comment, developing recommendations, and providing updates to the Board and CAPCOA.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: This slide lists our collaborations with CAPCOA in 2015, and that we held a series of regional public workshops and updated the Board on the proposed process last November. This year we continue to work with our local air district partners. We also formed an informal work group to further refine the process, obtain independent perspectives on how to determine when emission changes warrant further investigation and how to identify potential adverse impacts from cap-and-trade covered facilities.
Staff held six work group meetings from January through August of this year. The work group consisted of representatives from the Environmental Justice Advisory Committee, academia, public health, the air districts, and industry. We greatly appreciate the input and contributions we received from the air districts, the work group, and the Environmental Justice Advisory Committee on the Adaptive Management Process.

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STAFF AIR POLLUTION SPECIALIST RAYMOND: Moving forward. We plan to release an updated mapping tool with criteria pollutant emissions in December.

We're also targeting Spring 2017 for the release of our draft Adaptive Management Report. We plan to hold public meetings to discuss the draft report before and after its release.

Following that public process, we plan to come back with a proposed Adaptive Management Report for the Board's consideration in Summer 2017.

And to bring it back to our earlier discussion on the broader effort beyond Adaptive Management, we plan to come back to the Board in Summer 2017 with more details on further actions needed to reduce community exposures.

Thank you. This concludes my presentation. I'd be happy to take any questions.
CHAIR NICHOLS: Okay. Questions or comments before we hear from the public.

We have a list. We have 12 people. I think we should probably stick to our two-minute suggestion here. So we'll start this time with Tiffany Roberts. Made it to the top of the list, beating out Shelly Sullivan.

MS. ROBERTS: Thank you, Madam Chair and members of the Board. Tiffany Roberts from Western States Petroleum Association.

We want to start off by thanking staff for working on this very difficult task that they've been assigned. So it has been a good I think working relationship and we just want to say thank you for that.

We do believe that the Adaptive Management process or any successor process should start with a rational, logical screening process to identify cap-and-trade facilities and/or sectors where increases in greenhouse gas emissions have actually occurred. This screening process should be followed by increasingly focused reviews to attempt to determine the extent to which those emission increases may have resulted from the Cap-and-Trade Program.

While we understand the desire for transparency in presenting air emission information to communities, we
believe that a website that shows only participants in the Cap-and-Trade Program will convey potentially misleading information. This is true for a number of reasons.

First, large emitters of greenhouse gas emissions such as those sources included in the Cap-and-Trade Program are not the same as large emitters of PM emissions. A mapping program that only shows emissions from cap-and-trade facilities will omit important information about large sources of PM emissions in those communities.

As an example, industrial sources emit only 12 percent of direct PM$_{10}$ emissions in the Bay Area. Of that 12 percent, sources are -- sources that are in the Cap-and-Trade Program represent only a small fraction. A map that only shows the emissions from facilities in the Cap-and-Trade Program would omit over 90 percent of the emissions that contribute to ambient PM concentrations, and thus doesn't give the context necessary to understand or evaluate the issue.

So to conclude, we look forward to continuing to work with staff to make sure that there is a statistically sound way of evaluating and presenting information.

Thank you.

CHAIR NICHOLS: Thank you.

Shelly Sullivan.
MS. SULLIVAN: Shelly Sullivan with the Climate Change Policy Coalition. And I'm just going to be really brief here.

The intent of the Adaptive Management Process was to measure the effect of the Cap-and-Trade Program and GHG emissions in regions throughout California. And so we just really want to caution the staff and the Board that the process now seems to be going into a different direction and that the Adaptive Management Process must now refocus its original intent.

Adding other types of pollutants before understanding if GHG emissions are going up dilutes ARB's ability to determine if Cap-and-Trade Program is having negative effects or impacts. And so we just kind of wanted to reiterate that point.

And I also just wanted to ask. I know that staff has worked with CAPCOA and their subgroup and also gave the Environmental Justice Advisory Committee a briefing on it. Going forward, was there going to be an opportunity for actual informal or formal public comment periods as well? Because I don't think that that's happened. Or if it has, I missed that. So I apologize.

So thank you.

CHAIR NICHOLS: I see a head nodding here. But maybe staff would like to specifically respond.
INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA:

Yeah, Floyd Vergara. Definitely, as Mr. Raymond mentioned, there is a public process vetting and ground-truthing of the draft report that we'll be putting out. So we definitely have public meetings and workshops planned.

MS. SULLIVAN: Thank you.

BOARD MEMBER GIOIA: I wanted to make sure I heard your concern.

Is your concern that we shouldn't be looking at whether other pollutants have gone up or down?

MS. SULLIVAN: My concern is is that we're getting far afield of looking specifically at greenhouse gas emissions.

BOARD MEMBER GIOIA: How is that far afield?

MS. SULLIVAN: Well, the Adaptive Management Process was initially for greenhouse gas, looking at --

BOARD MEMBER GIOIA: But it was to determine if there were other impacts that were not beneficial, and that would mean criteria pollutants and toxics. But that's not -- those are the health issues. I represent Richmond. I sort of understand that the concern of communities that drove this was will the Cap-and-Trade Program affect other pollutants like criteria and toxics. So I'm not sure I understand why that's not relevant.
MS. SULLIVAN: I'm not saying it's not relevant. I just think that we really need to focus on what the greenhouse gas emission impacts are having on those communities as well.

BOARD MEMBER GIOIA: But that's a global issue. But the issue is what has impacts on that community as you state. That's toxics or criteria?

MS. SULLIVAN: It's criteria pollutants.

BOARD MEMBER GIOIA: Okay. All right.

BOARD MEMBER BALMES: As someone who I think really pushed us to move in this direction, the original intent of -- it was called an audit initially. And we now have a sexier name, adaptive management.

(Laughter.)

BOARD MEMBER BALMES: But it was specifically to address the health impacts of co-pollutants in addition to greenhouse gas emissions.

BOARD MEMBER GIOIA: Exactly.

BOARD MEMBER BALMES: That was the original intent. It was --

BOARD MEMBER GIOIA: Exactly.

BOARD MEMBER BALMES: It was part of cap and trade, but it was to look at the co-pollutants.

CHAIR NICHOLS: Yeah, it was done to comply with CEQA specifically. That was the intent anyway.
BOARD MEMBER BALMES: Well, I think actually that may have been the legal intent. But, you know, my intent --

(Laughter.)

BOARD MEMBER BALMES: -- and the community's intent that were pushing me to do something was public health.

CHAIR NICHOLS: Yeah, that is true. That was the concern. I agree with you.

(Laughter.)


(Laughter.)

CHAIR NICHOLS: All right. Let's continue then. Thank you.

CAPCOA EXECUTIVE DIRECTOR ABBS: Good afternoon, Chair Nichols and members of the Board. My name's Alan Abbs. I'm with the California Air Pollution Control Officers Association representing the 35 local air districts.

As Johnnie said - and he gave an excellent presentation, by the way - the districts have been participating in this work group for over a year now. We've had a pretty diverse set of air districts represented, all the way up from far Northern California...
down to the traditional large urban air districts. And so we had good representation and a lot of thought was put into this process.

And I think if you were really listening to his presentation, what you probably realized is that this was a lot harder in the end than we thought it was going to be when we first started it.

We have climate change pollutants, we have regional pollutants that are really of interest to the air districts, and then we also have the toxic air contaminants. They're all measured slightly differently. They get different weights based for health purposes on how we deal with them, and trying to incorporate -- they come from different databases. The data's collected differently. And so trying to merge all of that into one program where a person can click a button and see how things are changing over four or five years and then make a determination of about what to do, it really gets to be complicated. And I think staff has done a great job so far in trying to work through the issues and get to an ultimate resolution.

So we're in support of the process so far. And I think, as you also heard mentioned, air toxics are going to be a big deal in future versions of this program because -- the reason toxics are going to be so different
is we -- one pound of a certain toxic is different from
one pound of another. Where they're exhausted matters.
The weather patterns matter. And so how to represent that
in the Adaptive Management Program is going to be
particularly challenging if we want the public to really
understand what's happening at some of these facilities.

And then to take it a step further, going into AB
197 process, makes it even more challenging.

So we're here to help and we look forward to it.

Thank you.

CHAIR NICHOLS: Well, thank your. Your
involvement in this is critical because they're -- you're
the additional repository of a lot of the data that we're
trying to get here. So thank you.

MR. BENGTSSON: Good afternoon, chair Nichols,
Board members. Nathan Bengtsson with PG&E.

Just here to say that PG&E strongly supports a
process that prevents unexpected, unintended, and
inappropriate consequences in terms of localized air
impacts from cap-and-trade. Obviously air quality and
impacts from climate change are both very important, as
we've heard many times today, and both have outside
impacts on disadvantaged communities, and so it's
important we're thinking about both of them.

With that in mind, you know, to be an effective
exercise of public trust, the AMP or its successor process must be rooted in good data, and it must be transparent. And I think staff did a good job of recognizing that in what they've just presented to you all here.

I think the other thing that is really important to focus on - I think Shelly was getting at this - is that the purpose of this process is to identify localized air impacts that are a result of the Cap-and-Trade Program. And that causal link there is really, really important.

Because as staff also did a good job of saying, there are lots of reasons for changes to localized air impacts, from wild fire to changes in economic -- changes in economic, you know -- economic uptick.

And so what we want you to -- this process is designed so that we don't rob Peter to pay Paul in terms of GHG reductions at the expense of public health. But we also don't want to go the opposite direction by doing an analysis that is confused and, you know, eventually mitigating our ability to limit GHGs because we're not -- you know, we aren't careful enough about what the localized air impact causes are.

And so I just want to flag that, that we're really careful about that. And one way to do that might be to, you know, sort of put the increases in GHGs as the trigger for further AMP sort of digging in, instead of
starting with the increases in PM and toxics. Those are the things that actually should be measured. And when they're examined, there are other means for ARB to deal with them. But specifically with regard to GHGs and cap and trade, AMP's focused on results they're from.

Thank you.

CHAIR NICHOLS: Okay. Thank you.

MR. LARREA: John Larrea with the California League of Food Processors. Wow. I remember when this was first brought up and it was just a simple little program to determine whether or not cap and trade would have any effects. And now it seems to be expanding into something that I -- frankly I probably should have paid more attention to.

One of the things that kind of caught me was that, you know, there are informal work groups going on, there's developments associated with this. It's expanding well beyond what it was originally intended to be.

Has any thought been given to a public process? I would have loved to have seen some notification or knowing that I could attend some of these meetings to listen to it, because some of us do enjoy watching the sausage being made before it's actually placed out there in the public.

You know, many of our facilities as far as food...
The processor is concerned would be very interested in what's being developed within this working group and along with adaptive management as well.

You know, I'm not going to criticize or anything because I just don't know enough right now. But I take to heart what the PG&E representative just said. I thought that made a heck of a lot of sense. And I'd like to see more -- maybe something posted. Let us know what's happening, the timelines associated with this. And so that if we do choose to be there, I can bring experts as well too, you know, and help maybe the process along, you know, and give data that you could use to develop more of this, you know, if it's going to be that helpful.

So, please, just look to the public process, you know. Some of us really do want to participate in this.

Thank you.

CHAIR NICHOLS: I think this is the start of that. So thank you. Glad you're willing to participate.

MR. BARRETT: Hi. Good afternoon. I'm Will Barrett with the American Lung Association. And we did participate in the work group that the staff ran over the last year. We also participated in the public process and the workshops that went on earlier this year and late last year, and have appreciated working with staff on this important program.
Today the Lung Association, Physicians for Social Responsibility in Los Angeles, the Coalition for Clean Air, and Mari Rose Taruc from -- Co-chair of the EJ Advisory Committee submitted a letter to you today basically to outline our support for the process, and basically to show that we think that this is a responsive program and it's a part of the overall -- as the presentation laid out, the overall need to protect local communities from industrial pollutants. These are our major concerns. And we appreciate the effort within that context.

We feel that the approach laid out by staff to review the criteria air pollutants and, coming soon, the toxics data is really the only appropriate starting point to identify any potential impacts of the Cap-and-Trade Program. We know throughout the discussion that's not an expected outcome. But we do appreciate the -- the possibility to look for early warning signals.

We also appreciate the focus of starting these reviews within -- at facilities within disadvantaged communities. I think that's an important starting point rather than -- you know, it's a hard thing to kind of wrestle all the facilities. But starting in the most -- the disadvantaged communities makes a lot of sense.

We do suggest that the process can also look
beyond increases to other unexpected changes in emissions. For example, why an emission -- or a facility might be flat-lining on emissions rather than reducing emissions. Or why slow reductions are seen in an EJ area than outside of the EJ area.

Clearly the focus should be on the major increases given what the resources staff has. But we think there's a lot of opportunity to expand the evaluation.

We'd like to just say also that we support the inclusion of the path we're dealing with, non-cap-and-trade-related increases that show up. We know that the staff can direct those to the appropriate resolution even if they're outside the Cap-and-Trade Program.

CHAIR NICHOLS: You're time's up.

MR. BARRETT: And I'll just close by saying thank you for all the effort and the work that's gone into it. It was a difficult process and we appreciated being part of it. So thank you all.

CHAIR NICHOLS: Okay. Is Brent Newell still with us?

No.

Okay. Rachel O'Brien.

MS. O'BRIEN: Good afternoon, Madam Chair and
members of the Board. Rachel O'Brien with the Agricultural Council of California. I wanted to note for those who might not be familiar that cooperatives and farmer-owned businesses can exceed the 25,000 metric tons of CO₂ emission threshold when cooking, cleaning, or processing food which requires them to participate in the Cap-and-Trade Program.

Ag Council has been engaging in the public process and in the Adaptive Management work group. That work group has met about six times -- I think it's six times this year. Unfortunately we weren't able to do a seventh before the Board meeting today. But hopefully that process continues. I wanted to thank staff for their efforts and including me in that process.

You might have heard from some -- or maybe started to glean from some folks that this is the first time that the public and other capped entities have been provided an update on adaptive management and been given a chance to provide. So, like you said, this is still the start of this process. But for some folks it's the first time kind of seeing the new developments.

I wanted to note that Ag Council agrees with the need to reduce community exposure of air pollution. We think that the best way to do -- to address emissions of criteria and toxic pollutants are through the best
available control technologies, the toxic rules, the
criteria pollutant programs, and at the local levels. I
bring that up, because to date in the scoping plan
process, under one of the policy scenarios, under
cap and trade and considering AB 197, there was a note
that says that a decrease allocation -- there would be an
decrease in an allocation if a covered facility reports an
increase in on-site criteria and toxic emissions. I have
corns which I'll lay out next about that. But there
are -- like has been said, there are many reasons -- God,
that went by fast.

CHAIR NICHOLS: Sorry. Just finish the thought,
if you would, about what you want to say here.

MS. O'BRIEN: One of the things that happens in
the agricultural arena is that there are different weather
patterns, there are different regions that food is
produced in, there's different technologies, there's an
array of factors that contribute to air toxics and
criteria pollutants. And I think those need to be
carefully analyzed, and I look forward to continuing to do
that with you.

CHAIR NICHOLS: Thank you. I mean, basically
what you're saying with respect to agriculture is true to
some degree with everybody. Nobody is agreeing at the
moment at least that the indicator of being in the
Cap-and-Trade Program in and of itself is a reason why emissions increased, right? I mean, there are people who've alleged that, and that is a potential conclusion that one could come to. But what we're trying right now to do is to tease out what the reasons are, what the factors are.

MS. O'BRIEN: Absolutely.

CHAIR NICHOLS: And then to make sure that we've got appropriate policies in place. The people who think that cap and trade causes this kind of thing are not going to be persuaded so far based on anything that they've seen. The people who think that cap and trade is, you know, completely different and separate are probably also not going to persuade much of anybody else, because the cap-and-trade policy is layered on to a lot of other things that are already going on.

So this is not an easy thing to figure out. And I don't think we're suggesting that we have a magic answer at this point either. But we ought to use the data that we have in a better way to try to explain, if we can, and do what our job is, which is to protect communities against increases in exposures. And I think that's really -- that is what the bottom line for us has to be in terms of following our own statutes.

So I appreciate that there's fear and concern out
there about being identified or targeted or, you know, forced to go through some new regulatory regime. And I could understand why people are concerned. But I think AB 197 requires us to do this; and I think logically, in any event, we should be doing it.

So I hope you'll stay with the process.

MS. O'BRIEN: I just wanted to return, that I didn't mean to interpret that the data shouldn't be used. I don't think you were addressing my comments that I specifically made.

But okay. Thank you.

CHAIR NICHOLS: Thank you.

No, you didn't say that. I just used your comments as a springboard.

MS. WHITTICK: Good afternoon. I'm Janet Whittick and I'm here on behalf of CCEEB, the California council. And this is actually a really hard position for me to be in today, because I need to express CCEEB's real concern with the process that's happened up to date.

You know, we represent many of those in the Cap-and-Trade Program. But our members are still only a small portion of all the capped entities affected by cap and trade. And I have to say most have had no opportunity to input into this process.

Even Bill Quinn, who was one of the working group
members, one of only three industry members. We've been following this process throughout the last year. And I have to tell you, I have never seen the steps outlined today by staff, I've never seen the preliminary analysis. All of this is new and very surprising, because it's not what we've been working on over the last year. And that's been pretty disappointing for me today.

And we tried to have other technical experts brought into the process, and that was denied.

So there's no information on the website, and none of the working documents that we've been seeing have been ever posted. And again that's very disappointing.

Now, we agree that adaptive management can and should provide a safety check on cap and trade. And we believe that it should be based on valid and accurate data. However, the process keeps shifting and it's been very hard for us to follow.

You know, the purpose of cap and trade is to reduce greenhouse gas emissions. We think that should be front and center in adaptive management. I mean, I think the preliminary analysis that you saw today, it misses that step of causal analysis. And I think it -- it also misses the real legitimate reasons why emissions at facilities change over time. And I would say it's highly unlikely that those increases were due to cap and trade.
Because I have such limited time, I have to ask -- also ask, that facilities need an opportunity -- an iterative step in the process so that they can be working with staff to verify and provide data that's going to go into this analysis.

Thank you.

CHAIR NICHOLS: Thank you.

MR. MAGAVERN: Bill Magavern with the Coalition for Clean Air.

I want to start by agreeing with Supervisor Gioia and Dr. Balmes, because during the development of the initial cap-and-trade rule, I actually testified about a concern that we could possibly get hot spots because of emissions trading. So this is exactly the inquiry that we need to have. And we're been hearing today and for years from people who want to compartmentalize. "You regulate greenhouse gases, you regulate local air pollution. Why are you mixing the two?"

And I actually want to applaud this Board and the staff because, particularly in recent years, you have been more integrating your two great missions. And let's face it, the sources of the emissions are almost all the same. And as the Chair just pointed out, now AB 197 actually tells you that you need to look at local air pollution and its interactions with the climate program.
My biggest concern about this proposal is the one that was articulated by Will Barrett, is that your inquiry is limited to the facilities where the emissions have gone up. Now, we've got a declining cap. Emissions should be going down. But if emissions are staying flat or even in some cases where they're going down, that doesn't mean we shouldn't be looking into it. Because you still could have a situation where a big emitter is purchasing offsets, purchasing allowances, and because of that, is not cleaning up as much as it would without that, and therefore that community may not be getting the full benefits that other communities are getting. And we're talking about places where the status quo is not acceptable because the air is not healthy in those areas. So just to say, "emissions didn't go up, that's fine, we'll check that off the list," that's not sufficient.

I think this process is improving as it evolves and grows, but I think we need to add that element.

Thanks.

CHAIR NICHOLS: Thank you.

BOARD MEMBER BALMES: Madam Chair?

CHAIR NICHOLS: Yes.

BOARD MEMBER BALMES: May I just make one comment?
CHAIR NICHOLS: Yes, please.

BOARD MEMBER BALMES: In my recollection of the ancient history of this, initially we didn't have any longitudinal data. The original audit idea was for high GHG emitters to evaluate, do an audit about what other pollutants -- what co-pollutants were being emitted. So it wasn't confined to -- at least in my memory the original intent was not confined to facilities where greenhouse gas emissions had gone up but where they were high. And that's a difference that I think is important.

CHAIR NICHOLS: Mr. Sweeney.

MR. SWEENEY: Yes. First and foremost, I am also speaking on behalf of the BAPAC, the Black American Political Association of California, the Sacramento chapter. And we are more than pleased that you are tackling these pertinent issues and their harms as they impact our various communities.

And our key point is not to come here and bash what you're doing, but to support and affirm what you're doing.

But we are also seeing that there is a pronounced need for outreach -- further outreach. And we think that here in Sacramento that should include both the local and State chapter of the NAACP, it should include the black chamber of commerce, and it should include some more
diverse voices as you put your reports together.

It is in fact true that the pollutants are -- actually they're pandemic. And so you're -- the fact that you are measuring them is important, because we all are breathing this same air.

But given the paucity of time here, I would only like to say keep up the good work, but that your outreach needs to be more extensive. And we'd like to thank you all for the fine job that you are doing, Ms. Nichols and the balance of the Board, Brother John Gioia and your staff.

Thank you so much.

CHAIR NICHOLS: Thank you for coming and for your suggestions. And I hope we can follow up on them. Thank you.

MR. SWEENEY: Thank you.

BOARD MEMBER GIOIA: Good to see you in Sacramento, James. Miss you in the East Bay.

CHAIR NICHOLS: Okay. Ms. Vanderwarker.

MS. VANDERWARKER: Hi.

CHAIR NICHOLS: Hi.

MS. VANDERWARKER: Hi again. Amy Vanderwarker, California Environmental Justice Alliance.

Thank you all so much for this, you know, in-depth study on environmental justice issue. It's one
of the things we've been calling for a long time, so I
really appreciate the hard work on it.

Also want to echo the sentiment from Supervisor
Gioia and Dr. Balmes, that -- from the environmental
justice perspective, looking at this public health impact
and really looking at the integration of greenhouse gases
and criteria and toxic air pollutants is critical. So
that's all extremely important and much appreciated. And
it is the reality that place does matter, and to have the
best climate policy in the country and in the world, you
know, we will be addressing criteria and toxic air
pollutants as well as greenhouse gas emissions.

I also agree with previous comments that we
should be looking at all capped entities in this program.
And I have to say this is where information on allowance
and trading data is actually critical. I know that's been
an issue to actually continue to get that data. That was
an issue at the Manuel Pastor study that was released.
And whether that's folded into this process or elsewhere,
some kind of analysis, that really is critical information
to understanding what's happening with emissions on a
local level and in specific communities. So that data
needs to be included in the picture.

Finally, the other thing I just have a question
on is, is how does this relate to the scoping plan
process? You know, really appreciate that there air You know, I really appreciate that the Air Resources Board is really diving in deep on the issues in environmental justice communities, collaborating with Manuel Pastor with -- through the OEHHA process. I know you all are working with OEHHA on that. And then through this process. And it just seems like these are the studies and this is the information we need before we can make any other final determinations on the scoping plan and what to do to 2030.

So this is critical information and I think it's really important to the scoping plan process. And I'm not quite understanding how the timelines all match up.

So thank you.

CHAIR NICHOLS: Thank you.

I think that will conclude this portion of our program for today.

But we've learned a lot and hopefully managed to get some of the information out as well, which needed to happen.

I'm sorry if there were folks who were shocked at what they saw. But it sounds like at least we've begun the process of getting that dialogue that needs to happen.

So comments from Board members?

BOARD MEMBER GIOIA: Just a question and then a
comment.

So just to be clear. The preliminary findings that you showed from the screening of -- criteria emissions, the results of your final evaluation will be out - I want to make sure I really understand this - this summer?

So the conclusions one way or another will be clear when?

INDUSTRIAL STRATEGIES DIVISION CHIEF VERGARA:

Yes, Supervisor Gioia. Floyd Vergara.

So to elaborate on what I said earlier, we do have plans to implement a public vetting process that will include workshops to discuss both the methodology that you saw today, and also the preliminary analyses not just of the ten local communities that we talked about earlier, but also all 80 of the environmental justice communities for which there has been a cap-and-trade covered facility that's co-located.

So all of that will be discussed in that public process. There will be public meetings and workshops. And the draft report encompassing all of those results will be -- we're targeting spring of next year. And then continue the public process, get more input on that, with a target of Summer 2017 to take it to the Board for your consideration.
BOARD MEMBER GIOIA: Right. And let me just say, I understand that there are some who are concerned that as data comes out people will draw certain conclusions. And it's the responsibility of this agency to really look into the data that's out and understand if there's a relationship or not, whether Cap-and-Trade Program is having impacts that are unintended, that are negative. All I can say -- and I forgot whose quote this is -- democracy is messy. This is a public, transparent process. No one -- pub -- we don't want to be accused of hiding data while it's being evaluated and while things are being looked at.

I think the agencies also made a disclosure that here's some preliminary information, we're trying to understand it fully, it's data and it reflects certain things. And we understand everything that a public agency does can be interpreted in so many different ways.

We haven't reached a final conclusion. But it's important to be up front with the public. Otherwise -- I mean, it's not like sitting in the back room and cooking up the stew and then, you know, not knowing what's in it. So I think the process as we go forward will reveal, you know, more and will have a final conclusion.

Yes. Ms. -- anybody else?

Yes.

You weren't waving your hand.

So, you know, I am suffering from envy for the San Joaquin Valley District for having a nice display board where when Board members want to speak, they flip a switch on their microphone and it lights up so the poor Chair can look at that and see who wants to speak, and it puts them in order --

BOARD MEMBER GIOIA: Maybe we need one here.

CHAIR NICHOLS: I feel that -- if anybody out there is listening, like the building management or whoever runs the sound system in this place -- what this Board needs for Christmas is --

(Laughter.)

CHAIR NICHOLS: -- or Hanukkah or whatever other holidays we might be celebrating this winter, it is a system that would allow us to see who wants to speak and make sure they get recognized.

I think, Dr. Balmes, you had your hand up first, but you agreed to cede your time to -- and Ms. Takvorian has agreed to have you go first.

Okay. Let's here from Dr. Balmes.

BOARD MEMBER BALMES: All right. Well, I was going to give the historical perspective.
So I've heard several people say what we need to do is make sure that the Cap-and-Trade Program isn't causing more health problems by emissions of criteria or toxic pollutants. And of course we don't want that to happen. But still, going back historically, my intent in terms of advocating for this type of process was to try to obtain co-benefits from our Cap-and-Trade Program that was going to reduce greenhouse gas emissions. That was my intent all along.

I also didn't want to see disadvantaged communities have further exposures from trading of emissions. But I don't see what's wrong with trying to get co-benefits. We're charged with controlling air quality and we're charged with mitigating climate change. Why can't we do both together? I think that's actually what we've been trying to do for the past few years, and I've really been proud of the way the Board has integrated these efforts.

So I don't see anything wrong with mixing these two. I think it's what we should be doing.

So that was sort of my historical comment.

CHAIR NICHOLS: You're allowed to walk and chew gum at the same time.

BOARD MEMBER BALMES: And I really want to thank staff. It's been long in coming. And, you know, I have
complained in past meetings about what we're doing about the audit and now adaptive management, but to see it come to some fruition -- I know we have more to do. And we need to bring in everybody into the process, you know. It's not fair for people to be blindsided. Though I think actually there has been a -- there has been some attempt to engage the public, but we can do more.

But I think it's really great that we've come this far. And, you know, I really like that the staff presentation put it in the context of -- you know, we really need to do adaptive management across the board, not just with cap and trade. And I thought you did a nice job of doing that.

And this Board member, who is supposed to be concerned with public health - that's my statutory role - then to do that properly we need data about what's being emitted. And we're getting some data about potential hot spots of exposure through the Cap-and-Trade Program. And I again would like to see it expanded to other sources of emissions. And some of the regulated community's comments were, "Well, don't just look at us. There are other sources." And I agree. So I would love to see that those radii for the various cities include other sources of criteria pollutants, toxic pollutants, so we can be adaptively managing those emissions.
CHAIR NICHOLS: Thank you.

Ms. Takvorian.

BOARD MEMBER TAKVORIAN: Thank you. I knew that would be extremely helpful if you went first.

So I guess yes, yes, and yes, I would really appreciate -- I was confused because I thought that the intention was that we would combine these sources of pollution and different types of pollutants. So I'm glad to have that confirmed in terms of the intention of the program. So I appreciate the historical perspective, Dr. Balmes and Mr. Gioia.

I am disturbed a little bit because I see that -- I think there's a flashback here for me, going back decades for when we had our first, frankly, battles about community right to know. The community has a right to have this information. And this is the right agency to provide it. And I have complete confidence that this agency will provide the information in the most credible way possible in a highly technical and respectful way.

So I -- I guess I thought we were done with that, that we were done hiding the data. You know, wrong again. Not the first time and the last couple weeks. But I really think this is critical. Communities have the right to have this information. And from that, they have the right to demand action. And so that's the other piece of
And I appreciate staff's hard work on this, and I appreciate the opening to the fact that data isn't there just for data's sake. The point is to create healthy communities. And we're pointing at some of the most unhealthy communities, and we already know that. We have multiple sources of information that tell us that these communities are not healthy, that people are sick, they're dying. And our responsibility in this agency is to try to fix that, and I think this is another way that we can start to get at that solution.

So I think I agree with the WSPA representative — not sure — but that these maps shouldn't just show the cap-and-trade facilities; and with Dr. Balmes also. I think they should be more robust. They should be comprehensive. We should look at it all. And we should look at what more comprehensive solutions are.

I am hoping that CARB can take a leadership role with how data is collected and represented, because I think that it's inconsistent in the air districts, you know. I just think it's not. We haven't done this before. So I think with 197 plus the Adaptive Management Plan, that we have this opportunity now to make it consistent across the board.

And I also have a hope that we can really point
to what the solutions are for communities. And I think
that the Scoping Plan is a part of that. And, again, I
think this is a critical piece that can go into the
Scoping Plan. So I too want to see how we're going to
integrate that, because the timing seems a little
challenging.

    Thank you.

CHAIR NICHOLS: How much -- I'm not sure.

Question is the next item. We're moving --

BOARD MEMBER GIOIA: What's our time estimate?

Just trying to get a time estimate for --

EXECUTIVE OFFICER COREY: Presentation's about 20
minutes. And I think we have about 10-15 people that will
sign up to testify.

    Tracy.

BOARD CLERK HARLAN: We have 18.

BOARD MEMBER GIOIA: Okay. Thanks.

CHAIR NICHOLS: Thanks.

Additional comments on this one? If not, we can
switch to the next.

    All right.

    Five minutes.

    (Off record: 4:31 p.m.)

    (Thereupon a recess was taken.)

    (On record: 4:36 p.m.)
CHAIR NICHOLS: The last item on today's agenda is the Annual Update for the Cap-and-Trade Program for Greenhouse Gases.

The Board first considered the Cap-and-Trade Regulation in 2010. Some of us still remember that. The Cap-and-Trade Regulation has been in operation since 2013 and is one of the measures designed to achieve the 2020 emissions reductions target and put us on the path for further reductions to 2030 and beyond. It is ensuring that we will achieve those targets.

As mentioned earlier, recent modeling shows we are going to be well under our 2020 target due to the current suite of climate policies.

The Cap-and-Trade Program is just one of a mix of measures that are designed to help the State achieve its climate goals. It works in concert with other climate and air quality programs, as we've just been discussing, all of which support near-term and long-term air quality and climate goals.

The program has established an important mechanism for reducing greenhouse gas emissions that can continue past 2020 to meet our newly established emissions targets, and it can do it in a way that complies with AB 32 and AB 197.

Comments received on the 2030 target scoping plan
and current open rulemaking will help inform any post-2020 Cap-and-Trade Program.

The Cap-and-Trade Program is one of the programs that has generated collaborative discussions and partnerships with other jurisdictions around the world. California's leadership on climate change is widely recognized and some of our partners are seeking to emulate our program. For instance, both China and Mexico have participated in numerous discussions and visits to understand how our program works as they each pursue their own cap-and-trade pilot programs, which will be different, but which will be related and will build on what they learned here.

Mexico has asked California specifically to be an observer to their emerging pilot emissions trading program, a role that we are honored to play.

Because the Cap-and-Trade Program is a key element of our strategy to meet our overall emissions reduction goals, the Board initially asked for annual updates to track its performance and to stay informed about recent developments. And I know there are various specific changes that are under consideration, as there probably will be always as long as the program is in existence.

So without further adieu, I will ask Mr. Corey to
introduce this item.

EXECUTIVE OFFICER COREY: Yes, thanks, Chair.

And I'm going to go right to Alex Yiu to give the staff presentation.

CHAIR NICHOLS: Okay. Good.

AIR POLLUTION SPECIALIST YIU: All right. Thank you, Mr. Corey.

(Thereupon an overhead presentation was Presented as follows.)

AIR POLLUTION SPECIALIST YIU: Good afternoon, Chair Nichols and members of the Board.

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AIR POLLUTION SPECIALIST YIU: Here's an overview of today's presentation. I'll first provide information on the background and goals of the California's Cap-and-Trade Program. Then I'll review the reporting and verification program.

Next I'll go over recent major milestones and general statistics of the program, including the most recent compliance event.

I'll also provide information on the compliance offsets program and an update on linking California's Cap-and-Trade Program with other jurisdictions.

I will close by discussing staff's proposal for the scope and schedule for 2016 amendments to the
regulation and the next steps for the program.

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AIR POLLUTION SPECIALIST YIU: Given how late it is in the day and how familiar you all most likely are with the program, I'm going to skip through some of the background.

The Cap-and-Trade Program is one of a suite of measures to reduce greenhouse gas emissions, referred to as GHGs, and meet the goals set by AB 32. The cap limits total annual GHG emissions from all regulated sources, and this cap declines each year to reduce emissions.

The program is designed to provide flexibility so that the lowest cost reductions in the economy can be targeted. It does not mandate any reductions by specific facilities. It provides a guarantee that we'll meet our statewide reduction goals.

The program also supports information transparency, and a large amount of information on the program is publicly available on the main Cap-and-Trade Program website.

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AIR POLLUTION SPECIALIST YIU: The main goal of the program is to reduce greenhouse gas emissions. This is accomplished by putting a price on GHG emissions to incentivize change. This price signal spurs innovations
in low-emissions and energy-efficient technologies.

The Cap-and-Trade Program complements existing programs to reduce smog and air toxics, and ensures that the AB 32 emissions goals for GHGs are realized through the strict limit. Again it provides flexibility by allowing covered entities to find the most cost-effective reductions and the market as a whole to find the cheapest means of compliance.

The goals of the program also extend beyond California's borders. The program is designed to integrate with other GHG reduction programs. In fact, California's program draws attention from around the world, including through about a dozen foreign delegations visiting Sacramento each year to discuss the design features and implementation of the program.

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AIR POLLUTION SPECIALIST YIU: The Cap-and-Trade Program relies on the Mandatory Greenhouse Gas Reporting Regulation for data. There are about 800 facilities and other reporting entities that report under MRR. This includes large industrial emitters, importers and retailers -- retail providers of electricity, and suppliers of transportation fuels and natural gas.

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AIR POLLUTION SPECIALIST YIU: For 2015 data
reported in 2016, roughly 800 reports were submitted to ARB. Of these, 516 required verification and all of them met the verification deadlines. Only one adverse verification statement was issued. ARB publicly posted the 2015 emissions data on November 4th, 2016.

Regarding enforcement, staff works proactively with stakeholders to prevent nonconformance with the regulation, and formal enforcement is consistent and effective.

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AIR POLLUTION SPECIALIST YIU: The Cap-and-Trade Regulation took effect January 1st, 2012, and covers approximately 85 percent of statewide GHG emissions. Entities that are covered must acquire and surrender allowances and a limited number of offsets to match their GHG emissions for each compliance period, and they must also comply with all recordkeeping, market rules, verification, and other requirements in the regulation.

As will be shown later in this presentation, the program is working and entities are complying with its requirements. Our comprehensive, well-designed program requirements were developed through a multi-year stakeholder process, and often feature in discussions with other jurisdictions seeking to reduce GHG emissions.

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AIR POLLUTION SPECIALIST YIU: Compliance instruments were surrendered for 99.8 percent of emissions covered by the program in the first compliance period. Emissions associated with transportation fuels and natural gas supplied to residential and commercial outlets became covered by the program in January 2015. The first compliance event of the second compliance period, covering 30 percent of covered emissions from the 2015 calendar year, was November 1st, 2016, and 100 percent of covered entities met their surrender obligation.

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AIR POLLUTION SPECIALIST YIU: There are approximately 325 businesses that are covered by the program. These businesses account for 85 percent of statewide emissions. In addition, there are about 275 voluntary entities in the program. These include brokers, traders, and offset project developers.

There are currently about 855 million compliance instruments held in private accounts, and the August auction settlement price was $12.73 per allowance. The approximate market value of compliance instruments in circulation is $10.9 billion.

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AIR POLLUTION SPECIALIST YIU: The second compliance period covers the 2015, 2016, and 2017 data
years. Total covered emissions for 2015, reported in 2016, were about 340 million metric tons. As mentioned previously, for the annual compliance event, covered entities are required to surrender compliance instruments equaling 30 percent of their covered emissions. Compliance instruments were surrendered for 100 percent of the annual surrender obligation amount. As we have done at the end of each year of the program, staff will publish a table showing individual entity obligations, their compliance status, and the number of compliance instruments surrendered, including, where applicable, details on the number of offsets utilized by each covered entity and by offset project.

For the annual surrender of 2015 emissions, entities met their obligations using 92.1 percent allowances and 7.9 percent offsets.

Since the beginning of the program, the market has functioned smoothly, and covered entities have successfully met their compliance obligations. The program is operating as intended and is viable for the future, and staff has received feedback from covered entities that their long-term financial planning includes consideration of the cost of GHG emissions.

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AIR POLLUTION SPECIALIST YIU: This figure shows
the difference between the covered and capped GHG emissions during the first three years of the program. You can see in each year that the covered emissions are less than the annual caps, which are indicated with the red circles. In addition to the avoided GHG emissions under the cap, the program has also resulted in 50 million metric tons of reductions outside the cap through the offset program.

The program is designed to address periods of low demand for allowances by withholding previously unsold auction allowances from future auctions until their have been two subsequent auctions where all allowances available for sale have sold above the floor price.

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AIR POLLUTION SPECIALIST YIU: I'll briefly now discuss the offsets program within the Cap-and-Trade Program. Offset credits are tradable compliance instruments that represent verified GHG emission reductions or removal enhancements made in sectors and sources not covered by the Cap-and-Trade Program. Entities may use ARB offset credits to fulfill up to 8 percent of their compliance obligation.

Reductions from offsets must meet AB 32 criteria of being real, permanent, quantifiable, verifiable, enforceable, and additional.
AIR POLLUTION SPECIALIST YIU: The early action program ended on August 31st, 2016, and staff was able to process the backlog of early action projects before the deadline. 130 compliance projects and 117 early action projects have received the ARB offset credits, and over 50 million offsets have been issued to date. 71 offset project verifiers are accredited by ARB.

The cap for the second compliance period is approximately 1.2 billion metrics tons, which will equate to roughly 99 million metric tons of offset credits to meet the 8 percent threshold. Currently there are over 22.6 million offsets available in circulation.

AIR POLLUTION SPECIALIST YIU: California's program linked with Quebec beginning January 2014. California and Quebec have held nine joint auctions to date. In the first compliance period, the 55 reporting facilities in Quebec achieved 100 percent compliance and a positive indication of strong commitment to the program by both the regulatory teams and covered entities there.

Earlier this year, Ontario adopted and began to implement a Cap-and-Trade Program with a launch in 2017. Ontario is proposing to link their program with California and Quebec, and there is ongoing collaboration on
reporting, market rules, offset requirements, and other areas to support potential linkage. This includes ARB staff's current rulemaking to include linkage with Ontario's program by January 1st, 2018. Governor's linkage findings will be required before a final Board vote.

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AIR POLLUTION SPECIALIST YIU: Staff has also heard concerns regarding the timing of the Cap-and-Trade amendments relative to the 2030 Target Scoping Plan Update. Specifically, there have been some questions raised as to the necessity of moving forward with the open rulemaking to amend the Cap-and-Trade Program before the scoping plan update process is completed. As you heard during the Scoping Plan discussion earlier today, and as staff described in the September 2016 Board hearing and in the rulemaking documentation for the amendment process, moving forward with the proposed amendments is necessary for several important reasons.

First, the amendments affect both the third compliance period and the post-2020 periods. These amendments include post-2020 caps and post-2020 allowance allocation, which provides certainty for businesses for financial planning purposes for onsite investment in clean and efficient technology to achieve expected emissions
reductions toward the 2030 limit and beyond.

Second, the timing of the rulemaking process will ensure a smooth transition to the post-2020 program if that is the outcome approved in the Scoping Plan update. Waiting until after the Scoping Plan update process to start the Cap-and-Trade amendments, as some have suggested, would jeopardize the ability to sell 2021 vintage allowances in 2018 as part of the future auction, and would jeopardize the ability of having those funds available in the Greenhouse Gas Reduction Fund. Moving forward now keeps our options open for the smooth transition to a post-2020 program.

Third, the timing of the amendments is necessary to enable linkage with Ontario, beginning in 2018.

Finally, California is proposing to use the Cap-and-Trade Program for compliance with U.S. EPA's Clean Power Plan, and this plan would require a post-2020 program. Rather than starting the CPP process on federalizing other programs such as the renewable portfolio standard, using Cap-and-Trade will ensure compliance with CPP. It's also important to note that the federal default compliance program for CPP, for states who do not propose plans, will be a trading program.

For all of these reasons, continuing with the ongoing rulemaking process is necessary for ARB's
evaluation of our post-2020 suite of reduction measures.

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AIR POLLUTION SPECIALIST YIU: Staff is proposing to amend the Cap-and-Trade Regulation, and recently presented their proposed amendments to the Board in September of this year. One main goal of this rulemaking is to continue the Cap-and-Trade Program beyond 2020. The last scoping plan update identified the Cap-and-Trade Program as an important program to ensure GHG emissions continue to decline in the State.

Another goal is to make the program more efficient where possible. Staff has implemented the program for several years and has identified opportunities to make the process even more efficient. This will be done by streamlining regulation requirements, streamlining implementation, and removing requirements where possible.

We also want the program to be based on the latest data and information, including recent leakage studies, global warming potentials, and experiences from other emissions trading programs. And we must do this while maintaining the environmental integrity of the program as well as the integrity of the carbon market.

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AIR POLLUTION SPECIALIST YIU: Some proposed amendments for the Cap-and-Trade Regulation would take
effect for the third compliance period, which will be the years 2018 through 2020. These amendments would streamline the offsets program, auctions, and the management of information; would update industrial allocation benchmarks, product definitions, and assistance factors to reflect changed and new sectors, as well as to correct a limited number of inaccurate benchmarks; and would clarify rules on the use of allocated allowance value for electrical distribution utilities and natural gas suppliers.

Program linkage with Ontario is another area that is to be addressed by proposed amendments for the third compliance period. Staff is not proposing to incorporate international sector-based offset credits into the program at this time, but intends to propose this incorporation as part of a future rulemaking.

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AIR POLLUTION SPECIALIST YIU: Some amendments will affect the program after the third compliance period, beginning in the year 2021. Areas for change include the continuation of the program after 2020, including the post-2020 caps on emissions and discussions about which sectors will be included in the cap. Other changes will consider revised or additional provision for cost containment and market oversight, the program's role for
compliance with the U.S. EPA Clean Power Plan, allowance
allocation, and continuation of our linkage with Quebec
and potentially Ontario.

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AIR POLLUTION SPECIALIST YIU: Staff has heard
stakeholder and Board concerns from the first Board
hearing and has taken steps to address these concerns.
There has been an extensive public process in developing
the proposed amendments. Workshops held throughout 2016
addressing such areas as allocation, cap setting,
emissions leakage, and cost-containment measures have
given stakeholders ample opportunity to engage with staff.
An additional workshop has been held since the September
Board hearing addressing issues such as environmental
justice, Assembly Bill 197, market data transparency,
compliance obligations, and post-2020 allowance
allocation. In advance of the workshop, staff released
details including proposed post-2020 industrial assistance
factors on their proposal for post-2020 allocation that
will inform future 15-day changes.

AB 197 prioritizes measures in the scoping plan
that result in direct reductions while considering the
social cost of carbon and following the AB 32 requirements
such as cost effectiveness and minimizing leakage. AB 197
does not prohibit a Cap-and-Trade Program. Staff is
evaluating which program features could be refined to
support greater emissions reductions at covered entities
while coordinating with our linked partners and evaluating
the impact on compliance cost.

Staff will continue to hold workshops and meet
with stakeholders to provide plentiful opportunities for
stakeholders to provide their input on the process and the
substance of the proposals.

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AIR POLLUTION SPECIALIST YIU: Looking to the
future, staff will continue to implement the program and
continue coordination among the amendment process, the
development of the 2030 Target Scoping Plan Update, and
the development of the plan for compliance with the
federal Clean Power Plan.

Staff is proposing at least two 15-day regulatory
packages to allow additional public comments on the
proposed amendments prior to returning to the Board in
Spring 2017 for final approval. This approval would occur
after the Board votes on the 2030 Target Scoping Plan
Update.

If the Board approves the amendment package,
staff will submit the final Regulation language and Final
Statement of Reasons to the Office of Administrative Law
by Summer 2017. This schedule would allow for the newly
adopted regulation to be in effect in October 2017, prior to the start of the third compliance period, with a linkage with Ontario's program by January 1st, 2018.

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AIR POLLUTION SPECIALIST YIU: This concludes staff's update on the Cap-and-Trade Program, and we're happy to answer any questions that you may have at this time.

CHAIR NICHOLS: We have a group of people who've asked to speak, many of whom have been here with us all day and have been speaking on other items. But if you are not, if you have been new for this one, I think we should try to hear from them. But I'm really hoping that they will be very brief, because again this is not a formal hearing and it's a part of a work in progress. I think there was a lot of interesting information that was presented in that report, which I hope people will go back and look at, frankly, because it is a good summary of what's been happening to date as well as the planned timelines for the process.

But nevertheless I think it's important that we do hear from those who've been waiting. So let's just get started.

We are likely to lose at least one Board member by 5:30. But those of us who are still here will be
listening too.

Yes.

MS. SULLIVAN: Good afternoon, Chair Nichols.
CHAIR NICHOLS: Well, maybe three. I don't know. How many people are leaving at 5:30?
5:25, 5:30. Okay.

So there you are. I may be hear listening.

(Laughter.)

MS. SULLIVAN: Not really anything new. CCPC supports as well the Cap-and-Trade Program as an effective regulatory tool in our toolbox for climate change policies.

We still would like to point out we have some concerns regarding energy intensive trade-exposed businesses, and we urge staff to continue working with the researchers and industry to kind of take a further look at those studies and see if there needs to be any corrective action taken with them.

We continue to believe that offsets are an integral part of -- a component to a well-designed Cap-and-Trade Program, and expansion of the offset program will further help our program and capture additional cost-containment measures in emission reduction benefits.

That's it. Thank you, if there aren't any questions.
Okay. Thank you.

MS. ROBERTS: I'm going to try to be just as fast as Shelly was. Tiffany Roberts from Western States Petroleum Association.

I want to touch on three different topics – offsets, the APCR, and then allowance allocation.

For offsets, I think it's going to be difficult for ARB to reduce the current 8 percent offset limit without undermining the program cost containment. And so we would recommend that ARB accelerate adoption of the sector-based offsets and couple this proposal with an expansion of the current use limit from 8 percent to 16 percent in the post-2020 time frame.

On the APCR, we believe that ARB should quantify the potential impact of its current APCR proposals and the concept of retiring unsold pre-2021 APCR allowances on market liquidity and program costs.

And then we're extremely concerned with ARB's approach on allowance allocation, which contains -- what we see is some technical flaws from a data perspective. We do think that there's limitations to some of the research. The leakage risk studies conducted by UC Berkeley as well as RFF contain data irregularities and methodological uncertainties acknowledged by the study's authors. They shouldn't be included or be considered as a
basis for ARB's post-2020 allocation proposal.

And then, lastly, ARB proposed assistance factor adjustments for refining. And that's at odds with readily available data specifically from the Energy Information Administration. So we would recommend that you look to the EIA for that data.

Thank you.

CHAIR NICHOLS: Thank you.

MR. KRAUSSE: Madam Chair, I'm going to go before other reps just so that I can emphasize the positive.

PG&E, as we said earlier, strongly supports the Cap-and-Trade Program. We do this because of its guaranties of reductions. You mentioned this earlier, that program guaranties reductions.

But the certainty in terms of counting and capturing emissions is better than any other regulatory purchase we can think of. It provides the opportunity for linkage to other jurisdictions, and that's something we think is very important especially as we lead the way; and that it provides sources of revenue for disadvantaged communities that deliver major economic, environmental, and public health benefits, as well as in the public sector and elsewhere.

It's remarkable for what it doesn't do. It does not enrich companies through allocation. Rather it keeps
those companies from -- those at-risk employers in California instead of moving letting leakage happen just over the borders.

It does not happen overnight. And any program that did, I would suggest, would do exactly that, lose jobs and have some of that activity move over the borders. And it does not cause toxic and particulate emissions. Obviously anybody in under the program also has to comply with their local air district permits.

And so, for all those reasons, we support the program. And a couple of my colleagues have some specific items they want to address.

We did not mean to multiply our speaking time. Thank you very much.

CHAIR NICHOLS: Thank you.

MS. ALI: Hello. Fariya Ali with PG&E.

I just wanted to emphasize that PG&E continues to view cap and trade as a critical tool. And with this in mind, I just ask that you consider how best to fine-tune the tool of cap and trade for post-2020.

ARB's current proposal for a post-2020 program includes an increase in the cap decline and an increase in the rate of consignment at the same time, which creates an abrupt price signal for natural gas customers without providing time to adjust. And PG&E, like other gas
providers, believes that the opportunities for reducing energy usage are more limited for gas customers and that these consumers and business are generally less sensitive to changes in gas prices. This means that while costs may increase, they will not drive commensurate reductions in use.

PG&E is working with staff to consider which levers are most appropriate to support carbon reduction while maintaining affordable customer rates. And I just want to thank staff for their ongoing discussions with us to achieve our common goals, and to let the Board know that this is a key topic for us as we move forward.

Thank you.

CHAIR NICHOLS: Thank you.

MR. BENGTSSON: Thank you very much. And apologies for coming out a little strong. Trying to keep it to a total of 3 minutes.

Just one of -- we talked earlier about, you know, Scoping Plan and if cap and trade should play a role. Obviously we believe it does.

Let's focus on the how here for a minute for a post-2020 Cap-and-Trade Program. One thing to bring to your attention, allowance allocation for EDUs, just a reminder, all of the allowance allocation value that comes to EDUs is passed through to our customers 100 percent.
It's just that in the current staff proposal there's both an allowance cliff from 2020 to 2021 and there's also a very steep rate of decline in the amount of allowances that are allocated to EDUs.

And we think that there's a way to do this that still gets us to our 2030 target without -- with a much smoother path down, and that we can hopefully avoid, you know, price spikes and provide the adequate protection to our customers that is the stated purpose of EDU allocation.

So we're working with staff on this. It's going pretty well. I just want to raise it to your attention because it is really important.

Thank you.

CHAIR NICHOLS: Thank you.

I suspect there will be people with better ideas up to the last second on this.

Mr. Carmichael.

MR. CARMICHAEL: I know it says Tim Tutt, But I don't see him in the room. So I'm just --

CHAIR NICHOLS: I don't either. I know Tim Tutt and you're no Tim Tutt.

(Laughter.)

MR. CARMICHAEL: Let me just say the world needs more Tims.
(Laughter.)

MR. CARMICHAEL: Tim Carmichael on behalf of San Diego Gas & Electric and SoCal Gas. I -- to keep it brief, I incorporate my comments earlier this afternoon during the Scoping Plan update, on the Cap-and-Trade Program by reference.

In sum, we're supportive of the Cap-and-Trade Program. We're a well-designed market-based program. We're supportive of cost containment measures. We're actively engaging Rajinder Sahota and her team on a couple of key issues -- allowances, consignments, et cetera. And we look forward to continuing those constructive discussions.

Thank you.

CHAIR NICHOLS: Thank you.

MR. LARREA: John Larrea with the California League of Food Processors. And here's where I tell you why we have a qualified support for the cap and trade going into post-2020.

You know, with the release of the assistance factors proposals, we were really disappointed in the fact that we didn't see any kind of peer review of these two studies, despite the fact that a lot of industry suggested that that should be the case.

The other one was that we were surprised that the
food processing study out of Cal Poly was not used at all in determining these assistance factors. And that study was comprised of actual facility-level data as well as market data. We've asked for an explanation of that from staff, and they've agreed to give it to us. But we were really surprised about that.

And to understand, we're going on a program that goes from a hundred percent allowances, a hundred percent allowances, 75 percent allowances in the third compliance period, down to 23 percent for some of our facilities. And dairy facilities are looking at 5 percent in an assistance factor.

And we are located in the highest disadvantaged community areas as well. So those are really going to figure in in terms of how they're going to impact the economics down in that area. We would suggest another study before we move forward with these assistance factors in that method.

Finally, we were looking at -- slide 17 suggested there's going to be number of changes to the regulator -- to the regulation associated with the third compliance period. The food processing study indicated that we should have been designated a high leakage risk back in 2012. We're hoping that we're going to see a 15-day change rule or something along those lines that will meet
what the conclusions of that study was and give us the
hundred percent allowances in the third compliance period.

Frankly, there aren't that -- very many
allowances. We're only less than one half of one percent
of the total emissions associated with it. But it is
expensive for us, you know, given the site of the
facilities and the number of allowances we have to
purchase.

So thank you.

CHAIR NICHOLS: Okay. Amy?

She's passing. Okay.

That leaves Evan Vessels.

There you go.

MR. EVAN VESSELS: Thank you. And greetings, ARB
Board members and staff. My name's Evan Vessels, and I'm
with Vessels Coal Gas. We're an environmental remediation
company and an offset producer.

There's been a lot of talk about the role the
offsets should play in a cap-and-trade system. But it
seems to me like there's a lot of confusion about what the
function of offsets are and how that function is achieved.

Now, an offset to me represents one ton CO₂
equivalent of GHGs captured and destroyed that would not
have been captured or destroyed had the offset protocol
not existed.
Now, offsets are sort of a market mechanism. They allow the Cap-and-Trade Program to reduce our impact on climate change in two ways really at the same time. And this increases the greenhouse gas reductions even further than the declining cap demands. 

Now, this is done by giving emitters the option to reduce the cost of complying with the following cap and buying offsets instead of allowances, which are more expensive. 

However, the cap still falls and the mandatory emission reductions are still achieved. 

But if an offset is purchased instead of an allowance, then an additional ton CO\textsubscript{2} equivalent is achieved and further emission reductions are gained from that. 

The following cap forces improvements on energy efficiency, technology, and infrastructure maintenance to achieve reductions. And it forces measurement and record keeping to ensure that emissions are in fact being reduced. 

However, climate change is not coming. It is well underway. And slowing it by merely reducing our present and future emissions footprint is not really going to get us to where we want to be. 

Now, assuming that our goal is to return to a
natural pattern of climate change, we must be proactive in undoing some of the damage already done.

    Thank you.

CHAIR NICHOLS: We have your letter also. Thank you.

    Thank you.

Okay. Ms. Costantino.

MR. COSTANTINO: Hello. Good -- almost evening. Thanks for letting me speak today on behalf of the Southern California Public Power authority.

    And first of all, SCPPA supports cap and trade and its continuation.

    Secondly, before when I talked about Scoping Plan and it's the big policy discussion, this is just the opposite. This is in the weeds. This is many, many meetings that I looked at -- when I heard the small off-road vehicle guys talk about ten meetings over a year, I kind of laughed because I've probably been in ten meetings in the last three weeks. And so there's just a lot going on. And I don't have to list them, but last -- distribution, EIM, transition, cap decline. You name it. There's a lot of things that we're talking about. And when the 15-day package comes about sometime this year, I think we talked about it last time, that more than 15 days would be given because there's so much going on. And
especially with an association like SCPPA where there's
many members, and then when they go back to their members,
there's individuals who study one side of the market or
the other side. And two weeks is just not enough time to
wrap our brains around everything that's going to be in
this. There's at least 36 pieces of placeholder language
from the 45-day package.

So I just want to make sure that we're committed
to the discussion we had last time that more than 15 days
would be given because there's just a lot going on.

So with that, thank you very much.

MS. BERLIN: Hi again. Susie Berlin for NCPA and
M.S.R. Public Power Agency. And we just want to reiterate
again our support for the Cap-and-Trade Program. It's a
continuation of the program that's very important. But
there's also -- needs to be recognition that it's
continuation of the program with an aggressive new cap
that changes the dynamics a bit. And part of that change
dynamic is increased compliance costs.

And with the other programs that -- the electric
distribution utilities are also called upon to effect GHG
emissions, the allocation of allowances to mitigate
compliance costs for all of the GHG mitigation becomes
extremely important. And we've been working with staff
and we appreciate their time, but I also reiterate a point
that Mr. Costantino just made, that it is important when we do receive the 15-day language, when we do finally have actual proposed changes in front of us, that we have sufficient time to fully assess them; not just on allowance allocation, but to see how those impacts also spread through to EIM and just overall programmatic changes.

So, again, very much support the continuation of that Cap-and-Trade Program. I think that's going down the right the path. And look forward to continuing to work on the nuances that are very, very, very important to us.

Thank you.

CHAIR NICHOLS: Okay.

MR. TOM VESSELS: Well, thank you. I'm Tom Vessels, Vessels Coal Gas. Thank you, Madam Chair and Board and staff, for letting me speak to you today.

California needs support of other states to -- if they're going to be successful in slowing global warming. Because of the carbon offset program that you have with mine methane capture, you allowed us to do a project in Colorado. And without your Cap-and-Trade Program, we would not have been able to capture about 2 billion cubic feet of methane as of the end of October this month -- I mean this year. That has the same effect of reducing carbon dioxide emissions by over 3 million tons. If you
put that in perspective, that's the equivalent of taking
over 600,000 passenger vehicles off the road for a year.
Or it's the same as cutting back 3 million megawatt-hours
of electricity generation from coal. It's equivalent to
leaving 3 million acres of forest in the ground, and
planting 7 and a half million trees and letting them grow
for ten years.

The project is a small -- or large pilot project,
but it's had a significant effect. The project currently
is capturing over 2,000 tons of CO₂ equivalent per day.
We were working on developing three more projects that
will if implemented reduce another 2700 tons per day of
carbon dioxide.

Our project has been visited by federal, state,
local politicians and official, including both senators
from Colorado. Without this cap-and-trade system having
provided the financing of this project, those people would
not have shown up. They would not know about the
methane -- they would not be as aware of methane's frost
is a greenhouse gas. They wouldn't know about your
cap and trade or would only be vaguely aware of it.

Thank you very much.

CHAIR NICHOLS: Thank you.

Mr. Weiner.

MR. WEINER: Thank you, Madam Chair, and members
of the Board. Peter Weiner here representing Crockett Cogeneration.

Crockett Cogeneration is located in Contra Costa County - Mr. Gioia knows it, I believe - and provides the electricity and steam for C&H Sugar, which is the only cane sugar - and it is cane sugar - refiner west of the Mississippi.

If it were in the system it would be clearly an energy-intensive trade-exposed entity. But it is not in the system because it produces almost no emissions. All of its electricity and steam come from Crocker Cogen.

In 2014, the Board gave assistance to legacy contract holders, which -- and I was honored to participate in that. And there was only one legacy contract left that has not been provided for, and that's Crocket Cogen. Because for legacy contracts without an industrial counterparty, you limit it to the end of the second compliance period. Crocket Cogen is the only legacy contract that goes beyond that. It goes to 2026. And we believe that it's equitably in the same position as those with an industrial counterparty for whom you provided assistance through the life of the contract.

Crockett Cogen is very small. It's got about two people other than the people actually work there. And they did not submit comments in time - and I was not
involved — for the September 19th hearing.

So I've been advised by staff and counsel that we can do is to ask you to reopen -- in the next 15-day comment period to open this issue — I've provided written materials to all of you — to address this issue. We're asking for your consideration during that 15-day comment period, obviously not a decision, so that we can present this in the form it should be presented.

CHAIR NICHOLS: So just a question for our team.

This is not specifically covered by today's proceeding;

it's an information for us, which is —

CHIEF COUNSEL PETER: That's correct, it is.

It's not an APA-noticed hearing. What I believe Mr. Weiner's asking for is the Board to give direction to staff to consider if it's possible to raise it into 15-day — next 15-day notice period.

There is a question if the initial notice covers this. And this was brought to our attention today, so we haven't evaluated that. There's always a possibility of doing a narrow bullet regulation on the topic. But we could look at all the options. And the question is is the Board asking -- what's the Board's pleasure?

CHAIR NICHOLS: If there's no objection, I think we should do that.

Okay. So directed.
MR. WEINER: Thank you so much.

CHAIR NICHOLS: Okay. Thank you.
Okay. Is Mr. Sweeney still with us?

No.
Okay. Mikhael Skvarla.

MR. SKVARLA: Mikhael Skvarla here on behalf of
the California Council for Environmental Economic Balance.

We support the California cap and trade and
support continuing post-2020. Obviously we have some
technical concerns with, you know, the rapid loss of
allowances and some other provisions that were provided in
our rather extensive comments. We also provide some
suggestions on things we'd like to see. Hope everyone
gets a chance to read that.

I didn't want to bring attention to -- previously
during the scoping plan comments, Mr. Krausse commented
about a quote from Assemblymember Garcia on the AB 197
stuff. Left out the last sentence of the quote, which was
a response to CCEEB and IEP based on our testimony in
Assembly Natural Resources Committee and our concerns of
how AB 197 might impact the California cap and trade.

And the last sentence of that quote is: "So I
want to just state that the intention is by no means to
tamper with the Cap-and-Trade Program."

That is in reference to him providing certainty
that not only the Assembly leadership, the Senate
leadership, and the Governor support the Cap-and-Trade
Program. But it was his intent at least in that stated
testimony on one of the last nights before the end of
session to not tamper with the California Cap-and-Trade
Program.

Thank you.

CHAIR NICHOLS: Okay. Thank you.

I read the language and read it the same way.

Mr. Magnani.

MR. MAGNANI: Madam Chair and members, thank you
very much for the opportunity. Bruce Magnani speaking on
behalf of Gerdau Steel. Gerdau Steel recycles scrap steel
in Rancho Cucamonga, California, making steel bar and
seismic steel bar, which is critical for California
infrastructure. Gerdau is regulated under AB 32 and is
correctly categorized as an EITE and highly subject to
leakage concerns.

We do have concerns with the proposed assistance
factors based on the new leakage studies, for a lot of
reasons. And aside from those concerns -- and we are
supportive of the Cap-and-Trade Program. Leakage is
happening now in our particular industry. Two-thirds of
California's demand is already supplied by out-of-state or
international steel suppliers. So even without changes to
the assistance factors, we're already subject to leakage.

Moving forward, Gerdau under the current program is making a decision right now to invest over $20 million into an enhanced filtration -- air filtration system, which would make the plant the cleanest steel recycling plant in all of North America.

So I think the point I'm trying to make is, if we can keep the Cap-and-Trade Program as similar as it is today, where that decision is being made you get those co-benefits, Gerdau's really a poster child for what you're looking for as the board in trying to get the co-benefits as well as get your greenhouse gas emission reductions.

So, you know, Gerdau employs over a thousand employees with good union jobs in the exact communities we're trying to protect. And we would like your consideration moving forward, continuing our engagement with staff on our concerns about how they apply those leakage studies. We think they can be applied appropriately, but not lowering the assistance factors the way that they've been suggested in the public documents that were just released.

So thank you very much.

CHAIR NICHOLS: Okay. I understand the point.

It's now the end of our group of witnesses.
Do we have any comments or responses from the staff at this point about what you're going to do next?

Yes, Ms. Sahota.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF

SAHOTA: I have a few comments.

On process. I heard that there are some concerns about the 15-day process, which is a misnomer because it really is -- it takes us about a month and a half, two months to actually get the proposals together, and then put it out in 15 days of comment and review by the stakeholders.

What we did was we had the public workshop on October 21 and put out the draft changes that we would put in a formal 15-day package. But we did it in an informal way so that folks could not only engage at the workshop with us directly, but it wouldn't be tied to that two-week limited 15-day process.

We are still taking feedback on that because there's no timeline on informal comments and what staff proposed on October 21. Once we get that feedback, we will continues to revise a 15-day package and put it out.

So it's not like it's a black box and then for 15 days you get to see what the staff has put together and then we close the curtains again and do something else. We're trying to make it this prolonged process of
discussion and dialogue with public workshops along the way.

There's concerns about the assistance factor. We are committed to working through each of those. Stakeholders have been responsive in providing us detailed information about their facilities and their sectors to help us revise those. And so we are continuing to work through that with each of the facilities and sectors that are having concerns about the numbers that were put out in the 45-day process for the regulation.

And then we heard comments about the Cap-and-Trade Program and concerns about the costs of the Cap-and-Trade Program and design features that should be addressed to minimize costs to the entities. I think this goes back to the Scoping Plan discussion this morning, in that any path we choose is going to have some cost in how we get the deep reductions to hit the 2030 target.

I think it would be unrealistic to believe that there would be no costs associated with any of the paths that we choose here. Of course we want to minimize that and balance the environmental benefits versus the cost effectiveness and the avoided costs for social harm. But I just want to be clear that we can't have a program at this point with the reductions that we need that will probably be a zero cost for implementation.
CHAIR NICHOLS: I don't think that's one of the requirements anyhow. So understood that we're trying to do something that is -- where cost effectiveness is one of the criteria that we use for judging measures. And also that there are -- that's one of the reasons for doing an even more comprehensive job of evaluating the ancillary benefits of programs is to have a better way to judge the costs and costs fairly.

Okay. Any other questions or comments?

None.

Yes? No.

Finally.

BOARD MEMBER ROBERTS: I just want to refresh -- I can't remember a time when we have spent all day on multiple items that all seem like one item.

(Laughter.)

BOARD MEMBER ROBERTS: Okay. I mean the witness lists are almost all interchangeable.

(Laughter.)

BOARD MEMBER ROBERTS: But if we would have been efficient, we could have scheduled something called Cap-and-Trade related.

CHAIR NICHOLS: All Cap-and-Trade items, and put them all together in one item.

BOARD MEMBER ROBERTS: And have everybody testify
once and be done.
   But at this late hour, I don't want to get into that.

   CHAIR NICHOLS: It's a perfectly valid comment. And I thought about it myself. I will yield to anybody else who wants to raise it. But I think there are separate products here that sort of needed their own separate airing as opposed to just hearing kind of generic thoughts that people have about cap and trade.

   But I wish there were a better way that we could target this in the future to be more efficient with our time. So I, however, feel that it's -- you know, we could hear more really from some of these people, and it would -- that -- it may be another issue here is dividing their comments up into little chunks. May not be the best way to hear from all of these stakeholders, and maybe it would have been better to involve something a little more like -- more workshop-like, I suppose.

   But it's a good comment and we should think about how to do better next time.

   However, this is it for today.

   (Laughter.)

   CHAIR NICHOLS: So we will stand adjourned.

   There's no requests for general public comments.

   So thank you all for being with us.
Happy Thanksgiving.

(Thereupon the Air Resources Board adjourned at 5:27 p.m.)
CERTIFICATE OF REPORTER

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

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 5th day of November, 2016.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063