APPEARANCES

BOARD MEMBERS:
Ms. Mary Nichols, Chair
Ms. Sandra Berg, Vice Chair
Mr. Hector De La Torre
Mr. John Eisenhut
Senator Dean Florez
Supervisor John Gioia
Ms. Judy Mitchell
Mrs. Barbara Riordan
Supervisor Phil Serna
Dr. Alex Sherriffs
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. Emily Wimberger, Chief Economist
Mr. David Edwards, Branch Chief, Greenhouse Gas and Toxics Emission Inventory Branch, AQPSD
APPEARANCES CONTINUED

STAFF:
Ms. Trish Johnson, Air Pollution Specialist, Climate Change Policy Section, Industrial Strategies Division (ISD)
Ms. Stephanie Kato, Staff Air Pollution Specialist, Energy Section, ISD
Ms. Karen Magliano, Division Chief, AQPSD
Mr. Gabriel Monroe, Attorney, Legal Office
Ms. Rajinder Sahota, Assistant Division Chief, ISD
Ms. Beth Schwehr, Staff Air Pollution Specialist, Toxics Inventory and Special Projects Section, Air Quality Planning and Science Division (AQPSD)
Mr. Jon Taylor, Assistant Division Chief, AQPSD
Mr. Gabe Ruiz, Manager, Toxics Inventory and Special Projects Section, AQPSD
Ms. Sylvia Vanderspek, Branch Chief, Air Quality Planning Branch, AQPSD
Mr. Floyd Vergara, Division Chief, ISD
Mr. Daniel Whitney, Attorney, Legal Office

ALSO PRESENT:
Ms. Fariya Ali, Pacific Gas & Electric
Mr. Bud Beebe, California Hydrogen Business Council
Mr. Nathan Bengtsson, Pacific Gas & Electric
Mr. Brian Biering, Turlock Irrigation District
Mr. Louis Blumberg, Nature Conservancy
Mr. Michael Boccadoro, Dairy Cares
Dr. Jim Bushnell, University of California, Davis
APPEARANCES CONTINUED

ALSO PRESENT:
Ms. Julia Bussey, Chevron Corporation
Mr. Michael Carr, Shell
Ms. Betty Chu, Calpine
Mr. Jon Costantino, Ad Hoc Offset Group
Ms. Christina Darlington, Placer County Air Pollution Control District
Ms. Martha Dina Arguello, Environmental Justice Advisory Committee
Mr. Evan Edgar, California Compost Coalition
Mr. Nick Facciola, Origin Climate, Inc.
Mr. Quentin Foster, Environmental Defense Fund
Mr. Ryan Gardner, Rincon Consultants
Mr. Scott Hedderich, Renewable Energy Group
Ms. Bonnie Holmes-Gen, American Lung Association in California
Mr. Gary Hughes, Friends of the Earth
Ms. Melissa Immel, Solid Waste Association of North America, California Chapters
Mr. Alex Jackson, Natural Resources Defense Council
Ms. Claire Jahns, Assistant Secretary, California Natural Resources Agency
Mr. Jakob Lagercrantz, 2030 Secretariat
Ms. Jenny Lester Moffitt, Deputy Secretary, California Department of Food and Agriculture
Mr. Lloyd Levine, California Emerging Technology Fund
ALSO PRESENT:

Mr. Bill Magavern, Coalition for Clean Air
Mr. Paul Mason, Pacific Forest Trust
Ms. Amy Mmagu, California Chamber of Commerce
Honorable Glen Murray, Minister of the Environment and Climate Change, Government of Ontario
Ms. Urvi Nagrani, Motiv Power Systems
Mr. Brent Newell, Center on Race, Poverty and the Environment
Mr. Rob Oglesby, Executive Director, California Energy Commission
Mr. Arjun Patney, American Carbon Registry
Mr. Ed Pike, Energy Solutions
Mr. Michael Pimentel, California Transit Administration
Mr. Ed Randolph, California Public Utilities Commission
Ms. Tiffany Roberts, Western States Petroleum Association
Ms. Jamesine Rogers Gibson, Union of Concerned Scientists
Ms. Mary Rose Taruc, Environmental Justice Advisory Committee
Mr. Michael Shaw, California Manufacturers and Technology Association
Mr. Mikhael Skvarla, California Council for Environmental and Economic Balance
Mr. Adam Smith, Southern California Edison
Ms. Fran Spivy-Weber, Board Member, California State Water Resources Control Board
Ms. Shelly Sullivan, Climate Change Policy Coalition
ALSO PRESENT:

Ms. Eleanor Torres, Environmental Justice Advisory Committee

Ms. Katie Valenzuela Garcia, Environmental Justice Advisory Committee

Ms. Diana Vazquez, California Environmental Justice Alliance

Ms. Kate White, Deputy Secretary, California State Transportation Agency

Mr. Randall Winston, Strategic Growth Council

Mr. Vincent Wiraatmadja, BYD Motors
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CHAIR NICHOLS: Good morning, ladies and gentlemen. The meeting of the Air Resources Board of January 27th, 2017 will come to order. And before we begin the formal proceedings, we will please stand and say the Pledge of Allegiance to the flag.

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

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

BOARD CLERK McREYNOLDS: Dr. Balmes?
Mr. De La Torre?
Mr. Eisenhut?
Senator Florez?
BOARD MEMBER FLOREZ: Here.
BOARD CLERK McREYNOLDS: Supervisor Gioia?
BOARD MEMBER GIOIA: Here.
BOARD CLERK McREYNOLDS: Ms. Mitchell?
BOARD MEMBER MITCHELL: Here.
BOARD CLERK McREYNOLDS: Mrs. Riordan?
BOARD MEMBER RIORDAN: Here.
BOARD CLERK McREYNOLDS: Supervisor Roberts?
Supervisor Serna?
BOARD MEMBER SERNA: Here.
BOARD CLERK McREYNOLDS: Dr. Sherriffs?
Professor Sperling?

BOARD MEMBER SPERLING: Here.

BOARD CLERK McREYNOLDS: Ms. Takvorian?

BOARD MEMBER TAKVORIAN: Here.

BOARD CLERK McREYNOLDS: Vice Chair Berg?

VICE CHAIR BERG: Here.

BOARD CLERK McREYNOLDS: Chair Nichols?

CHAIR NICHOLS: Here.

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

CHAIR NICHOLS: Very good. Thank you.

Welcome to our new clerk. This morning. We have a new voice calling the roll here, so everybody. Rana, welcome.

(Applause.)

CHAIR NICHOLS: It's an awesome responsibility. It really is actually. Calling the roll is the easy part.

Okay. Just a couple of announcements before we get started. First of all, we will have interpretation services in Spanish available for our first item today, the public meeting to hear a report on the proposed 2030 target scoping plan. Headsets are available outside the hearing room at the attendance sign-in table, and can be picked up at any time. And I will ask the translator to just -- to repeat what I just said in Spanish.
(Thereupon the interpreter translated.)

CHAIR NICHOLS: Gracias.

Anyone who wishes to testify should fill out a request to speak card. And those cards are also available in the lobby outside the Board room, or I think at the clerk's desk, if they run out. But we really appreciate it if you fill the cards out early if you think you're going to testify, even if you decide you don't want to testify later, because it helps us to organize our time, and to get the list together in advance.

So please do that. We will be imposing our usual 3 minute time limit on oral testimony. And we appreciate it if you'd give your name when you come up to the podium, but then put your testimony in your own words as opposed to just reading it. If you have written testimony, it will get filed and we will read it. And so we can use the time with you at the podium to summarize your words and make your points here.

I'm also required to inform you that we need to point out the emergency exits to the rear of the room. And in the event of a fire alarm, we're required to evacuate this room immediately, and go down the stairs, and out of the building until the all-clear signal is given. And then we can return to this hearing room and get back to the hearing.
Okay. I think that's it for the preliminary announcements.

Usually, in the first Board meeting of the year, we start off with a report from the Executive Officer outlining the Board staff's plan, their workload for the year, and giving a sense of their priorities, but we've postponed that report until later in the day in order to make sure that all the Board members and the public can participate in this discussion that we're going to be having about the proposed scoping plan for the 2030 target.

This is the first of 3 hearings that the Board has planned on this topic. We are -- we are planning, and I believe we will, adopt a final plan this spring. But at this point in the process, what we are considering is a draft, which is designed to achieve the legislatively -- now legislatively mandated 2030 climate goals.

The Board, I think it's fair to say on behalf of all of us, is strongly committed to achieving the goal, but flexible about the path we take to get there. We know that climate change is happening. We know that it's impacting California. And we know that we need to act with courage and perseverance.

This is an important moment for California as we find ourselves back on the defensive line when it comes to
protecting both the health of our people and the planet from harmful pollution. We have the tools, and we have the experience, we have the science, we have the authority, and the commitment. The plan that we're beginning to look at today is really a doubling down on our climate programs to date in order to take the actions that are needed to minimize the worst impacts of climate change.

The plan is a result of a multi-year deliberate, open, science-based policy-making process, which is just how we do things here. It's one among many public conversations that we've already had regarding the development of a proposed scoping plan. And it's another step along the road to achieving our target goal, which is to reduce our greenhouse gas emissions to 40 percent below 1990 levels by 2030.

This is ambitious a goal as has been set anywhere in the world. It's one that we know is not simple to meet, but we have strong direction to do it, and we think that we have the ability to do it.

We also believe that we have some clear direction from the legislature about the kind of analysis that they want us to do in adopting a plan, and we are attempting to follow that direction.

We are here to listen now to all variety of
viewpoints. We welcome comments, not only from people in
the room, but people who want to send in comments on our
website, or by mail, any means will do, but we do want to
hear from people.

We also want to sharpen the focus on what the
path forward should look like, not just as one policy or
one project at a time, but really looking at an ongoing
program that will balance a number of different important
objectives that we, as Californians, have, which obviously
include meeting our climate goals, but also include
improving air quality, and public health, including making
genuine and important strides in addressing those issues
in our most disadvantaged communities.

We also want a plan that supports economic growth
and jobs in California, and finds ways to expand our ideas
and action beyond our borders and over a longer period of
time. So as we begin this process of thinking about the
future, I think it's also worthwhile just briefly
recapping how we got to where we are today.

When AB 32 was passed and signed into law 10
years ago, it was the first program anywhere to require a
comprehensive and binding approach to reducing greenhouse
gas emissions. At that time, many people hadn't ever
thought about a framework for how you could put policies
together or how to set priorities for meeting what was
then the 2020 target, which was the same target as the Kyoto treaty, which was to get to 1990 levels by 2020.

California began the work of putting together a process, taking advantage of economic, and technical, and market assessments with input from experts around our State and even from other places as well, including various kinds of academic and other experts. And we spent thousands of hours in public workshops, stakeholder meetings, and dialogue with experts. And these were meetings that were very useful not only to ARB and our knowledge and ability to do our job, but I think towards bringing about a level of consensus as to what needed to be done that has stood us in very good stead as we move forward in implementing these plans.

Throughout that process, we established a framework that now has California's greenhouse gas emissions on a path -- a declining path, while our economy continues to grow faster than the rest of the country.

And the framework that we adopted in that first scoping plan also provided a foundation for policies that are being adopted in other states and countries. In fact, we are welcoming here today, and I'll be introducing shortly, one of our international partners Minister Glen Murray from the Province of Ontario, who happened to be in town and offered to give us a few comments about our
collaborative efforts.

The 2030 targets established by SB 32, the 2030 target, calls on us to reduce greenhouse gases at an accelerated rate. I'm confident in our ability to do so, because I've seen what we've been able to do over the last 10 years.

Not only have our results frequently exceeded our estimates of what we would be able to accomplish through some of our regulatory efforts, but we've also been able to show that if something isn't working out exactly as it's planned, that we can change it, that we can fix it, that we're able to continuously work to improve our efforts.

And this is a point that I really want to underscore here today, because the adoption of a scoping plan is not the end of a story. It is an ongoing milestone. It's designed to give assurance that the State is working on the problem and that we have a way of doing it, but it is by no means the final word on how we're going to go about doing our program. In fact, it would be almost the opposite. We expect that whatever we end up adopting later in the spring will be modified over the years as time goes by, and, in particular, that it will be modified in response to new science, new important information that shows us that we may need to change
course in some way.

And we've already done that as time has gone on. For example, in increasing the focus on certain areas of greenhouse gases that were not much part of the original plan. So the plan won't implement itself, but I think it is important that we -- that we state at the outset that we do understand that our efforts here are intended to go hand in hand with California's efforts to also maintain its economy, and improve its well-being of its people, to increase jobs, and to maintain a quality of life that continues to be an attraction for people from around the world.

So we've got a lot of work to do, and we particularly know that integrating our various programs, even within the Air Resources Board to make sure that our air quality programs and our climate programs are working together and not only not interfering with each other, but actually enhancing and supporting each other is a key issue and it's something that frankly isn't easy to do given the various disparate legislative mandates and programs that have grown up over the years, but we're determined to do this.

So despite the amount of work that we know is ahead, we believe, based on the analysis that has been done to date, both by ourselves and others, that under the
proposed plan that we're going to be discussing starting today that California will meet the 2030 target. And so our task is to now begin to find the best way to get there that aligns with all the different -- all the different goals that we've had set for us.

We know that we're being watched, not just today, but in general. The 194 countries that signed the Paris agreement, and the 165 entities, states, and regions and countries that have signed the Under 2 MOU represent a billion people, and over a third of the global economy.

So with those efforts in mind, we recognize that whatever it is we do here is going to have an impact beyond our borders.

We also have an ongoing desire and a very active effort to seek out the best science that we can find, as well as to seek the advice of economists and to help improve the tools that are available to do assessment of our work. Because while no one discipline will give us the exact answer, unfortunately, there's not yet a button that you can push that will tell you what should be in the scoping plan. We do know that relying on a variety of different types of expertise will strengthen our ability to come out with something that is -- that is valuable and good.

So with that in mind, I think I will now turn
to -- excuse me, to our Executive Officer, Richard Corey, to give an introduction to the staff presentation.

EXECUTIVE OFFICER COREY: Thank you, Chair Nichols. As you mentioned, this is the next step in the process to develop California's plan to meet the 2030 GHG target. We work closely with our sister agencies, many who you'll hear from today, in the development of the proposed plan, and we have conducted extensive public outreach soliciting input from the Environmental Justice Advisory Committee, community and environmental justice organizations, environmental groups, local agencies, industry representatives, and others interested -- and other interested stakeholders.

These engagement efforts will continue through the development of the final scoping plan. We kicked off the process in summer of 2015 with workshops on the Governor's pillars to reduce greenhouse gases. This was followed by an interagency kick-off workshop in early October 2015, a concept paper in June 2016, a discussion draft in fall of 2016, and finally, the proposed plan released earlier this month.

During this time, we held 15 public workshops through the State focused on the development of the proposed plan.

Today, we're providing the Board with a briefing
on our proposed plan and an opportunity for the EJAC and
the public to comment. We'll come back to the Board in
February for another update after stakeholders had time to
digest the proposed plan that they can provide additional
comments prior to the development of the final plan.

We're also proposing to delay the Board's
consideration of the plan from March to April to allow
additional time to incorporate input from the public.
We're confident that the final plan will help California
achieve its climate change goals, protect public health,
especially in vulnerable communities, and support the
transition to a sustainable, low-carbon economy.

And with that, I'll now ask Trish Johnson to give
the staff presentation.

Trish.

(Thereupon an overhead presentation was
presented as follows.)

AIR POLLUTION SPECIALIST JOHNSON: Thank you, Mr.
Corey.

CHAIR NICHOLS: Excuse me, Mr. Corey. I am a
little confused about timing of things, and partly because
things have shifted around. But I was under The
impression that Mr. Murray was going to have to leave
before we could complete the staff report, is that true,
and if so, would you like to come forward at this point
and give us a few words of wisdom here, or it's up to you. I don't want to disrupt the flow of this.

EXECUTIVE OFFICER COREY: If the Minister is ready to, I think that would be fine.

CHAIR NICHOLS: Okay. Then why don't we go ahead and take you out of order, just so -- we don't often have guests from abroad -- well, abroad -- foreign place. Are both podiums working or just one?

Just the one. Okay. Sorry. Sorry for the confusion.

MINISTER MURRAY: No. Rich is a friend. I don't want to up-end his presentation. I need to keep him as a friend.


(Laughter.)

MINISTER MURRAY: Just on behalf of our Premier, Premier Wynne, and to Governor Brown and all of you, your valued friendship now is extraordinarily important at a very difficult time and moment in the fight against climate change. The entire effort is really pivotal and Governor Brown and the ARB are planning a hope-inspiring, as well as a practical, approach to dealing with the existential crisis of our time.

And I think in Canada we're cheering for you, and we're deeply honored to be such an important partner, and
to have you as such an important part in this effort. So thank you very much. And God bless and keep you safe hopeful in this effort.

Just a few observations. We have just gone through this exercise in Canada. And your team here across the California government and Cal EPA were great partners in the development of ours. And you'll notice, if you read our climate action plan, it looks very similar to the scoping exercise that California is involved in.

We are advancing our cap-and-trade system to link with yours, with the same standard and rigor, with the important dividends. And Ontario it will be about $8 dollars focused heavily on a social justice, social equity lens, very similar to the kinds of work that's been done under the leadership of people like Kevin de León. We're focusing on priority neighborhoods. We have $3.6 billion going into buildings, most of that into affordable housing, social housing, and building up the capacity of that, and dealing with very clearly, even in private and low-income housing, the transformation of housing, especially for renters who don't control the costs or their abilities to do GHGs.

The other thing we're recognizing, while cap and trade has been the most effective mechanism, and because of California's decade-long leadership on this, it has
become the foundation for the most effective -- cost
effective pricing mechanism to reduce greenhouse gases in
North America.

In fact, California, Quebec, and Ontario being a
unique binational partnership, whether it's in air quality
standards for vehicles and emissions or climate change, we
are able to set standards that basically determine what
the new normal and what the standard is for North America.
And after Paris, our partnership of 3 jurisdictions is
seen as one of the leading jurisdictions in establishing
successful information -- implementation of the Paris
agreement.

I don't think anyone else -- you -- it doesn't
matter whether you're in Georgia or Saskatchewan, you
basically have to meet the standards that we're taking.
And that's a remarkable responsibility to be generous and
listen to people, but it is also a moral responsibility to
make sure we do enough.

The final thing I would say, it is not the only
environmental issue. And as with climate change impacting
most on the people who cause the least amount of problems
of indigenous people, racialized people, low-income
people, we have lined up with you and continued to work on
everything from benzene, to mercury, to all kinds of
contaminants and air quality issues, particularly in
low-income neighborhoods.

And we have to continue that. It is not either/or. If we don't fight climate change in Ontario, which was warming 2 to 3 times fast, we lose the boreal forest in the next few decades, that absorbs 26 times all global human emissions. If that went down, it would basically dwarf our efforts to fight climate change and render the remediation of human emissions and the liveability of this planet being -- it would end it. We would not be -- this would not be liveable. But we have to maintain those comprehensives. And I look forward to that partnership.

On the economic opportunities - and I will just conclude with this, because I know you've got a busy day - it's interesting that our economies are the strongest. Ontario and Quebec are leading Canada. We're 60 percent of Canada. We have the strongest per capita GDP growth. We have the fastest falling unemployment rate and the highest level of job growth. You see California leading the United States and leading the world in economic development.

And it's interesting to me, and we -- the only real rivalry we have between California and Ontario is who's first in direct foreign investment. The Economist magazine and our business magazines love to look at how
much capital are you attracting to your jurisdiction as
the biggest indicator of whether your public policies are
economically sound.

Well, you beat us this year. You're number one
for direct and foreign investment. You -- we had first
place last year. But for the last several years, it has
alternated between California and Ontario as who's led in
direct foreign investment. We are creating more jobs.

Because what I think we share, our Premiers, our
Governors share, is this belief that we don't win by
thickening our borders. We win by deepening our
commitments to each other and to the planet. And our
partnerships in Mexico, and the meetings that were there,
have actually strengthened that as well. And we are all
coming out ahead.

So thank you for being helpful, for being
generous, for being prosperous, and for being just and
fair. And on behalf of the people of Ontario, and I think
I can say for the people of Quebec, we're very glad to
see, in the scoping exercise, the commitments to many
continued policies that we share, and that we can build a
platform in North America to tackle in a just and fair way
one of the greatest crisis of our time.

Madam Chair, very honored to call you a friend.
And I'm glad you were able to introduce me to so many of
your wonderful partners. You have an amazing organization here with the ARB, which is influencing the world. And this is an extraordinary mix of competency based appointments -- not that anyone is incompetent, all competency based --

(Laughter.)

MINISTER MURRAY: -- and also representatives. And many of us are looking to the ARB, not only for the substantive leadership, but also as a model for democratic and great decision making. So thank you for including me today. And I hope I didn't overstay my welcome.

Thank you very much.

CHAIR NICHOLS: Thank you so much.

(Applause.)

BOARD MEMBER GIOIA: Madam Chair?

CHAIR NICHOLS: I knew if I called on Minister Murray that he would give us a rousing invocation to start the day, and he has.

BOARD MEMBER GIOIA: Madam Chair?

CHAIR NICHOLS: So thank you so much.

Yes, Mr. Gioia.

BOARD MEMBER GIOIA: And just let me note that Minister Murray was one of the last speakers at yesterday's Climate Symposium, where about 800 scientists, community leaders, advocates, policymakers from around the
State attended. And I have to say that your closing comments really provided hope, because you talked about Canada's experience with a former Prime Minister, not unlike the current administration that's sort of sidetracked on climate change and how the Provinces kept the momentum going.

And I think that was a really -- that's why you received a great ovation at the end, because your signal of hope is important for us to understand, and learning from your experience in Canada.

CHAIR NICHOLS: Great. Thank you.

Thanks so much for being with us.

Okay. Now, before we return to the staff presentation, I do want to say one other thing, which I was trying to sort of figure out when was the right -- the best time to say it.

But I have been speaking to several of my Board members - less than a quorum I can assure you - about how to respond to requests that we have received, both from the Environmental Justice Advisory Committee and from others to delay, in some way or another, the time frame to give more time for comment on this report.

And I want to say, first of all, that I agree that there -- the report that we are talking about today hasn't been out for very long. It's quite new. Not
everybody has had a chance to review it thoroughly. And also, that there are some of the ongoing studies that may as -- may continue to provide information as we go forward.

As I said at the beginning, there's always going to be new science and new information that impacts our work. And to the extent that it calls for changes, we have to be prepared to either reopen or amend the plan. But with respect to one of those reports that has been talked about, and that was the subject of an executive order from the Governor, which is the study of the health impacts of the scoping plan, that report is not here. We expected it any day, and we still do expect it any day. To the best of my knowledge, it's undergoing its absolutely final review and will be published, you know, within a matter of days, as opposed to weeks or months. But we don't know, because it hasn't been released yet exactly what it's going to say or how it will impact people's thinking about the -- about the scoping plan.

And so I think it's important that we say at the outset that we expect that the February hearing, which is already scheduled to review the scoping plan -- for further review of the scoping plan will address the OEHHA report. And depending on what it says, and how we respond
to it, we will make a decision as to how long the comment period needs to be extended under CEQA.

So rather than making an arbitrary decision today about X number of days for the closing of the CEQA comment period, we have the ability to extend it. So it's currently set at 45 days, which is the legal -- the legal minimum requirement, we can make it longer if the Board decides that we need to do that, and we will make it longer depending on what we find.

But I think it's important before we say how long, and then keep doing new notices, to actually have the report before making that decision. So, you know, those of you who are seeking additional time, I just want to assure you that there will be additional time, but we can't tell you exactly at this moment how long -- how much additional time, because we don't know ourselves how much we think is needed based on the information it is likely to contain.

So with that, I will now turn it back to the staff to do the their presentation.

So, Ms. Johnson.

AIR POLLUTION SPECIALIST JOHNSON: Thank you.
And good morning, Chair Nichols, Vice Chair Berg, and members of the Board.

Today, I'll provide a report on the 2017 Climate
Change Scoping Plan update that contains the proposed strategy for achieving California's 2030 greenhouse gas target, and was released on January 20th. The proposed plan was informed by interagency working groups, the Environmental Justice Advisory Committee, comments received at public workshops, and legislative direction. This is the first of 3 Board hearings for the scoping plan. The second Board hearing is scheduled for next month and a third is scheduled for April.

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AIR POLLUTION SPECIALIST JOHNSON: The presentation includes an overview of key elements included in the proposed plan. This includes an overview of climate directives and legislation that guide the proposed plan, and a discussion about the Environmental Justice Advisory Committee and their recommendations.

Next, I'll move into a more in-depth discussion about the proposed strategy to achieve the 2030 target and the alternatives staff considered.

The presentation will conclude with a discussion on collaboration and implementation followed by next steps for developing the final plan.

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AIR POLLUTION SPECIALIST JOHNSON: It's good to remind ourselves of the background for the scoping plan.
This proposal describes how the State will reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030, the most ambitious target in North America.

The plan builds on the State's successful efforts to reduce greenhouse gas, criteria, and toxics emissions and work done in previous scoping plans. And the target is consistent with consensus on how much we need to reduce greenhouse gases to avoid the most harmful impacts of climate change.

As I will present in a few minutes, our greenhouse gas emissions have declined due to the successful design and implementation of many policies and programs. The proposed plan describes how these programs can continue to play an important role in achieving the 2030 target.

In particular, the proposed suite of policies provides certainty in achieving the State's 2030 target and promotes technology, energy and economic transformation that will make our communities and economy more resilient and equitable at the same time.

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AIR POLLUTION SPECIALIST JOHNSON: AB 32 directed CARB to develop a scoping plan to layout the path to achieve the 2020 limit. The first scoping plan was developed and adopted in 2008, and it is required to be
updated at least every five years.

In 2015, Governor Brown issued an Executive Order to establish a mid-term target of 40 percent below 1990 level emissions by 2030, and directed CARB in coordination with sister agencies to update the scoping plan to incorporate the new target.

Last year, the legislature passed SB 32, which codified the 2030 limit in statute. Along with SB 32, the legislature passed AB 197. AB 197 provides direction on the development of the scoping plan to consider the societal costs of greenhouse gas reductions, prioritize measures resulting in direct emission reductions, and also follow existing requirements in AB 32 to consider the cost effectiveness of measures in the scoping plan and minimize leakage. The requirements in 197 are included in the proposed plan.

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AIR POLLUTION SPECIALIST JOHNSON: The graphic shown on this slide depicts the 1990 level greenhouse gas emissions and 2020, 2030, and 2050 targets, as well as the necessary reductions to achieve those targets. The proposed plan demonstrates how reductions will be needed across all sectors to achieve the 2030 target and outlines the next steps for the natural and working lands sector, which must play a critical role in meeting both our
mid-term and long-term targets.

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AIR POLLUTION SPECIALIST JOHNSON: This slide lists some key objectives to achieve the 2030 limit. 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 percent reductions below 1990 levels. We believe the proposed plan includes features that provide the highest certainty that we can achieve this target.

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

The plan should also minimize leakage and ensure any reductions in California are not a result of relocation of these sources or production out of state, which, in some situations, could actually lead to an increase in greenhouse gas emissions.

The scoping plan must include a mechanism to support climate investment for programs in disadvantaged communities to ensure these communities can benefit from clean technology, and fuels, and become more resilient in the face of climate change. To date, approximately $470 million from cap-and-trade auction proceeds are being used for projects to benefit disadvantaged communities.
We must also leverage the plan to provide air quality co-benefits and protect public health. The final plan should be cost effective and provide compliance flexibility, so that the economy can grow and support a robust workforce while still reducing emissions.

Importantly, we want to make sure we are able to work with our sub-national and national partners to ensure greater greenhouse gas reductions through a mutual collaboration. Our Cap-and-Trade Program is currently linked with Quebec's program, and proposed to be linked with Ontario's program. It is also desirable to have a scoping plan that readily meets the mandates in the U.S. EPA's Clean Power Plan.

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AIR POLLUTION SPECIALIST JOHNSON: This slide provides the trend in greenhouse gas emissions from 2000 through 2015. The dashed line is the 2020 limit of 431 million metric tons of carbon dioxide equivalent. And the solid line above connected by dots 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 to compensate for decreases in
hydropower. This is not surprising as we have been in a multi-year drought.

Our current modeling shows that we will achieve our 2020 target and will get a head start on our way to the 2030 target.

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AIR POLLUTION SPECIALIST JOHNSON: As mentioned earlier, our existing programs are delivering the reductions to achieve the 2020 target. The foundation of policies and programs will continue to play an important role after 2020. Many of the programs were developed through a multi-year stakeholder process. Therefore, there is existing infrastructure to implement the programs and high compliance rates demonstrate the ability of the regulated entities to understand and take actions needed to comply.

The smooth transition of these programs to a post-2020 period is an important step in ensuring the programs continue to reduce emissions and provide regulatory certainty for regulated entities.

While we have continued to make progress towards our climate target, we have also seen the State's economy continued to grow. Today, California is the world's 5th largest economy, and per capita and per dollar GDP emissions have declined. We are proof that addressing
climate change can go hand in hand with a robust and growing economy.

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AIR POLLUTION SPECIALIST JOHNSON: Not only is this plan founded in existing climate programs, but also builds and incorporates on other ongoing efforts at the State level. This slide shows newly released or draft plans that also include greenhouse gas benefits. The proposed plan leverages the actions in these plans and lays out how they support the State's climate goals.

Indeed, some of these plans may primarily address specific issues, such as clean freight, actions to meet federal air quality standards, sustainable communities, but they also provide greenhouse gas reductions and are key components of the proposed plan.

There are additional plans, beyond those shown on this slide, that are or will be reflected in the scoping plan, such as the Forest Carbon Plan, the safeguarding California plan, and the Office of Environmental Health Hazard Assessment AB 32 report.

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AIR POLLUTION SPECIALIST JOHNSON: The proposed plan was developed by CARB staff over the past 18 months, working with multiple State agencies and departments. Our collaboration with sister agencies started with a kick-off
workshop in October of 2015 to initiate the public process to update the scoping plan. This effort was guided by direction provided in legislation, and reflects input from a substantial number of public workshops and community meetings, and input from the Environmental Justice Advisory Committee and many stakeholders.

AB 32 directs ARB to convene an Environmental Justice Advisory Committee, or EJAC, to advise on the development of the scoping plan. The EJAC was reconvened for this update and has held more than 20 public committee meetings and community meetings in various locations across the State.

The Committee has developed recommendations for the proposed plan, both overarching and by sector, which were included as Appendix A. The Committee has and will continue to conduct public discussions on the development of the scoping plan update. All committee meetings are public and include the opportunity for interested stakeholders to provide comments.

In order to ensure a robust economic analysis, for the scoping plan, we have established a group of expert peer reviewers who are serving in an advisory capacity in the assessment of the economic impacts of the scoping plan.

Finally, the plan includes the analyses required
AIR POLLUTION SPECIALIST JOHNSON: The Environmental Justice Advisory Committee launched a robust community engagement process conducting 11 community meetings throughout the State, and collecting hundreds of individual comments. To enhance the opportunity for attendees, CARB coordinated with local government agencies and sister State agencies to hold roundtable discussions with local residents about specific climate issues that impact their lives.

This effort was well received and attended by local community residents and initiated a new community engagement endeavor for CARB. The Committee has also met 12 times across California since December 2015 to discuss the scoping plan and develop recommendations. Appendix A of the proposed plan includes the Committee's recommendations for each sector focus area, overarching environmental justice policy, and California climate investments.

The Committee also sorted their recommendations into 5 themes: partnership with environmental justice communities, equity, coordination, economic opportunity, and long-term vision.
AIR POLLUTION SPECIALIST JOHNSON: The Committee's recommendations are intended to be read and implemented holistically and not independently of each other. Highlights of the Committee's recommendations include encouraging long-term community engagement and a culture shift in California to improve air quality and environmental justice communities while maximizing the benefits for all Californians.

The Committee recommends that public health impacts and equity be considered when examining issues in any sector, and CARB should develop metrics to ensure actions are meeting targets as programs are implemented.

The Committee also recommends enhanced coordination between State and federal and local agencies.

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AIR POLLUTION SPECIALIST JOHNSON: The proposed plan recommends meeting the State's 2030 goal through an approach that includes all known commitments, a 20 percent reduction in greenhouse gas emissions from refineries, and the continuation of a Cap-and-Trade Program with declining caps. The known commitments identified with asterisks represent actions that will be taken due to statutory requirements or other obligations.

The strategy includes:

Achieving a 50 percent renewable portfolio
standard and doubling energy efficiency savings by 2030 pursuant to Senate Bill 350;

Reducing methane and hydrofluorocarbons by 2030 through the Short-Lived Climate Pollutant Reduction Strategy;

Increasing the stringency of 2030 targets through the SB 375 Sustainable Communities Strategies, and maintaining existing greenhouse gas standards for light-duty and heavy-duty vehicles putting 4.2 million zero emission vehicles on the roads by 2030, and increasing zero emission buses and trucks through the Mobile Source Strategy;

Increasing the stringency of the low carbon fuel standard to 18 percent reduction of carbon intensity by 2030;

Improving freight system efficiency, maximizing the use of renewable energy powered vehicles and equipment, and deploying over 100,000 zero emission trucks and equipment by 2030 through the Sustainable Freight Action Plan;

Reducing greenhouse gas emissions by 20 percent from the refinery sector and continuing the Cap-and-Trade Program post-2020.

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AIR POLLUTION SPECIALIST JOHNSON: The proposed
plan acknowledges the important role that natural and working lands must play in reducing emissions and sequestering carbon if the State is to achieve its long-term goals. Unlike previous scoping plans, we are highlighting the relationships between sectors. And the natural and working lands sector interacts with every other economic sector.

To this point, we must also acknowledge and consider how actions in the built environment have the potential to impact this sector. For example, land conservation goals can keep important land-based sequestration benefits, while also reducing greenfield development and avoiding increase -- increases in vehicle miles traveled.

California's goal for natural and working lands is to manage them as a carbon sink, and minimize the net greenhouse gas and black carbon emissions associated with management, biomass utilization, and wildfire events to 2030 and beyond.

Modeling efforts are currently underway with Lawrence Berkeley National Laboratory. And once the carbon implications of the reference case and management practices are established within the modeling framework, the State and stakeholders can begin the process of more accurately scoping the scale of action needed to reach the
carbon sequestration and greenhouse gas emission reduction targets.

As part of the proposed plan, we are recommending that by 2018, California complete an Integrated Natural and Working Lands Climate Action -- Climate Change Action Plan to ensure the natural and working lands sector is a net carbon sink. The ongoing modeling may not be sufficient to support the full development of this plan. The State must ensure the resources are available over the next year to support the development of this comprehensive plan.

Lastly, we are investigating ways to transform how organic waste from the agriculture sector is managed to meet emission reduction targets as required by SB 1383.

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AIR POLLUTION SPECIALIST JOHNSON: In the next set of slides, I'll describe how the proposed plan meets the objectives we outlined earlier. The mix of prescriptive regulations and a Cap-and-Trade Program that can act as a mass emissions restraint, provides certainty that we can achieve our 2030 target.

The suite of policies and measures in the plan will result in direct greenhouse gas emission reductions from the covered sectors. The suite of policies, which also includes plans primarily focused on meeting air
quality standards, will result in air quality benefits. The proposed plan protects public health, in that it will result in deep greenhouse gas reductions over time, and associated co-benefits and investments in disadvantaged communities.

The plan also includes a mechanism for emissions -- a mechanism to minimize emissions leakage through allocation in the Cap-and-Trade Program.

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AIR POLLUTION SPECIALIST JOHNSON: The plan would continue to support a Greenhouse Gas Reduction Fund, by which investments can be directed to disadvantaged communities. The proposed plan ensures subnational and national collaboration to achieve greater global greenhouse gas reductions.

The plan provides compliance flexibility, so that the economy can grow and support a robust workforce, while still reducing emissions. The proposed plan also supports the Clean Power Plan.

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AIR POLLUTION SPECIALIST JOHNSON: In developing the proposed plan, staff evaluated 4 alternatives, which are presented on this slide and the next. These alternatives were informed by comments from the EJAC, Board, and stakeholders. The staff review of the
alternatives was also informed by information from other jurisdictions that have designed or implemented 2 of the alternatives.

The no cap-and-trade alternative includes direct regulations on a wide variety of sectors, such as the specific required reductions for all large greenhouse gas sources, more renewables beyond the legislative direction in SB 350, and additional reductions in carbon intensity from low carbon fuels.

This alternative has a greater uncertainty to achieve the target if measures do not perform as expected. This alternative also includes items that require additional statutory authority, such as new incentive programs, and would not generate any funds from any measures for the types of investments that are currently supported by the greenhouse gas reduction fund. There would also be very limited opportunities to link with other jurisdictions.

The second alternative includes a carbon tax. It is difficult to set an appropriate tax rate that would get the reductions to achieve the specific target. And one of the ways to address leakage would be to vary tax rates across sectors, with lower rates for sectors that have higher trade exposure. This alternative requires statutory authority and there is greater uncertainty that
reductions will occur to achieve the target.

There is data from one jurisdiction that has implemented a carbon tax that demonstrates the uncertainty of achieving a specific target when relying only a carbon tax.

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AIR POLLUTION SPECIALIST JOHNSON: The all cap-and-trade alternative would remove the refinery measure and keep low carbon fuels at 10 percent. This alternative provides less certainty about greenhouse gas reductions at refineries, when refineries represent the largest stationary source of greenhouse gases in the largest sector of greenhouse gas emissions, the transportation sector.

The last alternative is the cap-and-tax alternative. And it would place a declining cap on industry, and natural gas and fuel suppliers, and electricity import -- importers, while also requiring them to pay a tax on each ton of greenhouse gas emitted.

With both a declining cap and tax on emissions, we expect this alternative to have a higher cost to the economy overall. There is also uncertainty that each sector must achieve reductions each year as mandated by the direct caps, and some sectors will not be able to do this year after year.
Staff examined a similar cap and decline mechanism that is proposed to be implemented in Washington state. During the course of the rulemaking, offsets and limited trading were introduced to provide compliance flexibility in recognition that some sectors cannot make these year-to-year reductions at even a 1.7 percent cap decline.

One result of not providing flexibility would be leakage, diminished production, loss of jobs, and impacts to the State's economy. The proposed scoping plan scenario includes a suite of policies that are responsive to each of the objectives of the scoping plan.

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AIR POLLUTION SPECIALIST JOHNSON: As part of the development of the proposed plan, staff conducted several analyses. This slide lists the types of analyses included in the plan. First, as in the discussion draft, there is information about the cumulative benefits for each measure and policy included in the proposed plan.

This plan for the first time includes a new analyses required under AB 197. These include greenhouse gas reductions in 2030 for each evaluated measure. So that's the proposed measures and the alternatives considered. Per AB 197, the plan also includes the potential criteria and toxic impacts for each evaluated
measure, cost per ton, and societal costs.

The AB 197 analyses are meant to allow for a transparent come -- a transparent comparison of the various impacts across the measures evaluated. As such, the tables allow the reader to compare the measures against each other. The tables do not provide information that should be used outside the context of the tables in the scoping plan. We also had to infer relationships regarding greenhouse gases and other air emissions that may or may not be true as the model used in the development of the scoping plan only provides greenhouse gas data, and not criteria or toxics information.

The tables represent the best data we have, and the best tools we have available today to conduct these analyses. It will be important for readers to review all notes and caveats regarding these analyses.

As any of these measures are designed, there will be more information that will provide better insights on costs and air quality implications of the measure.

The proposed plan also includes a macroeconomic analysis, which I will discuss in the next few slides. And finally, we provided a draft CEQA analysis along with the proposed plan.

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AIR POLLUTION SPECIALIST JOHNSON: The economic
analysis found that the recommended approach has a very small impact on the State's economy, reducing the gross State product by about half a percent in 2030. The overall impacts of the proposed plan are small when compared to the overall California economy, and the proposed approach allows California's economy, employment, and personal income to continue to grow.

Annual growth rates in GDP, employment, and personal income are essentially unchanged under the proposed approach, when compared to the reference or no action scenario.

The proposed plan is estimated to have an economic impact ranging from a direct cost of 7.6 billion to a savings of 3.8 billion in 2030, depending on future fuel prices.

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AIR POLLUTION SPECIALIST JOHNSON: The economic estimate of the proposed plan represents about half of 1 percent of the estimated 3.4 trillion economy in 2030, which will result in a 3-month delay in reaching the GDP projected under the reference or no action scenario.

The estimated annual cost to a California household ranges from $30 to $214 in 2030 depending on the cap-and-trade allowance price.

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AIR POLLUTION SPECIALIST JOHNSON: We prepared a draft environmental analysis in accordance with the requirements of the California Environmental Quality Act, or CEQA, for the proposed plan. The environmental analysis identified:

Beneficial long-term impacts to air quality energy demand and greenhouse gas emissions;

Less than significant impacts to air quality, energy demand, land-use planning resources, mineral resources, population and housing, public services and recreational services;

And, potentially significant and unavoidable adverse impacts to aesthetics, agriculture and forest resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, resources related to land-use planning, noise, recreational services, transportation traffic, and utilities and service systems.

The potentially significant and unavoidable adverse impacts are primarily related to short-term construction-related activities, which explains why some resource areas have both long-term, less-than-significant impacts and short-term potentially significant impacts.

We will respond to all comments received on the draft environmental analysis and present written responses
to the Board for consideration along with the final environmental analysis.

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AIR POLLUTION SPECIALIST JOHNSON: The proposed plan includes a section that discusses the connection between climate change and public health. Measures in the proposed plan that reduce greenhouse gases can simultaneously improve health and social equity. The discussion recognizes that focusing efforts to achieve health equity, can lead to significant progress in addressing human clause -- human-caused climate change and discusses health impacts of climate change mitigation efforts, as well as co-benefits of communication and community engagement to increase the support for climate change policies presented in the plan.

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AIR POLLUTION SPECIALIST JOHNSON: Achieving greenhouse gas reductions requires action at all levels. Actions at the federal level, such as the Clean Power Plan and methane rules, can support State efforts. And we have seen how policies designed and implemented in California have been the foundation for national policies.

California will continue to take action to protect the public health and the environment through the policies based on sound science. This is evident in the
suite of policies included in the proposed plan, and the breadth of action across all State agencies, not just ARB. We will look for how actions at local levels can support State goals, and we will gauge in regional discussions as part of the design and implementation of measures in the proposed plan.

Further, California will forge ahead in collaborations with subnational and national governments. Addressing climate change requires collaborative action as this is a global issue.

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AIR POLLUTION SPECIALIST JOHNSON: The proposed plan recognizes the importance of local action by recommending local actions and targets that could support the State's climate goals. The proposed plan includes the 6 metric ton per capita 2030 goal, which is consistent with SB 32 and is aimed at sustainable growth.

The is not a mandate, but rather intended to help more progressive regions, and can be tailored up or down based on varying specific regional considerations. We also included a local action appendix, Appendix B, with examples of actions that local governments can take to support the State's emission reduction targets, and could be required of individual projects under CEQA, if feasible. Many of these actions will allow local
governments to be leaders on climate action.

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AIR POLLUTION SPECIALIST JOHNSON: Regarding next steps, and the schedule going forward, we're currently collecting comments on the draft environmental analysis until March 6th. We will hold public workshops in February and March to solicit stakeholder feedback on the proposed plan.

In addition, we will continue supporting the EJAC as they meet in February, March, and April to develop final recommendations for the scoping plan, and continue engagement with local communities through another round of community meetings.

To provide an additional opportunity for Board member and public comment, we will provide a report on the scoping plan and public outreach at next month's hearing.

We are targeting the release of the final scoping plan along with the formal written responses to comments received on the draft environmental analysis in March. The final proposed plan is scheduled to be presented to the Board for consideration in April.

This concludes my presentation.

CHAIR NICHOLS: Thank you.

We have a number of representatives and special guests of other agencies that worked with us on the
scoping plan. And I think the next thing that I should do is to introduce some of our colleagues who are here who assisted us in the preparation of this report.

So I was going to start with the Resources Agency, Claire Jahns, who is the Assistant Secretary for Climate Issues at the Natural Resources Agency, if you would come up.

Thank you.

RESOURCES AGENCY ASSISTANT SECRETARY JAHNS:

Thank you for inviting us today. And first, I just want to extend a huge thank you to the ARB staff that's in front of you. They've worked with us at the Resource Agency, our departments, conservancies, and others tirelessly and on weekends and constructively and creatively, as we figure out how to set targets for managing land to store carbon in a resilient fashion.

And I would extend that as well to the Environmental Justice Advisory Committee, which has given really critical thought to this sector, which is potentially somewhat a little bit outside of the norm of what they're used to working with, but I think it's been really important to have that external viewpoint as well.

And so in doing this work, we kind of quickly came to realize that the old adage, what's measured is managed, cuts both ways. It's difficult to develop
implementation targets for land protection and management
in the absence of a comprehensive authoritative inventory
of emissions or trends over time and into the future, and
without inclusion of this sector and the pathways modeling
that's used for the rest of the plan.

So we really came to appreciate all the hard work
on quantification and inventories that the ARB staff has
been doing to date. And so we really do appreciate the
time and energy of your program staff in helping us
develop a path forward, in the absence of this kind of
authority at this point, and also developing a clear kind
of short-term, medium-term, and long-term path towards
getting where we need to be.

So as the plan calls out, as you'll see in both
the recommended actions and in the description of the
natural and working lands sector, doing this analytical
work needs to be completed in the very short-term, within
the next year or 2, in order to better understand both the
potential value that land use and management can play as a
carbon sink, as well as the potential liability of
inaction.

And we at the Resource Agency have tried to fill
this gap in the interim, by, as Trish mentioned,
contracting with Lawrence Berkeley National Labs to
develop this business-as-usual and sort of with-policy
emission reduction scenarios out to 2050 for greenhouse
gas emissions, black carbon emissions, as well as carbon
sequestration, the latter of which we, of course, want to
see maintained or increase rather than decrease.

And the Resource Agency, the Air Resources Board,
and CDFA co-hosted a public workshop in mid-December to
debut LBNL's initial work, which is very much initial at
this stage, but shows a lot of promise. And we received
value ex -- feedback from experts in the field and from
the public arena at this workshop, and look forward to
continuing to refine the model going forward.

And again, as Trish mentioned, this work will
continue as part of development of the natural and working
lands climate change action plan that's identified as a
key recommended next step in this scoping plan, and will
serve as the productions used in that plan, which again
will help us really recommend the policy pathways at the
scale necessary to hit our targets.

And I wanted to talk a bit also about a plan
that's also been in development over the last year, where
we have come to refine the carbon accounting, as well as
some of the implementation pathways, and that is the
Forest Carbon Plan.

The last scoping plan update in 2014 called for
the Forest Climate Action Team, or FCAT, to write the
Forest Carbon Plan as the plan for how we'll hit those emission reduction and carbon sequestration targets for the forest sector. So the FCAT, which is comprised of 20 or more agencies, departments, external organizations, including the Forest Service and the Bureau of Land Management have been working to write that plan.

And we -- I think we bookended Friday's other news well by releasing the draft scoping plan at 9:00 a.m. and the Forest Carbon Plan draft at 5:00 p.m. So you have your weekend reading set out for you, should you have chosen to make that your task.

And this -- and last year -- sort of process-wise, last year as the scoping plan update deadline was moved up, we kind of took a hard look at the process for the Forest Carbon Plan development said -- and said, gosh, we really want to make sure this plan is something that can be adopted into the scoping plan and is ready in time.

And so we kind of reoriented the way that the goal setting and the writing was working, which has sort of been front-loading the kind of identification of conditions of forest targets into goal setting.

You know, what is really the scale of action that we need knowing that forests, frankly, are on the decline in this state right now in terms of carbon sequestration
resilient? So we're glad to see the mention of the forest carbon plan in this plan, and the -- our plan for that is to have the completion of the Forest Carbon Plan track with the scoping plan finalization, as well. And we have a workshop coming up on that in a couple weeks, maybe in this room, or somewhere else in this building.

As so the Air Resources Board is certainly to be commended for recognizing that this sector, which is, you know, essentially all of the 100 million acres in California, including urban green space, will be absolutely critical to ensuring that the State's, and really the world's, greenhouse gas emission reduction targets and policies achieve the climate change mitigations they set out to to limit global warming to a manageable level.

And the scoping plan updates continue to set the bar in the United States with regards to how we think about protection and management of forests, range lands, agricultural lands, wetlands, urban landscapes, and other systems in the context of an aggressive climate change mitigation program, really a world leading one.

And so this sort of a new -- new ground that we have to build on past actions since 2009 to really build out this leadership in California. And it's important to note that natural and working lands are the only sector
that cannot only reduce greenhouse gas emissions below
historical levels, as is the target for all other sectors,
but can also remove carbon dioxide from the atmosphere.

And so I'd ask you to sort of picture California,
not just in 2030, but all the way out to 2050, where we've
met the greenhouse gas emission reduction targets for the
energy transportation and industrial sectors that have
been identified in the scoping plan and attendant plans,
and are in the process -- and in the process have reduced
criteria air pollutants from fuel combustion
significantly, improve the health and well-being of all
Californians, particularly those in disadvantaged
communities, and are still a global leader in clean tech.

But as we all know, and there are probably not 12
people in the world who I need to tell less about the
science of how climate change works, but that climate
change is not just about reducing fossil fuel emissions,
it's about the balance between emissions and the capacity
of the planet to process those emissions, so that the
atmospheric concentration of greenhouse gas emissions
remains stable at the targeted level.

And now, picture yourself still out in 2050
looking across the Central Valley, to the Sierras, into
the mountains, and up to the redwood forests of the north
cost, and in the Delta and along our coastline. And the
best scientists in the world, including those as -- those Lawrence Berkeley Labs have started to learn that climate change is going to have a very significant impact on the ability of California's land base to capture and store carbon.

And we're already seeing this, again to reference the Climate Symposium that took place this weekend, and to echo, I think, Minter Murray's comments about the boreal forests, which are not quite as significant a carbon sink as -- which our California's sinks are not quite as significant as they have in Canada, but that John Battles, who's been very much involved with ARB's inventory development, presented -- he's had kind of a back-of-the-envelope calculation of what the true mortality we're seeing in the Sierras means in terms of carbon.

And so as you all know, I'm sure that 102 million trees have died in the Sierras just within the last years really as a result of climate change, increased temperatures, drought, and the resulting bark beetle infestation. And he found that the trees that have died represent about 9 percent of the living vegetation in California right now. So that's a decimation of the existing carbon stock.

That doesn't mean that all that carbon stock
turns to greenhouse gas emissions. We certainly hope that it doesn't, but that it is more or less, you know, almost a decimation of the ability of that land, that acreage to continue to sequester carbon over time into the future, unless we do something about it.

And so we really do understand that we need to not only reduce fossil fuel emissions of course, but take action to improve the long-term resilience of carbon stocks in and on the land base in California. And this scoping plan does, as staff have worked with us know, take a huge step forward in recognizing this fact. And it is -- the Climate Change Scoping Plan is a greenhouse gas mitigation plan, but I think we've done a good job in this plan in showing how the plan can help us reduce the impacts to communities, and landscapes in California in a way that helps us adapt to climate change, whether you're talking about improving air quality or improving the health of natural systems.

And so it's important to remember that these natural systems are also our life boat in the face of climate change. All Californians, rural and urban, depend on these systems for clean and sufficient drinking water, and clean air, and millions of us depend on them for jobs, recreation, exercise opportunities, and they are not a source -- they're the sources of not a small amount of
State pride.

And as such, this scoping plan, which is again focused, as it should be, on greenhouse gas emission targets really does do a good job of moving us towards safeguarding California, which is, of course, the name of our climate adaptation plan that the Resources Agency and the Governor's Office of Planning and Research are leading.

So again, I'd just thank you for the contributions of your staff and the really critical thinking that everyone has put into this. And I really look forward to moving forward and continuing to make California a leader on this front.

CHAIR NICHOLS: Thank you very much, Ms. Jahns. We perhaps are overusing this term a little bit, but it's hard to avoid. There is an unprecedented level of collaboration going on here not just between ARB and the Resources Agency, or CalEPA and Resources, but all of the agencies that are represented here today. People are putting their best thinking into how we can all work together to really represent our State in its fullness of its population and its economic activity and its resources in a way that will carry us through the threats that we're facing from climate change. And so it's appreciated very much that there's differences in timing,
differences in deadlines that we all face and the mandates that we all have that we're trying to -- that we're trying to integrate here.

And, of course, the Governor's office has also given us the strongest possible encouragement to do that, but it's -- it is a challenge. And so the fact that you and your colleagues are here today is noted and much appreciated.

I guess I should turn next to Jenny Lester Moffitt, the Deputy Secretary for Food and Agriculture.

Good morning.

CDFA DEPUTY SECRETARY LESTER MOFFITT: Morning.

Good morning, Chair Nichols and members of the Board. Thank you for the opportunity to have us here to speak with you. I want to just echo what Ms. Jahns said about the continued collaboration and certainly, Chair Nichols, what you just referenced as well. It is certainly - we'll overuse that term - unprecedented, and I appreciate it.

California is the largest agricultural producer in the country. We rank 14th nationally or internationally. And we wouldn't be able to do that without our unique Mediterranean climate. And the climate, we have 1 of the 5 unique Mediterranean climates in the world. This allows us to produce a broad array of
fruits, vegetables, nuts, including over half of our nation's fruits, vegetables, nuts.

However, as a land-based industry, agriculture is also one of the most threatened by climate change. Decreased water availability, increased pest pressures, erratic weather, and other impacts, are already occurring and are forecasted to put increased pressure on California's agricultural industry in the coming decades.

In addition to an urgent adaptation need -- or challenge, California agriculture represents a significant mitigation opportunity. Agriculture contributes 8 percent to California's total greenhouse gas emissions representing a substantial potential to meet our State's greenhouse gas reduction goals.

This draft scoping plan acknowledges the important role that agriculture, as a working land, can play in reducing emissions and sequestering carbon. As with my colleagues from sister agencies, boards, and defendants, the California Department of Food and Agriculture has been engaged with the development of this draft plan. We have joined in several of the Air Resources Board's extensive public engagement through workshops, through Environmental Justice Advisory Committee community meetings, through discussion drafts, and certainly also reviewing public comment.
For Agriculture, this draft scoping plan touches on key -- several key State strategies for the State. First and foremost, the Short-Lived Climate Pollutant Reduction Strategy. This plan encompasses the reduction measures per SB 1383 that Ms. Johnson referenced for 40 percent reduction in methane emissions from dairies.

These out -- draft strategies are outlined, not only in the scoping plan, but also referenced a short -- the plan that was brought before your Board last month.

In addition to methane reduction, waste diversion at dairy digesters have an added benefit of producing low carbon renewable fuel.

For land use and land conservation, this strategy identifies SB 375, the Sustainable Communities Strategy, as an opportunity to prioritize infill and compact development. It identifies the strategies, such as ag land conservation easements as opportunities for con -- delaying conservation, and it also lays out the vibrant communities and landscapes appendix.

Related to carbon --

We're good?

Related to carbon sequestration, Ms. Jahns spoke a lot on this, so I'll keep -- I'll certainly reference what she's talk -- referenced as well. But supporting on-farm ranch and management practices to sequester and
reduce greenhouse gas's emissions is laid out in this
plan, and continued work to develop the integrated Natural
and Working Lands Action Plan that Ms. Johnson referenced,
and working on the modeling that Ms. Jahns referenced will
continue to play -- take place and is outlined in that
plan as far as the strategy.

And then finally, I'd be remiss without talking
about the integrated solutions. I think something that
has been very important in this plan is looking at not
what are the strategies by sector by sector, by how do we
integrate those strategies throughout all of our sectors,
all of our industries.

As we have dealt with significant drought in the
past few years, on-farm water management practices not
only can be a key strategy for drought resiliency, but
also for greenhouse gas reduction. And that is outlined
here in the draft scoping plan.

Increased on-farm renewable energy, not just
through the digesters that I referenced, but also through
solar, wind, bioenergy, geothermal are important
strategies to consider, not just in the agricultural
sector, but also in renewable energy as well.

And finally, agriculture can play a key role in
organic waste utilization, including biomass through the
Health Soils Initiative.
Again, I want to thank you for the time to speak today. I would like to thank your staff and their tremendous effort for not just engaging with stakeholders, but with all of our agencies, boards, departments, and commissions. We look forward to continued collaboration.

Thank you

CHAIR NICHOLS: Thanks so much.

Will hear next from Randall Winston, the executive director of the Strategic Growth Council.

Welcome.

MR. WINSTON: Welcome. Good morning, Chair Nichols and Board members. Thank you again for inviting me here this morning. I first off want to echo, I think, the comments of many of my fellow colleagues here at our State agencies to thank the Air Resources Board for your tremendous work and collaboration.

You know, our staff at the Strategic Growth Council worked with ARB almost daily on certain parts of the scoping plan, and the role of land use in reducing vehicle miles traveled. And I'll just say that the intelligence, patience, and professionalism of the staff has really been exemplary, so thank you.

I also want to send along the appreciation and thanks of the Director of the Office of Planning and Research, Mr. Ken Alex, who's unable to be here today, and
is actually down in Los Angeles speaking about the role of land use with regard to the State's climate strategy, and he sends his regards as well.

So I'll touch upon 2 items here relatively briefly, and -- with regard to the scoping plan. So first, the elevated role of land use, and second, the importance of our climate investments funded by cap and trade, and particularly their benefit to disadvantaged communities.

First, I laud the plan for highlighting a discussion document titled, "Vibrant Communities in Landscapes". This document emerged from ongoing work around the State's climate strategy, and was the product of 6 agencies, as well as Office of Planning and Research, and outlines a vision for an integrated approach to land use, and really building upon the comments that you just heard from Ms. Lester Moffitt at CDFA. And this is through policies and investments that link approaches across transportation and the natural and working lands sectors.

The document sets out potential actions that can be taken in parallel to SB 375, including by State government, metropolitan planning organizations, and local governments. And as a companion to this vibrant communities and landscapes document, I also want to note
in the scoping plan an appendix entitled potential VMT reduction strategies for discussion, which further details State level strategies that could be employed to achieve our needed vehicle miles traveled reductions on the pathway to our 2030 goals.

These include transportation demand measures and infrastructure and infill development investments. We look forward to further discussions with a broad range of stakeholders to develop a more specific set of strategies moving forward.

And second, I wanted to note the importance of our climate investments funded by cap and trade, and again, their benefit to disadvantaged communities. SGC has 2 existing programs that are continuously appropriated through the State's Greenhouse Gas Reduction Fund, and that we administer with partner departments, including the Department of Housing and Community Development, and the Department of Conservation.

One focused on affordable housing and transit-oriented development, which aims to reduce greenhouse gases and vehicles miles traveled through increased accessibility to housing, employment centers in key destinations, as well as low carbon transportation options, including walking, biking, and transit.

Then this past year, we awarded nearly $300
million across the State, 85 percent of which benefited disadvantaged communities.

And second, a program focused on conservation easements, which increases -- or avoids -- excuse me -- increases in greenhouse gas emissions associated with conversions of our State’s agricultural lands to urban and residential development.

And in addition to inhibiting sprawl and further growth in vehicle miles traveled, these investments help maintain agricultural operation viability and create green belt buffers for neighboring lands and surrounding habitat values.

We have awarded approximately $40 million this past year for agricultural land conservation projects throughout the State. And in addition to these existing programs, I’d be remiss if I did not mention a new program that we have this year, and that we are in the midst of designing, called Transformative Climate Communities.

This program will offer a place-based framework to accelerate greenhouse gas reduction in the most disadvantaged parts of the State or the top 5 percent as identified by CalEnviroScreen. We have $140,000,000 for that program this year, including $70 million that we'll invest in Fresno, $35 million in Los Angeles, and $35 million in a third location to be determined.
And I'll note 5 elements of this program, and again, we are in the midst of designing our guidelines, but we will make 3 awards that will concentrate investments in these -- in these communities; and then 2, through integrated projects that will reduce greenhouse gas emissions, so putting into practice some of the comments I mentioned earlier about integrating efforts across our sectors; and then third, multi-sector partnerships that can serve as models for community engagement and participation; 4, modeling and really showing what equitable development can look like, including strong anti-displacement measures; and finally, leveraging other sources of funding to bolster complementary goals, including workforce training and economic development.

Now, innovative programs like Transformative Climate Communities and others would not be possible without our climate investments. We recognize that this isn't a large sum of money, given the size of our State. But by employing best practices, and setting ambitious thresholds and requirements, these investments help incentivize the sort of system-wide changes at the local level that are needed to achieve our climate goals.

So with that, thank you, and thank you again for the leadership on the part of the Air Resources Board.
CHAIR NICHOLS: Thank you. Thanks for reminding us of the role that local governments and local decision makers are going to play in all of this too. We constantly have to remind ourselves that the support and innovation really do flow from the ground up, so to speak. This is a very, very, vital part of our efforts.

So we'll next hear from Fran -- no, sorry. Next hear from Kate White, Deputy Secretary for Environmental Policy and Housing Coordination at the California State Transportation Agency.

Good morning.

CSTA DEPUTY SECRETARY WHITE: Thank you, Chair Nichols, Board members. Thank you for the opportunity to speak today. And congratulations to the staff for producing a very ambitious, but very practical plan for decarbonizing our economy and setting forth a clear path towards a greener, healthier, and more prosperous, equitable California.

I have to just say I am very proud of California today. I'm very proud to be here.

As the -- representing the transportation sector, I also recognize, you know, we are responsible for about 37 percent of GHG emissions. We're the largest emitter. And what I really appreciate about this draft plan is that not only it continues with the cornerstone strategies of
cleaner fuels, cleaner vehicles, and trucks, those are essential for cleaning up our sector.

I also appreciate the recognition that this plan -- this draft puts forward to -- of -- that there's other things -- many other things in transportation that we need to be doing to -- we need to invest in reliable, safe, accessible transportation options, affordable transportation options, such as rail, such as transit, such as walking and biking. And along with the land-use strategies that my colleagues mentioned of bringing destinations closer together, so maybe you don't have to travel quite so far to get to your destination.

I also appreciate the emphasis in this plan, and I know there's more forthcoming, as Chair Nichols had mentioned, on analysis of the positive health outcomes of this plan, not only from cleaner air, but also from again active transportation. As the plan notes, increasing walking and biking, in particular, reduces risks from chronic disease, such as cardiovascular disease, diabetes, certain cancers, and to such an extent the science shows in terms of -- and the public health knowledge shows that these -- these benefits of active transportation are so significant that this plan not only is unprecedented in all the ways that you have been talking about already this morning, but also, if implemented, if approved with the
targets that are within regarding active transportation, this plan could also rank as one of the top public health accomplishments in modern history, and help reduce the billions of dollars California spends each year to treat chronic diseases.

So on behalf of the California State Transportation Agency, I certainly commit my department's, in particular Caltrans and High-Speed Rail, and I appreciate again the deep collaboration with our agency and the Department's to fully support the goals and targets laid out in this draft scoping plan.

Thank you again.

CHAIR NICHOLS: Thank you.

Next, Fran Spivy-Weber. You know, the other mic was working. By the way, you don't all have -- you don't have to traipse all the way over to that podium, but okay if you like it there. It's okay.

SWRCB MEMBER SPIVY-WEBER: Why not.

Thank you. Thank you very much.

And like everyone else, I am very pleased to be here. Chair Nichols, and Board, and staff, it has been a pleasure on the part of our staff at the State Water Resources Control Board to work with yours on this scoping plan.

And I want to assure you that you have challenged
successfully us and many other agencies to step up on this issue. And it's -- that, too, has been wonderful. I'll just outline 3 areas that we are focusing on at the State Water Resources Control Board.

One is we have a resolution that will be -- is scheduled now to come before the Board at the 22nd of February on climate change. And this is -- this was put together with our regional boards, nine of them all over the State, as well as our -- all of our different offices and sections of the State Water Board.

And each one is taking a measurable accountable actions toward climate resiliency, as well greenhouse gas emissions, but also sustainability.

Secondly, we will -- we are working now with a number of different agencies, including the Resources Agency, and the water -- and the various -- the Public Utilities Commission, and the Energy Commission to work on permanent conservation pleasures.

This is probably one of the greatest contributions that we can make to greenhouse gas reductions. And I will look forward actually to the 2015 segment on your chart to see if the mandatory reductions that were taken in 2016 by the citizens of California, if those make a measurable difference as the uptick did have a measurable effect in, I think it was, 2014 -- or 2013.
So -- and then the final area that we will be working on is working with the CPUC in their water energy proceeding. It was started over the last year and a half, and we will continue to work with them, because roughly 13 percent or so of the water use in California is overseen by the CPUC. So they will be extremely important in water.

And I just wanted to add finally that in this resolution the it's divided into sections. I urge you to look at it, and to make comments on it, and your staff to do the -- to do the same. We will be focusing on reducing greenhouse gas emissions, but we can do that in many different ways.

And one has been in investments. We've put almost a billion dollars into recycled water. And we are actively working to make sure that we can account for what greenhouse gas reductions are being achieved from that investment. So there are -- there are many, many ways in which working together has been extremely helpful to us, as well as hopefully to you, and we look forward to having even more of it in the future.

Thank you.

CHAIR NICHOLS: Thank you. Your comment reminds me of something that a Assistant Secretary Jahns said at the beginning about measurement and counting of things.
And you're absolutely right that we have to be looking at our State's overall response to climate, and our overall contribution, using a bunch of different kinds of metrics.

We started out with measuring and regulating what's easiest to measure and regulate, but that doesn't mean that that's the end of the sorry. And your contribution personally at the Water Board to helping the Board begin to think in new ways about these issues is very much appreciated.

So thank you for your role as the co-chair of the WET-CAT, and other opportunities that you've taken to make those points. We appreciate it.

Okay. Next Ed Randolph, Director of the Energy Division at the Public Utilities Commission, another powerful regulatory agency.

MR. RANDOLPH: Good morning and thank you.

CHAIR NICHOLS: Good morning.

MR. RANDOLPH: First, I would like to be, what's almost redundant now, but start out by thanking the ARB staff for their efforts to coordinate with the other State agencies in the recent month and over the last several years to get to where we are today.

I think we all know meeting the climate goals that have been set for us is going to require to use another stale word now unprecedented effort of
coordination among the agencies. And I think in the last year the relationships between our sister agencies, ARB and the CEC especially, are at all times high, and we hope to continue to improve on that, and appreciate all the efforts of the ARB staff to help with that.

As the scoping plan does layout, you know, already, the energy sector and the electricity sector is on its way to meet, and actually beyond, the 2020 greenhouse gas goals. And we feel we're well on our way to meet the goals that will be needed to hit the 2030 goals.

But we know there's still a lot of work to be done in this sector. Not only do we need to continue to make strides towards getting a carbon free grid, we need to prepare the electric sector to be able to help with fuel switching in almost all of the other sectors.

As I often put it on the electricity sector, not only do we have to be carbon free, we are going to have to help almost every other sector out there become carbon tree as well. So it's a tough and big load for the electricity sector.

We do believe, and as laid out in the scoping plan, that a critical component of the success of the electricity sector is integrated resource planning that is mandated in SB 3750. If the electricity sector is going
to meet its greenhouse gas reduction goals at a minimal
cost to ratepayers, we need to move away from the bucketed
approach to procurement, where the utilities in the State
are pursuing clean energy resources based on targets that
are somewhat randomly set and move towards a planning
process we know -- a planning process where we know
resources augment reach other.

To build on other comments today, you know, we
get what we measure. Currently, a lot of the energy
sector goals we're measuring megawatt savings or megawatts
produced by renewables. And we aren't actually measuring
greenhouse gas reduction. To get to the greenhouse gas
reduction, integrated resource planning requires the
energy agencies and the electric utilities to actually be
measuring and go towards actual greenhouse gas reduction
targets.

An example of where integrated resource planning
will help make tremendous strides is areas such as the
coordination between renewables, electric storage, and
electric vehicles. The 3 of those combined can help get
to a carbon-free grid, but eliminate a lot of the problems
we would otherwise see with over-generation and
curtailment of renewables.

The goal set by the Governor, the legislature,
and by the scoping plan are ambitious. But I'm confident
with the proper planning we can meet these goals. And I'm excited to be part of the team with the other State agencies we work with to help meet these goals.

Thank you.

CHAIR NICHOLS: Thank you so much.

And last on this list of State agencies represented here today, and another very active participant and partner, Rob Oglesby, the Executive Director the California Energy Commission.

CEC EXECUTIVE DIRECTOR OGLESBY: Thank you, Chair Nichols, and Board members. Rob Oglesby with the Energy Commission. Happy to be here today to address you on this important plan, adding my voice also to acknowledge the collaboration between agencies, and also the hard work and very successful heavy lift that the Energy Commission staff has done in producing this draft report, particularly considering how many stakeholders have been engaged in putting together so many disciplines and subjects into one cohesive plan, and acknowledging their very developed skills at herding cats.

(Laughter.)

CEC EXECUTIVE DIRECTOR OGLESBY: So Ed touched on many of the points that I will also, as you might expect, as the other State energy agency share, and that also includes the observation that the energy sector, thanks to
consistent and strong leadership, is on track to achieve our climate goals, and well on the correct trajectory to meet 2030 as we stand. We have about 20 percent of statewide greenhouse gas emissions coming from electricity. About half of that is due to imported electricity, which will get cleaner with time, come less carbon intensive as legacy coal contracts become retired.

The also is important to mention it doesn't include hydro. It looks like this year is going to be a good hydro year.

(Laughter.)

CEC EXECUTIVE DIRECTOR OGLESBY: But our carbon footprint has been increasing, and less carbon intensive going forward. And we're very proud of that and look to continued our role to support our overall greenhouse gas goals.

The scoping plan chose that the electricity sector will be a major contributor to the State's achieving the 2030 goals through the implementation of SB 350, as you've noted. I'd like to echo Ed Randolph's comments on the importance of the integrated resource planning process, which begins to use greenhouse gas emissions as the overriding metric, and provides for a coordinating planning process.

IRPs will incorporate GHG reductions into
long-term resource planning process and will give utilities greater flexibility to decide the best way for them to reduce their greenhouse gas emissions. We're working with the PUC and the ARB to implement this portion of SB 350. The Energy Commission staff has been working to finalize a discussion paper that will inform the development of guidelines for publicly-owned utilities to submit IRPs to the Energy Commission for review. And we're going to be holding a joint workshop on setting planning targets on February 23rd.

Just this past Wednesday, the Energy Commission approved revision to the renewables portfolio standard eligibility guide book, which will greatly facilitated compliance with the RPS standards, including providing for electronic submissions of the vast amount of data that we're responsible in verifying progress for the renewable portfolio standard.

The Energy Commission is also working with the Public Utilities Commission to implement the energy efficiency portion of SB 350. We held a joint workshop just this past Monday on the 2030 efficiency targets. SB 350 requires the Energy Commission to establish energy efficiency targets by November 1st of this year. And that will be a task indeed.

The Energy Commission staff has also been working
to finalize a rulemaking package for the AB 802 benchmarking and disclosure program, which has a high potential to derive new energy efficiency programs in support of the SB 350 energy efficiency doubling targets, particularly for existing buildings.

We're also committed to the Governor's goal to cut petroleum use in half by 2030, which will be critical to meeting the 2030 greenhouse gas emissions reduction target. We were discussing transportation electrification as an important component of the IRP process, and held a workshop on this in October -- this past October.

We're also supporting emission reductions in transportation through research and development, through our EPIC Program, and infrastructure through our ARFVTP program. In December, we held a vehicle grid integration workshop to support transportation electrification as well.

The goals set forth by the Governor and the legislature on 350 are very ambitious, but the Energy Commission is excited about implementing SB 350, and participating in the scoping plan process as we go forward.

Thanks for this opportunity.

CHAIR NICHOLS: Thank you so much.

We've taken this time, and very much appreciate
the time that's been given to us by senior colleagues from these different agencies to really, I think, demonstrate to this Board and to all those who are watching that this is very much a State plan that we are adopting, that the input that we've received and the ongoing efforts at implementing the plan reflect diversity of agencies and bureaucracies, but also a diversity of mandates that the State has. And the fact that we're able to integrate our climate work across all of these fields and more really is a step in the direction of the kind of change in thinking that is going to be needed to get the kinds of dramatic results that we are planning on in our impact on the global climate. So thanks to all of you very much for being with us and for your ongoing help and support in this effort.

We now wanted to turn to another group of people who have been also extremely active and given a lot of both time and expertise to the development of this plan, and the process by which it was developed. And that's our Environmental Justice Advisory Committee. And I see them making their way towards the podium.

I understand we have 5 members of the Committee here this morning. I recognize them Mary Rose Taruc, Katie Valenzuela Garcia, Martha Dina Arguello, Eleanor Torres, and then also Kemba Shakur are all with us.
So I know you've organized your presentation.

MS. TORRES: Good morning, Chair Nichols --

CHAIR NICHOLS: Good morning.

MS. TORRES: -- Board members and staff. I'm really proud to be here standing with my fellow Committee members and proud of the work that we've been able to do with all of you and the staff.

As the newest member of the Environmental Justice Advisory Committee, I've had a year to get a sense of what our work is and the extraordinary opportunity to create a scoping plan that brings science, policy, and environmental justice principles to our Committee and our work at hand.

When I first came, I began to familiarize myself with the work. It reminded me of my days working at NASA on the Viking mission to Mars.

(Laughter.)

MS. TORRES: It's true. It's like we're trying to actually got a space ship on the planet, right?

The enormous effort it takes, the -- but bringing together the brightest scientists, brightest policymakers, and the public will, with the idea of this triumphant being good policy, good science for protecting the interest of the most vulnerable in our community.

So now, as I've told you, it's been about a year
since I've started working with my Committee. And the --
my return to environmental justice was preceded with great
frustration with working in the environmental justice when
I left it 16 years ago. So this Committee actually is me
marking coming back into the field.

And I've got to tell you I was really skeptical
about this process. Coming back into a bureaucratic
process and trying to advocate for those who are really
being the most affected by some of these policies is
something I was eager to do, something I'm hopeful to do.
But at the same time, I was realistic about my own
skepticism.

So when I joined the EJAC, I understood that the
task was going to be difficult. And from December 2015
through June 2016. I embarked on this path with you all
and with my Committee members to form the means to bring
community input from the most vulnerable communities,
those communities that don't generally get to be a part of
the dialogue and have a say.

We're coming -- working shoulder to shoulder with
Air Resources Board staff. I mean, it meant the world to
my community in San Bernardino County where, you know,
they had never really felt that they were really being
heard by the State or anybody else.

But you all came, and you all made an impression.
And I know you all made an impression throughout the stay, but there's a lot of work to be done. And one of the things that's really clear, at least for me coming at this from a place of first starting out my career in NASA, and later working in environmental justice -- environmental justice is that all of us have an important part to play.

We have the environmental Justice Committee here -- Advisory Committee who has a real important part to play, just as important as the scientists and the policymakers. And their input, the public input, really can drive the success of this program, and this scoping plan.

So I urge you to continue to listen to my fellow Committee members. I really want to get the spaceship on this planet.

(Laughter.)

MS. TORRES: But it's going to take everyone of us and everyone of us weighing the data, weighing the qualitative information. But what it boils down to, and why I'm here, and why I know my Committee members are here, is what it really boils down to is someone's life. And people are dying out there, and we're on the ground watching it.

So I will pass it on to my fellow members and thank you.
CHAIR NICHOLS: Thank you.

MS. GARCIA: Good morning. Katie Valenzuela Garcia also a member of the Environmental Justice Advisory Committee. We put this timeline up here just so you understand why we're tired --

(Laughter.)

MS. GARCIA: -- but also why we're still committed to carrying forward the work that we started. We didn't do all of this to stop halfway. And so we want to reassure you that we are committed to seeing this through.

But my colleague Mary Rose will get into more specific comments around our priority recommendations that we feel are still missing. But I do want to point out, as we said in our letter that we sent to you earlier this month, that we do feel that there's still significant data that is missing from this plan.

In addition to the reports and analyses that are here, I want to point out specifically the AB 197 analysis did not include the cap-and-tax scenario. We'd really like to see that included to consider that a full analysis. But in addition to these reports, we're also missing details around the SB 375 goals, which we feel are pretty important to us being able to say that we're going to meet the targets that we're setting forward.
And we're missing any mention of the California Environmental Justice Alliance report findings that were released in September, which while I know there's still debate around those findings, we feel are important to address head on, rather than after the fact.

Exactly -- almost exactly 1 year ago today, I stood before you asking for more time. And I know that you've been very generous in giving us more time. But little did we know at that time how long it would take for us to get a full draft of this plan. And given the data that's still missing, that's where we're -- some of our concern is today that we're going to be talking more about.

I also want to talk a little bit about the modeling that's been done. I know you all know this, but the modeling doesn't include cap-and-trade or any other market mechanism. That's not something that the model can could. So our assumption that cap and trade will get us to the target is inherently a policy assumption. We were assuming that we can continue to design a program that will result in the emissions decreases at these sites that we have not seen within the State of California.

So again, I want to reiterate that we still are skeptical about these assumptions and we still feel that more analysis is -- needs to be done, particularly on
scenario 4, in which there was some narrative, but there wasn't a lot of substantive analysis that we see in the cap-and-trade section. We'd like to give that more of a fair shot in the discussion here today.

Further to reiterate again, that there might be significant changes that need to be made. When you look at that March — our timeline side before, I know staff says the final plan will be to you in March. That's actually before we're going to be able to finish doing additional community outreach and giving you formal comments.

So staff is going to be working on the final full version of the plan, while we're still trying to conduct outreach, outreach that was done last year before 8197 was passed, before SB 32 was passed, and before any full analysis was released from CARB. So we do feel it's very important that we send staff a clear signal today that they can take additional time past April, if that's deemed necessary by the Board.

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(Thereupon an overhead presentation was Presented as follows.)

MS. GARCIA: To preface the comments that my colleagues will give, I wanted to circle back to our overarching themes in our comments that we submitted to
you in August and that we will continue to submit to you throughout the course of the next few months.

First, around partnerships, we understand that there is a capacity challenge at the State level to really tracking the implementation of these efforts on the ground. We do want to see stronger partnerships made for communities in these areas to not only track implementation with strong metrics, but also to inform the way these implementation protocols are rolled out, because every jurisdiction is very different, and we want to make sure that flexibility is allowed.

Second around equity, there's been a lot of talk about our goal task to reduce climate change, but there is also an imperative to actually improving the health in our local communities. We do think that that's something that we haven't done as much of and something that we've heard consistently across our meetings across the State, is so you tell me this law has been in place for 10 years, and I am not seeing that in my community. There is much more that we need to do.

So our recommendations are focused, while keeping the global perspective in mind, on actually improving what these local communities see as urgently and as quickly as we possibly can.

Third, around coordination, we believe that the
mandate given to CARB necessarily implies that you also have a mandate to work in collaboration with other State agencies and with local jurisdictions, as was discussed earlier. So we're very troubled by some of the things that have been outlined in the local action section. Specifically, there's a line that's buried in page 137 of the scoping plan around a local offset protocol that would be created with CAPCOA that would allow for new developments that exceed their GHG emissions to essentially buy carbon credits from other things that are happening around the states, so that they can proceed with developments that we know will increase VMT.

That is counterproductive to the goals of the scoping plan, and is one of many things that we feel is critical to address in this plan, if we're actually going to see the emissions reductions that were striving for.

And finally, long-term vision. Something that we've been talking a lot with partners across the State is the need to look at what that 2050 vision looks like. Our modeling can't do that, because modeling is based on data of things that have happened in this State. So obviously, we can't really model what it looks like to have an economy that doesn't rely on fossil fuel, what it looks like to have the type of green shift that we're hopping to see, but -- and there has been no real
consensus on what we're hoping to 2050 looks like.

And we don't see that in this plan still. I mean, we think that establishing that 2050 vision is really important, if we're going to be able to back-step and create meaningful interventions now that help us achieve those long-term goals. This can't be tweaking around the edges. As the Chair said earlier, we need to amplify what we've been doing, and accelerate what we think we're already doing to even greater degrees than has ever been done, and that requires a really strong vision that we're still missing in this plan and we'd like to work with you on creating over the next few months.

So with that, I'll turn it over to my colleague Mary Rose.

MS. TARUC: Hello. I'm going to attempt to summarize the EJAC recommendations in a few slides. --o0o--

MS. TARUC: And this is over dozens of meetings and thousands of people who have participated in the process and are from the most climate-vulnerable communities across the State, with experiences with what is causing climate change, as well as their hopes for what a climate plan can do for our most disadvantaged communities.

These recommendations are -- that I'm
highlighting today were identified as priority recommendations to still review from the draft that we saw, which was a December draft, because our EJAC meeting 2 weeks ago, the staff had not shown us the full draft of the scoping plan. So these were identified as priority recommendations for review.

And so we'll start with overarching. So our overarching recommendations, we want to be able to see a demonstration of neighborhood-level solutions. Again, what Eleanor was also emphasizing is that our communities want to see how these climate programs work. And for an emphasis on demonstrating those neighborhood levels solutions, instead of just policy and writing, it is important for us to really make this plan and implementation successful.

There are -- we want to see environmental justice equity analysis on the scoping plan in each of the sectors. Each time, including in the CEQA, we want to see an environmental justice analysis section. And right now, it doesn't have that. When staff go over the scenarios, there's not quite an environmental justice analysis. So we want to see that.

We want to see real metrics and data to ensure that actions are meeting our targets. We want to maximize job and economic benefits for Californians, including a
just transition fund for workers and communities, because we know that this transition and greenhouse gas reduction is going to create big changes in our economy and our communities. And we want to be able to experience also the benefits of that. And for those who will be out of work, we want to see a plan for those workers as they transition.

In the long term, we need to see fossil fuels stay in the ground. We are still seeing in the scoping plan, and different details, that there is -- there's still liken enhanced oil recovery and -- in a -- in one part or what -- it's like what -- we have a carbon budget, and we need to leave fossil fuels in the ground, and we need to reduce the fossil fuel use of our State.

We also want to ensure that the largest proportion of greenhouse gas reductions are in EJ communities, because that's where the facilities are, and we want to see the largest proportion of investments in our communities.

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MS. TARUC: Under industry -- and each of these -- I think the next sectors, I want to describe to you what we are experiencing on the ground.

So with industry, we see industrial pollution from stationary sources. So we have oil wells in our
communities, gas fields, oil refineries, power plants, manufacturing plants, shipyards. You see this -- this forest of smoke stacks in our communities. And the transportation of goods also emit toxic air pollution and greenhouse gases. And California, because of that, has had 6 out of the top 10 most air polluted cities last year through studies, and mostly because of the burning of these fossil fuels that cause climate change in transportation and industrial sectors.

And so the key EJAC recommendations here -- and I want to preface the -- so we see that the staff is recommending the cap-and-trade scenario to the Board already. And we think that's actually premature, because we have not seen staff address the environmental justice issues and problems that the -- the report -- the equity assessment report on cap and trade has pointed out from the California State University professors that have put out that report.

We also have not seen the data of -- of the impacts on environmental justice communities from cap and trade. And so it is again premature to recommend that cap and trade is the best way when we have not seen how the ARB and the staff and these programs are going to address those negative impacts that we are experiencing now.

And so with that, specifically the EJAC
recommendations, we want to prioritize emissions reductions in our communities, ensure that no emission increases happened there. So again, the localized increases in pollution, as the Cushing report has already pointed out, and what we want to hear and evaluate it from the OEHHA report need to be addressed, and that we need to see these reductions in EJ communities.

We want to see an aggressive reduction of emissions from the oil and gas sector. We want to see a 50 percent reduction by 2030. We want to ensure that the adaptive management tool that's supposed to protect our communities is adequate for real-time monitoring and intervention. We want workers and community members who live in these polluted areas to have access to economic stability and a just transition to the new clean economy.

We want to eliminate offsets. We want these reduction measures in California first before you export this program somewhere else. As we're seeing already from the Cushing report that over 80 percent of offsets are out of State and not happening in California.

We want to see agencies stop passing the buck. And we want you all to fix the problem, so that the coordination efforts are truly important among agencies. And we want to create a thorough -- we want to see you
create a thorough air quality monitoring system for both GHG criteria and toxic pollutants. So that was just industry.

(Laughter.)

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MS. TARUC: For energy and green building, so we -- we're doing a lot of work, and we're providing a lot of this insight and our best ideas for you all as well.

So around energy, green buildings, and water, what we see as a problem on the ground, and what we're experiencing, is that fossil fuels, crude oil, natural gas, some coal currently supplying most of our electrical energy needs, and are harmful to the health of fence-line communities, and our climate.

And many of these power plants are located in EJ communities. And so the EJAC recommendations that I want to highlight for you -- that we want to highlight for you today are that we want to prioritize the siting of the good clean renewable energy projects, grid storage, micro-grids, community choice aggregation projects within EJ communities.

We want to see you avoid and mitigate any increase in emissions from energy operations. We want to see carbon capture and sequestration for enhanced oil recovery not be certified for carbon credits. Because
again, that whole leaving fossil fuels in the ground should be primary.

    We want to see climate and energy investments serve entire disadvantaged communities and not just individual buildings or homes. We want to see you identify and implement and standardize metrics to track energy -- to track energy projects and economic co-benefits, and that our -- for CARB to work with other agencies to measure those.

    We want to see promotion of the development of community-driven clean energy projects that hire from our communities, prioritize community ownership, maximize cost savings, and prioritize anti-displacement strategies.

    We want to protect low-income households from energy spikes. I think why we have been looking into the revenues from a carbon tax or a cap and tax is that we want to see funds also be used to protect consumers from when energy prices rise, because we know that even with the social cost of carbon, the cost of carbon at $12 a ton right now is not capturing what it really costs. And when they raise the prices, we want to be able to use funds to protect households and consumers from those energy spikes.

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    MS. TARUC: Under transportation, what we see in our communities and the problems are that mobile sources
of pollution from cars, trucks, buses, rail, et cetera, are the biggest sources of pollution in California. People living next to freeways and ports, especially communities of color, are more likely to have increased exposure and health risks, including heart and lung problems, asthma, and increased death rates.

Key EJAC recommendations in this sector. We want to see an expansion of clean transportation options and access for disadvantaged communities through public transit, electric vehicles, including cars and trucks, and community-friendly land use.

We want to see through a robust community participation the ground-truthing of the actual impacts of program, planning, and implementation, and to conduct equity analysis on these.

SB 375 and the Sustainable Communities Strategy must be improved and strengthened. We want to see a dedication of funds towards helping less resourced communities as well as small businesses take advantage of clean transportation investment opportunities through technical assistance, ME&O, and outreach efforts.

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MS. TARUC: Under natural working lands, agriculture, and waste, what we experience on the ground is that industrial agriculture, where large dairies, oil
fields, and waste dumps are mostly sited where our families live. And especially in rural, environmental justice communities that cause multiple problems for us.

Key EJAC recommendations around this that were -- we want reviewed are:

We want to see a building of biomass and not burning it. We want to restrict waste-to-energy projects, because we know those new facilities -- where are you going to put those new facilities? Are you going to burden us more with these supposedly cleaner projects?

We want to see a critical element to land and waste management, that that is -- that critical element is actually soil regeneration through healthy soils and the Healthy Soils Program, and must include urban and community gardens with composting strategies.

We want to see you quantify potential local jobs created from regenerating forests, both urban and rural. And we want to see implementation of public outreach and education with the co-benefits of urban agroforestry, urban greening to create livable healthy communities.

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MS. TARUC: And lastly on the investments, what we've seen in our communities is historic economic disinvestment coupled with multiple pollution sources that have created huge burdens for low income communities and
communities of color.

Key recommendations here that we still want reviewed are we want an expansion of investment sources for environmental justice communities beyond -- with the greenhouse gas reduction funds and beyond. That greenhouse gas reduction fund projects must be transformative for disadvantaged communities in ways that they define themselves, and must never result in displacement, because that is not a benefit.

And we want to see funds gathered, through polluter fees, and be used for educational programs. Again, this is part of us being able to deliver, and invite, and excite community members across the State and around our climate programs. We want to see these educational programs for affected communities that include innovation and environmental literacy.

And for our last slides, I will turn to Martha Arguello.

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MS. ARGUELLO: Thank you to -- I want to thank the amazing team from EJAC, but also the Board and the staff who has supported the EJAC Committee. I want to talk again, because I'm a public health person, about these concepts of early warning systems. And what we're expecting in terms of the adaptive management plan, how we
should be -- how we hope staff will look at the report
that looked at what's happening with cap and trade. And
that we take these early warning seriously, and sort of
not see them as threats to the program, but ways that we
can actually make the program work and keep its promise to
not make things worse in environmental justice
communities.

So we have to include toxic air contaminants as
soon as possible. ARB should increase its collaboration
and communication with the local air districts, and really
begin to get that data, so that we don't have these large
data gaps.

And then the adaptive management plan
should -- should specifically -- specify potential
Cap-and-Trade Program evaluations that go beyond emissions
increases, because we need these systems to be able to
act.

And lastly, I, you know, really want to talk
about the importance of continuing -- I can't to do 2
things at once. Luckily, I'm not chewing gum too.

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MS. ARGUELLO: So I want to continue the good
public outreach that has happened with the plan. I can't
tell you how important those community outreach events
were. Several of the communities that went to the Los
Angeles one are now working on the Transformative Communities Plan.

And so I want to invite you again to look at the way we do public participation, and do it deeper, so that we actually have a collaboration, so that we can work with you around some of the tough -- the tough things, right, gentrification and displacement, really difficult. Our communities struggle with this. There isn't a place I go in our -- work in our communities, where this fear of displacement and gentrification does not get voiced.

And so -- and I spent a lot of time directly with impacted communities. So figuring this out is going to be important. I'm really glad that all the agencies were here. We hope that, at some point, we all sit down with EJAC to really figure out how to do these better.

The next thing is that we need a complete and full analysis of AB 197. We have, again, been a consistent voice on the need for direct emissions reductions. And the way to defend and protect and make sure that this program works is to show that people that live on the ground, that live fence-line to these facilities, that we're serious about climate change.

And that means that we're going to seriously -- we're going to be serious about reducing emissions at the sources, whether those are the oil drills that we're
working on or the refineries. If people do not breathe 
better soon, the program will fail, because you have -- 
you won't have people to support it.

We will only say we've worked on this for 10 
years and things are not getting better where we breathe, 
right? So those are direct -- we have to really make sure 
that those direct emissions reductions are focused, and 
visible, and breathable.

We want to incorporate the findings of the OEHHA 
report on AB 32 as quickly as possible. And we want to 
continue with the idea of having a flexible date for the 
final vote, because this information is so important. And 
again, I want to thank you. I also want to encourage that 
when -- that we continue the Environmental Justice 
Advisory Committee, because we think we have a lot to 
offer, and these partnerships have been really important 
to our communities in terms of having a voice and being 
able to shape policy.

Thank you.

CHAIR NICHOLS: Before you guys leave, hang on 
just a second, I think this is a time when Board members 
may want to engage a little bit with you with some 
questions. So before we move on to the next element, I 
just think there's -- you know, you're a big group, but 
you covered a lot of territory. So I know Supervisor
Serna wanted to ask you a question.

BOARD MEMBER SERNA: Great. Thank you, Chair.

And let me start by expressing my gratitude for all the hard work on -- that the EJAC has applied in the months leading up to today. And certainly in the months going forward, there's going to be -- there's going to continue to be a lot of effort I know that's applied and scrutiny that's applied to this process.

You've given us a lot to consider both in writing. I have read the detailed letter and appreciate the coordinated approach that you've used today to really outline where your concerns lie, and where you think there's improvement to be had.

I had some -- a particular pointed question that I'd like to ask Katie. And in the interests of full disclosure, Katie and I wear different hats and work together in a different capacity. She is a neighborhood activist here in Sacramento in the district that I represent as a county supervisor. So our paths cross quite often. And so that's the nature of my question.

You -- there was mention of neighborhood level solutions that EJAC is very interested in exploring what that should look like. Now, as you know, CalEnviroScreen gives us -- CalEnviroScreen 3.0, I guess at this point, gives us a particular level of geography across the State
to really try and work within a manageable geography. And that's based at the census tract level, as you know.

So I'm kind of curious to understand, especially since you and I, Katie, work on neighborhood issues quite often, social equity, and environmental issues quite often together, what is it that you think specifically - give me an example if you could or a couple - about how a neighborhood -- what a neighborhood solution might look like at the level of South Oak Park?

MS. GARCIA: Thank you for that very specific question.

(Laughter.)

MS. GARCIA: I also sit on the board for the South Oak Park Community Association, which is the community that's partially incorporated and unincorporated in the south part of Sacramento.

I think one specific solution is around transportation, right? Like we'd like to see -- we have built out roads in our communities. We're not planning -- talking about planning for new communities. It's how does planning address existing communities that have built along highly racialized land-use policies that excluded people of color for more affluent and more healthy parts of our communities.

So in South Oak Park, you see a part of a
community that's been built out with high capacity roads very close by, with high capacity freeways very close by. I think people in that community are very interested in how to make those roads more accessible for alternative uses, how to decrease road traffic on those, how to decrease the toxics that come out of the tailpipes of the road traffic that will inevitably come anyways.

So that's one specific solution in South Oak Park, because there is no real job or food opportunities within that community. While we continue to build that, how do we get people in and out of that community so they can access those opportunities is one particular example.

BOARD MEMBER SERNA: Okay. That's good. I'm glad to hear that. I would assume that the corollary to that too, in a more proactive sense, would be to expand public transit for instance.

MS. GARCIA: Um-hmm.

BOARD MEMBER SERNA: So that is something that I -- you know, and there are other local government representatives obviously that serve on this Board. I think it would be very helpful to, in the future, give us those examples. I mean, I know you're not going to scour every single neighborhood in the State of California. You're going to probably get close to it.

But I think understanding kind of the practical
solutions, the way the EJAC sees them would be -- at least for me, would be very helpful to understand that the closer we get to a final adoption of this plan, and how we think both with our State hats and our local hats on how that can be implemented.

MS. GARCIA: I'm glad you brought that up, because one of our requests was actually in these workshops we've had detailed notes taken of what communities have said. One of our specific requests was to have those full notes included as an appendix, so you and other people across the State could see specifically what folks said in San Diego, what folks said in Bakersfield, and Modesto that was specific to that context.

That hasn't been included in the scoping plan to date, but something we'd like to see and that we're going to continue adding to as we do additional workshops.

BOARD MEMBER SERNA: Great. Thank you very much.
CHAIR NICHOLS: Yes. Ms. Miller.
BOARD MEMBER MITCHELL: So one of the things that you mentioned is that you think the Sustainable Communities Strategy could be improved. And I'd like to hear a little bit more about that -- I know that in my area is Southern California Association of Governments -- which pretty much determines the Sustainable Communities
Strategy. And I think one of the keys would be involvement of your organization in those planning efforts.

But maybe you could elaborate on how you could -- how you'd like to see it improved and how we could work together to get there.

MS. GARCIA: Thank you. Many of us actually are involved in that SCS processes in our local jurisdictions. I think one specific way it could be improved is by setting stronger targets. ARB generally defers to MPOs for what the targets should be. Those MPOs are governed by local government officials who have different conflicts and things they need to consider in their own jurisdictions.

I think having ARB set a stronger regional target that had some sort of sub-target, right? Like you can get there and expand the Cap City Freeway in Sacramento, right? Like, that's counterproductive to what we're trying to incentivize.

So if there were VMT goals, if there were, you know, alternative mode shift goals towards biking, and carpooling, and walking to work or taking transit. Those submetrics that ARB has authority to apply when they're analyzing the methodology that MPOs use, not only to create the plan, but to justify how they're meeting the
targets to date, gives ARB the tools to work with those
jurisdictions to create more ambitious general plans and
implement more ambitious SCSs.

BOARD MEMBER MITCHELL: Okay. Thank you.
CHAIR NICHOLS: Thank you, Ms. Mitchell.
Yes, Mr. Gioia.

BOARD MEMBER GIOIA: First, thanks, everyone, for
all of your thoughtful work over a long period of time.
And I just want to highlight on one point. You raised an
issue that I know I've raised before in some previous
meetings about the importance of understanding health
impacts, cost and benefits, and incorporating that in a
more robust way.

I really believe that we should, going forward,
strengthen our economic analysis to include the benefit --
health and benefit -- health cost and health benefits.
And there's a specific acknowledgement in the appendix
that the economic analysis does not really include a
health element. And you do make reference in the scoping
plan itself to some health studies that are being done by
academic institutions.

I think that's good and that's important. But
we, as an agency, I think need to take leadership to
incorporate and quantify, right, the health benefits for
moving toward a cleaner economy, and better air quality,
as well as the costs associated with current fuel, and to incorporate that into the economic analysis. I mean, because traditionally economic analysis have been purely based on economic activity, economic output.

Environmental economists understand that you can quantify health costs and health benefits, and that we need to incorporate that into the economic analysis, not just often a separate chapter. I think when we -- having a separate chapter about health impacts is important. It's good, but we have to start incorporating it in some quantifiable way into an economic analysis.

So I'd like to see us do that in the next draft of our economic analysis. And so I'd like to hear about how we can do that. And I appreciate you highlighted that issue as well, and not just continually separate, and say, oh, we have economic issues over here and health issues over here. Well, health issues affect sort of economic activity and can be quantified.

Can we have a commitment that we can do that?

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: Supervisor Gioia, I can take that question. These kinds of analyses have mostly been retrospective, and we're not aware of some prospective studies that can be done here, but we have some ideas at the staff level about how we can take some of the forecasting information
that we got --

BOARD MEMBER GIOIA: Right.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: -- through the modeling. It's only on GHGs but we can make some assumptions about how that impacts our criteria on toxic pollutants. Recognizing that there's always uncertainty in any of these forecasts, we can try and translate that into health impacts that are avoided by taking action, and how that translates --

BOARD MEMBER GIOIA: Right.

INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: -- into the economics. So we're going to try and go back and see if we can pull this back together and use that.

BOARD MEMBER GIOIA: And even if you can quantify a range. It's -- obviously, it's hard to come up with real specific values, but to quantify range. And I know you indicate that, for example, there's the UCLA research to estimate improvements in health outcomes associated with AB 32. But all of these are like separate reports, and that -- again, that's goods. But how do we take the information from those separate reports and, you know, work to quantify them within the economic analysis? You know, the local air districts do that, to some extent, when we develop new rules. And I realize

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that when new rules are developed coming out of this plan, there will be further economic analysis and further health impact discussions. But it would be nice to have that in the scoping plan for the broader strategies.

   It can't be as -- you know, maybe as exact. It can be more of a range. But that's what we also do when we're looking at rule development, and quantify, you know, savings to the health care system, and similar kinds of factors.

   So do I hear we're going to be able to do that?

   INDUSTRIAL STRATEGIES ASSISTANT DIVISION CHIEF SAHOTA: We're going to try and do that. And the nice thing about this scoping plan is that it builds on plans like the Mobile Source Strategy, where we actually have some specific analyses that are more focused than what we would do in a scoping plan on mobile source measures.

   And so looking at these plans, we're going to try and figure out if we can tease out the air quality benefits that are forecasted in those plans, and pull those together in a concept of the scoping plan, where you pull all the plans together, and look at what that range of benefits is in 2030.

   So we are committing to trying to do that and trying to do our best. And we'll probably have to caveat it with the uncertainty, the ranges, et cetera.
BOARD MEMBER GIOIA: Right. The other thing that you identified, and I'd like to hear you talk more about it, is the Just Transition Fund, because, I mean, I think all too often, you know, we think of benefits to communities. And I live in Richmond. I represent Richmond. And many -- and there are neighborhoods in the community I represent that are disadvantaged, right? Go Richmond.

(Laughter.)

BOARD MEMBER GIOIA: And so we see, right, all too often projects that can be beneficial for a community, whether it's a clean energy project, but we don't often see associated with it the investment in people to be able to participate and be part of the benefit of those projects, whether it's a -- so I'm really relating here a lot from residents about, right, the need for training to be able to have this just transition.

So -- you know, so it's not just a bricks and mortars project that is being funded, but it's a people project. So talk a bit about some of your ideas on that.

MS. ARGUELLO: Well, I mean, I think it's a people project -- it's people projects. In the toxics world, we often talk about sort of one of the problems is that we have an innovation gap, and a safety gap. And I think that's applicable here when you're talking about a
just transition, right? So a clean energy project may be
good --

BOARD MEMBER GIOIA: Right.

MS. ARGUELLO: -- but it still has -- it will
still -- it's -- you know, it may still have lots of
impact. So I think the funding is really --

BOARD MEMBER GIOIA: Or the folks in the
community aren't getting the training to be able to take
the job that may -- you know, the skills required for it.

MS. ARGUELLO: Until you have -- right. So the
idea of community partnerships to establish, well, what
does this community need? It may not need an energy
producer. It may need a day care facility. It may need
something else. And I think figuring out how to support
that kind of economic development is one part, so that we
have a growing economy that isn't based on fossil fuel or
consumer products. And then you should talk about the...

MS. TARUC: Sure, just to add to Martha's
comment. So we had labor unions participate in the
community workshops as well. And we want to be able to
have this coordination and aligned thinking with workers
either in these facilities or workers who are in low-wage
jobs in our communities, and what about them in the
economic opportunity and the new economic engine under
this 2030 scoping plan.
And so we thought that a Just Transition's framework and a fund would actually help us continue that dialogue with workers and community members. And also one of the things around the greenhouse gas reduction fund is it's primarily for mitigation. And so when we have all of these green jobs, ideas for how to use climate investments, the greenhouse gas reduction funds won't allow us to do that.

And so what is it that we need to also establish on top of these mitigation funds for workers that we -- so again, the revenue, whether it's from a carbon tax, a cap and trade, or other carbon fees that we can also use that for workers and communities for a just transition.

BOARD MEMBER GIOIA: Thank you. Yeah, I'd love to see how we could -- I understand why the legislature identifies the categories for the funding cap and -- you know, the revenue from cap and trade, that we can incorporate into the scoping plan the importance and the need for something that goes beyond just bricks and mortars projects, but that is more of a sort of a people just transition fund, and establishing the nexus and why that's important, and establish the foundation for that in the scoping plan, which would help with the legislature creating that category.

Thanks.
Thank you.

CHAIR NICHOLS: Ms. Takvorian. Oh, sorry, were you planning to respond?

No. Okay. Go ahead.

BOARD MEMBER TAKVORIAN: Did I interrupt you, someone?

No. Okay.

So thank you. I just wanted to follow up on a couple of things. I mean, one was the public health analysis. I had the opportunity to meet with Dr. Linda Rudolph who's now with the Public Health Institute and who was previously with the California Department of Health, and who helped to do a previous analysis in the AB 32 scoping plan. She offered to help with, not doing the analysis, but connecting staff to folks who could do the analysis in a timely way. I think it corresponds with what you've asked for, Supervisor Gioia.

And the other thing I wanted to follow up on, because Ms. Mitchell also asked about this, was the SB 375 and VMT reduction. I -- and I'm glad the agencies are still here. I have to say that for me this is one of the areas where I'm pretty confused. It's -- there's a clear consensus in the report. There seems to be a clear consensus from the agencies. There's a long section on it, from the EJAC. And yet, there are really no specific
targets provided in the plan. And at nearly 40 percent of
the GHG emissions, I have trouble understanding how we get
to a complete scoping plan without actually identifying
what the targets are for the regions through the MPOs. So
that -- I would love your thoughts on that anyone from
EJAC, as well as staff responsiveness.

The best I can see for transit mode share is
between 10 and 50 percent. That seems a little too broad
from my perspective. I think we've got to drill down,
given that we have much more specific metrics in other
areas. So I wonder if you can share your thoughts on
that.

MS. GARCIA: Yeah, I think in addition to not
having the targets, which I do find troubling, you don't
have within the scoping plan there's this whole like land
use, conservation metric that staff refers to and says the
they're working on developing.

So it doesn't look like across the board that
we've really quantified the impact of making smarter
land-use decisions, and incentivizing smarter
transportation investments in our scoping plan. And as
I -- as we speak, I mean, I was just hearing Caltrans 2
nights ago talking about expanding the Capital City
Freeway here in Sacramento significantly.

And it says, okay, so how does this work when we
know that you have SB 375 and we know we have this scoping plan. So I don't feel like it's enforceable as it's written right now under the current plan.

CHAIR NICHOLS: Okay.

DEPUTY EXECUTIVE OFFICER KARPEROS: If I could take a moment to respond?

CHAIR NICHOLS: Excuse me?

DEPUTY EXECUTIVE OFFICER KARPEROS: If I could take a moment to respond to Ms. Takvorian.

CHAIR NICHOLS: Oh, yes, sorry. Couldn't tell where the voice was coming from.

DEPUTY EXECUTIVE OFFICER KARPEROS: Down here. I'm over here.

(Laughter.)

CHAIR NICHOLS: Hi. Thank you, Mr. Karperos.

DEPUTY EXECUTIVE OFFICER KARPEROS: I'm sorry.

CHAIR NICHOLS: That's okay.

DEPUTY EXECUTIVE OFFICER KARPEROS: The -- as was referred to in the staff report, the quantification for what we see as the sort of vehicle activity changes needed to support the scoping plan was mapped out in the development of the Mobile Source Strategy.

And that translates -- just to use the number, that translates to about a 7 and a half percent reduction in VMT from the current baseline. And the current
baseline includes the existing SCSs.

We've been clear in communicating that number with the MPOs, that from ARB staff's perspective that's the long-range target that we're looking for, and we need to start to think about that number from the top down.

Under 375, the MPOs are authorized to also do their own analysis and recommend to the Air Resources Board what they believe the targets ought to be. That process is under -- is underway now. To be perfectly frank, we're frustrated in the amount of time that it has taken for the MPOs to provide that number. They are wrapping up their analysis, so we should be able to have that shortly.

We do have scheduled for you in March -- for the Board meeting in March actually a review of what -- the recommendations that we're getting from the MPOs, and a comparison to that from what we see as needed from the top down perspective. So we'll have that information as we move forward with the development of the scoping -- and your action on the scoping plan.

BOARD MEMBER TAKVORIAN: Okay. Well, I appreciate that update. I guess I want to say, as pointedly as I can, that if we don't have that, I don't see how we complete the scoping plan. And I don't want to be yet another source of pressure, but that's what we're
And I think that it's so critical. And actually, I think we can use our need to really move forward on the scoping plan to really ask the MPO process -- the MPOs and the process to really move forward in a way that we really need it to. So I really don't want to be up here in April saying, you know, this isn't good enough, because that hasn't been done yet, and it's this big gaping hole.

And the last thing I would say is ARB is so amazing on mobile sources. We need that kind of commitment on transportation infrastructure and on transit on accessible, affordable transportation. And that's going to benefit disadvantaged communities so enormously, and it gets to the benefits that we need to quantify. If you can't get to a better job, you life doesn't get better. If you're stuck being able to walk, because you can get to transit, you -- your opportunities are really limited.

So this is a transformative kind of process that I'm really proud that we're part of. And I really want to see it go farther. So thanks very much.

DEPUTY EXECUTIVE OFFICER KARPEROS: I appreciate that direction. I'll be meeting with the executive directors of the largest MPOs next week, and I'll carry that message forward.
BOARD MEMBER TAKVORIAN: Good luck.

CHAIR NICHOLS: Okay. I think there's a lot here to discuss, and obviously a lot of work ahead. I want to again express our appreciation to the EJAC for your incredible work so far, and the work that's ahead of you. Oh, one more. Sorry. You were -- I wasn't looking to the other side.

BOARD MEMBER FLOREZ: Sorry, one more.

CHAIR NICHOLS: Go ahead.

BOARD MEMBER FLOREZ: One more. Thank you Madam Chair.

CHAIR NICHOLS: Senator.

BOARD MEMBER FLOREZ: You know just for the group, I just want to get some -- one of you or all of you, are you okay with what the Chair laid out in terms of timeframe today?

MS. GARCIA: So, no.

(Laughter.)

MS. GARCIA: I'm sorry to say that. I mean, there is -- I see no foreseeable path by which we can meaningfully consult our communities and come forward with additional recommendation with staff trying to complete a plan in March. I don't -- I see that as incompatible and almost wasting staff's time. Because if we do come forward with something transformative, and it's like, oh,
my gosh, great idea, they're just going to go back and
start over again. So it doesn't seem like a smart process
for me. I'd like to see us at least wait until the summer
and tell staff that we can at least wait until the summer.

BOARD MEMBER FLOREZ: Yeah. And the reason I
ask -- I don't know if this mic is on or not. But the
reason I ask is that we -- you know, at some point, the
Board needs to consider a policy that allows us to come
back with things that -- in some sense, where we have more
information, I think is what you are were saying, we're
able to come back and revisit.

I know we do this on regs. I know we do this in
some sense. But I think we should have -- there's always
an uncomfort here where we -- we extend here from a Board
perspective 15 days, 60 days, 90 days. And, you know, no
one ever asks the question, I think, publicly whether
you're satisfied with that. And I think -- privately, I
think the answer always is no, because there's never
enough information to allow you to do the analysis, do
injure job, I mean, I think is the -- and I agree with
that.

I think we're always going to have new things
come up, and I think we're always going to have closure
and deadlines and things of that sort, but I don't think
there's really a process for the Board to come back at
some point and actually say, if something of significance is truly there, we have an ability to come back and really solve it.

You know, I think Martha mentioned the adaptive management plan a little earlier. I mean, that's an ongoing transformative thing. And I think we're going to find things out even after some of the deadlines are passed. So I -- you know, I would like to ask the -- with the Chair's forbearance, with the Chair and the -- our Executive Director try to -- try to come back maybe next meeting as well, thinking about what that process might look like, so that we don't, in essence, have like some deadline that you feel uncomfortable with that closes and we can't come back with more information that would have informed us in a different direction.

So, you know, I think we're going to continue to argue about deadlines, and, you know, is this enough time or not? And I think from the EJ community, and I think even from our side of the dais, no one is ever pleased, because it seems like no deadline is ever good enough, or long enough, or there's never going to be enough information.

So, you know, I'd like to ask Mr. Corey if the Chair would allow us to at least think about, you know, what the might look like, so that you feel in some comfort
when we get new information. So I don't know if that's, you know, of value, but I do think more time is good. I definitely want to thank, you know, the Chair for allowing more time. I think it's a great process. I think that's positive, but I still think we're going to get to that point in time where we get more time, and within a couple of weeks you're going to say, rightfully so, we still don't have the necessary information for that deadline either.

So, you know, maybe the Board should be thinking about a different metric, and that is how do we clawback information when new information is available and actually try to figure out how to do something that makes everyone feel better, that things aren't closed and you missed something that would have been very vital? So that's my first comment.

CHAIR NICHOLS: So, if I may, I know you directed your question at Mr. Corey, but I'd like to jump in before I turn to him to answer.

BOARD MEMBER FLOREZ: Please. No, I actually said through the Chair as well, so, you know --

CHAIR NICHOLS: Thank you. So, thank you.

So I agree. My opening comments were maybe a little bit short in terms of what I had in mind, other than to say that I didn't want to make a ruling on the
request that had come in for 6 weeks, because I thought 6
weeks was arbitrary also.

In terms of how we think about this problem, the
scoping plan is different, in some respects, from other
plans, for one thing because it doesn't sit on a shelf.
It gets used very regularly as guidance for action that
the Board is taking. And so it is -- it's required to be
updated frequently, and it is referred to frequently, not
just by people out in the communities, but by the ARB
itself as it designs its work.

And so it is in that sense a living document that
has to constantly be available and open to being updated.
At the same time, there also has to be some finality in
terms of versions. Maybe, we have additions like
software, you know, 2.0, and 3.0, and then we could also
have 3.1 or whatever, because there will be a need for
additions and changes as -- I know that's what you're
thinking and I agree with you.

So how we manage to balance those 2 things to
give enough sense of direction and clarity, so that that
people don't say, well, they're working on another update,
so let's not do anything yet, because another update is
just around the corner, versus the desire to make sure
that we are, in fact, capable. And I know that this is
what the EJAC is worried about, that if the bomb shell,
you know, arrives, we're somehow going to not be able to
cope with it or we'll take 2 years to adjust to it.

Neither of -- you know, that's just not
acceptable, and I agree with that. So I want to support
your suggestion that we ask staff to recommend a process
by which we can incorporate new data, while at the same
time producing a document which is capable of being acted
upon, because we do have to have both of those things, I
think. If that's clear enough as a direction in terms of
what we're -- what we're looking for, then all you have to
do is produce it.

(Laughter.)

EXECUTIVE OFFICER COREY: Of course.

(Laughter.)

EXECUTIVE OFFICER COREY: SO as part of the
February report back to the Board, we'll incorporate this
part of the discussion. So when the Board ultimately acts
on the scoping plan, it recognizes a fact here that we all
know. There's going to be additional information. There
will be additional studies. Science evolves, and it's how
does that information relate to the Board, how is it
identified as really significant, and what are the options
available to the Board, which are vast, but we'll talk
about that.

BOARD MEMBER FLOREZ: Thank you, Madam Chair.
I just have a last question not related to this.

CHAIR NICHOLS: Sure. Okay.

BOARD MEMBER FLOREZ: So maybe just to Mary Rose. In the presentation of the scoping plan, and in your presentation as a group, where are we on offsets? I didn't see it, and I didn't kind of --

MS. TARUC: It actually --

BOARD MEMBER FLOREZ: Can you give us a little summary on that, please. Okay.

MS. TARUC: We are still opposed to offsets. It was actually in the slides. We are hearing from staff that they would consider eliminating offsets. We want to keep going in that direction. We want to see, again, the emissions reductions in our communities and in California first, because what the CEJA Cushing report shows is that over 80 percent of offsets are out of this -- out of State. And so when we talk -- when we're looking at greenhouse gas reductions, there -- those offsets, those millions of offsets are outside of California.

And so if there is a correlation -- we know there's a correlation between greenhouse gases and criteria and toxic pollutants, that we want to see those GHG reductions with those co-pollutants in California, in EJ communities. And it's part of our priority recommendations.
Thank you.

BOARD MEMBER FLOREZ: Thank you.

CHAIR NICHOLS: Okay.

BOARD MEMBER MITCHELL: Madam Chair, I have a follow-up question that. Pardon me.

CHAIR NICHOLS: Okay. Go ahead. I'm wanting to give the court reporter a break and to talk about our timing, so I do want to wrap this part up, but go ahead.

Ms. Mitchell, yes.

BOARD MEMBER MITCHELL: I just wanted to ask, because I know that a lot of the offsets are outside of California, because if it's regulated within California, it can't be an offset.

But part of the plan is this new look at dairy digesters and that whole idea of reducing short-lived climate pollutants. Could those ever be used as offsets or are they considered already regulated?

DEPUTY EXECUTIVE OFFICER CHANG: So there is an offset protocol for dairy digesters. And there are projects that happen within California and projects that are outside California that are covered by that program. As part of the 1383 program to look at reducing short-lived climate pollutants, the legislation does call for us to regulate as fairly far out into the future.

What we're going to be working on in the next few
years in collaboration with CDFA and with the dairy industry is getting pilot projects out there working to eliminate some of the obstacles that some of those projects have experienced in California. So we would expect to see more of those kinds of projects, as we're working on technical feasibility, economic feasibility, understanding the dairy industry, as we're, you know, preparing for what a regulatory structure would look like. So we would expect to see more opportunities for those kinds of projects in California.

MS. TARUC: Can I add that the EJAC members who are from the Central Valley, who live next to these large dairies are opposed to using those projects as climate -- as climate programs, because it takes into -- the problem that we see is that the dairies are a problem source for our communities. And to accept that they are going to continue and we just capture their emissions and turn it into fuel is not acceptable to our communities, because it does not change the problem that exists with dairies and school children living next to them. So we have critical concern about those dairy methane climate programs.

BOARD MEMBER MITCHELL: Okay. Thank you. That's helpful.

VICE CHAIR BERG: No. I was just going to jump in for you and start the discussion. And now you're here.
CHAIR NICHOLS: Do you want to speak?

Dr. Sherriffs.

BOARD MEMBER SHERRIFFS: Yeah. No, I have to speak to health. And just to reiterate the comments earlier about measuring health, how important that is, both because it is a significant cost of carbon, and also because the comments earlier about needing to demonstrate to communities, because this is really about prevention. And prevention is a very hard sell.

You know, I see a case of pertussis in the office, and I understand how it was prevented in the parents who chose to immunize their children. But many of those parents are still questioning, gee, was it the right decision to immunize my child?

And so it's so important when we're dealing with something that won't happen. We need to be sure that we, as best we can, understanding the parameters are going to be broad, but that estimate is very helpful to demonstrating to communities the value of this work.

Thank you.

CHAIR NICHOLS: One of the blessings, and also the problems, of having a large Board is that we've got a lot of people here who know a lot, and think a lot, and actually have a lot to contribute to this discussion. We need to have a workshop for the Board actually to talk
about some of these issues in front of the public -- I mean, in public.

I am increasingly seen -- I don't want to be managing, you know, 3-minute increments or less for my Board members here either. These are some deep issues that are being raised here, some of which we may agree about, some of which we may actually disagree about, and we need to talk about why and how we do disagree, if we do, and what we're going to do about that, so -- because ultimately we do have the responsibility for making the decisions.

It has been made more difficult by the fact that the EJAC is a Committee which is subject to the public meeting laws. And while I don't think we're afraid to talk in public, there are times when it would be really good to be able to have a meeting where we could just all kick-off our shoes -- in my case at least, that's an important element --

(Laughter.)

CHAIR NICHOLS: -- and have a conversation that was a little more informal than what we get to have here.

So I want to suggest that sometime between now and March, maybe even between now and the February meeting or in connection with the February meeting, that we try to convene such a gathering. It doesn't have to be
mandatory. Although, I suspect everyone would want to attend. And I realize that scheduling therefore is going to be very difficult.

But I do think it would be a good thing to do. I'm seeing some good looking faces and thumbs up around here. So I'm thinking maybe I'm capturing a good vibe. Okay.

So, to staff, let's try to make this happen. We'll isolate the issues that were raised. Primarily, I think that suggestion template that Mary Rose used is probably a good organizing outline to build the discussion around, but we may want to add some other elements to it as well. So that's enough for that.

What I want to do now is point out that it's almost noon. It will be noon probably by the time I finish my sentence, and we have one more invited speaker who, all by himself, Jim Bushnell -- James Bushnell from UC Davis is going to represent -- is going to speak to us about the economic aspects of the soaping plan, and -- which is an extremely important issue for us. And at some point, we're going to take a lunch break.

My suggestion is this that we try to take a 5-minute comfort break for all, and get back here, and then go until 1:00 with Mr. Bushnell, and also the -- beginning with our list of 37 people who've signed up to
come and speak to us here, and then we just proceed on that basis.

Okay. So we will break now and we'll get back in 5 minutes.

(Off record: 11:58 a.m.)
(Thereupon a recess was taken.)
(On record: 12:04 p.m.)

CHAIR NICHOLS: If this Board will please come to order.

Ladies and gentlemen, please take your seats.

Five minutes goes by really fast. But we're all still here, and everybody has had a little bit of a stretch break anyway. So our next speaker this morning, before we start the list of public witnesses, we're going to hear from Dr. Jim Bushnell from UC Davis. He is in the Department of Economics, and he's one of our economic reviewers.

So if Professor Bushnell can make his way to the podium, a podium. There you go. Hi.

DR. BUSHNELL: Thank you. Hello. Okay. I'll try to make this quick, because it sounds like there's a big back-up. So I am part of a group of economic reviewers of the scoping plan. So we're going to switch gears a little bit and talk about the economic analysis of the scoping plan.
(Thereupon an overhead presentation was presented as follows.)

DR. BUSHNELL: I have a couple slides. I don't really need them, but I learned that the indirect benefit is I don't have to stare at myself on the big screen when I do this thing.

(Laughter.)

DR. BUSHNELL: So as was pointed out, the analysis is quite new. We haven't, you know, looked under the hood a whole lot. And so these are qualitative impressions that I think you can take in the spirit of important things to consider when kind of consuming the economic analysis or trying to interpret the economic analysis. And I have 4 sort of main points.

--o0o--

DR. BUSHNELL: The first is kind of reiterating the punch line of the analysis, which is that the scoping plan measures, or the policies at large, should have, or are shown to in the modeling, to have a modest impact on the California macroeconomy, GSP, and other sort of macroeconomic indicators. And that's if everything goes as expected, which in model speak means that if the assumptions going into the model actually turn out to be accurate, and shown to be reasonable representations of what the costs turn out to be.
And so that's going to an important qualifier I'm going to get to. I think the intuition behind this -- so it's a pretty robust kind of result, in the sense that -- and I've done two of these now. I've -- many of us were around 10 years ago trying to look at the last economic analysis of the last scoping -- big scoping plan exercise. And the intuition I've developed is just that California's macroeconomy is just not real energy intensive or carbon intensive. And so policies that raise within reason the costs of energy or carbon, especially if those are raising revenue that gets recycled back into the economy, just aren't going to have a big impact in moving. They could be slightly positive, slightly negative, but they're not going to have a big impact. And so that kind of leads to the second point though, which is for costs that are within kind of reason, as estimated by the model, we shouldn't expect a big impact. But within the scoping plan alternative measures, I think the modeling falls short in trying to capture the effects of uncertainty. And it's important to recognize that the -- there are big differences in how each of these alternatives would deal with uncertainty, in terms of unexpected costs, or maybe certain program assumptions are much less effective than what we assumed. And so when we look at numbers that kind of came
out earlier, comparing the old Alternative 1 to say the, what is now called, the proposed strategy, one can look at those expected numbers, but one needs to realize that if we have surprises that certain types of programs, like cap and trade or a carbon tax, are better equipped to deal with those uncertainties from an economic perspective than programs that are sort of rigidly going to adhere to certain types of activities, even if they are shown to be much more expensive than other alternatives, as we learn more about technologies about how things are effective.

And there are a lot of uncertainties behind these models. There's a lot of assumptions going into the model. I can't even pretend to say that I understand all of them. But we do know there's a lot of important, you know, and really impactful assumptions underlaying a lot of this.

I'll add it's not just an economic cost issue here. If we have surprisingly high costs that emerge during a rulemaking process, where we're trying to really flesh out the details of a regulation of one of these kind of actions identified in the plan, you know, these -- these activities may turn out to be much less effective in terms of environmental mitigation or much more costly, and maybe not adopted at all. Without the cap-and-trade structure or some other similar structure to back-up those
unexpected, ineffective outcomes, we don't have a quick
way to substitute some alternative in there. And so it's
an emissions certainty, insurance, as well as a cost-based
issue.

The other, sort of related point, is that the
models don't really deal with leakage particularly well.
It's not a focus of the modeling exercise. It's an
economic model. And the different alternatives identified
in the current iteration of the scoping plan deal with
leakage in very different ways, as was sort of raised
earlier on. The cap-and-trade mechanism has evolved a lot
of -- a lot of mechanisms for dealing with mitigating
trying to prevent leakage.

Some of the other alternatives, certainly the one
without any cap and trade, cap and tax perhaps. There
isn't an obvious analogous mechanism for trying to prevent
leakage. At best, we'd be starting from square one trying
to think of what those equivalents would be. And at
worse, there just isn't a way to sort of deal with leakage
in the same -- with the same level of effectiveness.

And then the last point is just that this is more
an economic wonky point, that there are costs in there.
It's a type of model that deals with the technology costs
of adopting different strategies. So we -- energy
efficiency -- or any technology in which you're making a
capital investment, and it's saving expenses in terms of fuel, energy, expenses.

Those are the type of things that go into the accounting of these models. And if you look at the sort of details, there's going to be measures with negative costs, because the capital cost savings -- or the capital cost expenditures are smaller than the fuel savings that you get out of them.

All economists sort of at least do a little double take when they see anything with those kind of negative costs, and you have to just dig a little deeper and ask why that is. And often there are barriers, there are behavioral barriers, economic barriers, there's something that's preventing those investments being made.

And the tech-economic models don't represent the costs of overcoming those barriers. You could call them program costs or implementation costs, incentive costs. Those are just not represented in the type of accounting that goes into these types of exercises. So that's going to have somewhat of an effect on some measures.

I think across different types of alternatives that that effect will be bigger or smaller based on, you know, how much they are rely on those types of measures.

--o0o--

DR. BUSHNELL: All right. So to summarize, I
just want to say the primary strength of the, what we call, market-based environmental mechanisms, cap and trade and carbon taxes, is their ability to adjust to surprises. And when certain types of strategies turn out to be much less effective than we thought, then within the cap and trade mechanism, it's automatically switched -- it's automatically switched to some other effective measure or an alternative measure. That happens endogenously or sort of automatically within a cap-and-trade program.

This advantage, which is kind of the fundamental advantage of cap and trade is not captured in these models, because the models are making assumptions about what -- what the future will look like. There's a couple sort of sensitivities thrown at it. But if the world doesn't look like one of those 3 choices of the sensitivity, the fact that some alternatives really react better to the unknown than others is very hard to quantify. It's very hard to model something that we don't know up ahead of time.

And the last point, which I just have to make for my economist colleagues who are somewhat dogmatic about carbon taxes. So the -- a lot of the points I've been making would apply to a carbon tax as well as a cap and trade, the ability to adjust to uncertainty, the ability to sort of backfill measures that turn out to not be as
effective as one might have expected, when putting a plan together.

However, in this particular context, I think what I'll call legacy factors, the fact that we've already gone through ten plus years of rulemaking and tweaking the Cap-and-Trade Program to try to deal with a really broad set of diverse, you know, constituency interests, and trying to balance those things, that's created what some think is a very unwieldy sort of ugly mechanism. But that's often compared to some idealized version of an alternative like a carbon tax that people argue is much simpler, but hasn't gone through the same sort of rigorous kind of stakeholder process that would inevitably have to happen.

So I think the comparisons are often between the kind of warts that we have and the mechanism that's survived all of this against some idealized, and perhaps unrealistically, streamlined kind of alternative.

The other legacy element that's important to point out is that we have regional partners. We heard from one who wants to be a regional partner at the beginning here. We have others that we're currently trading with. And at least on the carbon side, the whole kind of basis for defining success is being able to export our models, our practices to other parts of the world.
And there is momentum happening now in the cap-and-trade world, looking like that will happen. We have Ontario wanting to join. We have Oregon sort of considering a very similar type of program that should be a good fit. Even Washington state has variations that maybe could fit.

And so I fear that switching to some other dramatically different mechanism is going to really forestall that type of progress with external partnerships and external really reductions happening outside of California.

One last point I'll make, sort of apropos, the earlier discussion about timing is that the cap-and-trade system can exist with new -- newly developed complementary measures. We've done this several times, where we've had a cap-and-trade system and introduced new measures as we've learned about new alternatives that we could try. And so it's not that adopting a cap-and-trade system forecloses the option of trying to do other specific targeted measures.

However, I don't think it goes the other way. If we got rid of the cap-and-trade system, it would be quite a chore to try to bring it back, if we eventually had regret about that choice. I don't know how the markets would think about the reliability of it, and all sorts of
other, you know, issues having to do with interjurisdictional sort of resolutions.

And so there is an optionality here that I think hasn't really been considered, either quantitatively or qualitatively that I just wanted to end with.

So that's all I have to say. Thanks.

CHAIR NICHOLS: You can't just leave without asking --

DR. BUSHNELL: All right.

CHAIR NICHOLS: -- answering some questions, if you don't mind.

First of all, this is --

DR. BUSHNELL: I was trying to get right to lunch.

CHAIR NICHOLS: -- possibly the first time I've ever heard a presentation by an economist that didn't include a graph. Are you sure --

(Laughter.)

CHAIR NICHOLS: Are you sure you're actually an economist?

(Laughter.)

CHAIR NICHOLS: Secondly, in all seriousness, thank you very much for coming and particularly for giving us some clarity about your views, and, you know, what can and what can't be demonstrated with existing models.
However, I am frustrated, I guess is the simplest way to say it, by the fact that we've been here before. This is pretty much where we were when we adopted the first scoping plan in terms of -- except that we don't have a legacy to build on. We -- then we were just hearing the theoretical reasons why a quote, "well-designed", unquote Cap-and-Trade Program, which was always being referred to by people who had never designed a Cap-and-Trade Program and had no idea, you know, what it was going to actually take. Several years later, we now have, what we think is, a well designed Cap-and-Trade Program, and it is working. And there's reasons why therefore there'd be costs associated with making a shift. But we still don't have the ability to capture, in any kind of models that seem to be available to us, at least some of the elements that we are intuitively claiming - and I guess we have some evidence to support this - have accrued -- some of the things that have benefited California from the Cap-and-Trade Program, such as the investments that have occurred in new technologies, or the fact that as people comply with the need to either reduce their emissions or buy allowances, they do things that make their facilities more efficient, so they don't have to go out and buy allowances.
All of those things don't seem to be able to actually be looked at in a quantitative manner. And I'm wondering if we have failed, in some way, to, you know, do the kind of research that needs to be done, whether there's a way to get that kind of research done, so that we'd have a better basis to use economics in decision making. I just -- that's kind of an open-ended question, but I would welcome your comments.

DR. BUSHNELL: Sure. And, you know, there's a lot of -- a lot of people ask me, and I'm sure they ask you, what has cap and trade accomplished?

And I realized, having those discussions, that there is a bit of an image articulation problem with cap-and-trade, in the sense that directed programs, you know, a program that gives tax rebates for electric vehicles, you can count how many vehicles that results in. You have to do some more fancy stuff to try to figure out what it's displacing, but there is a tangible sort of narrative you can tell with a lot of these prescriptive measures that is by design sort of not present with cap and trade.

So we're pretty sure there are people who've seen that even $12 carbon price, and made investment choices done -- you know, changed their consumption, done things that reduced their emissions profile in response to this
carbon price. But we don't need to measure that. We measure the emissions. We don't measure the activity that does reductions through the Cap-and-Trade Program.

So trying to turn that around into a report ready kind of narrative that measures those things is more challenging. I think you have to do some more detailed kind of comparison to other places, what would have happened, you know, how does Nevada look compared to California if we try to control for the other differences?

You know, it's getting into more Ph.D. E's kind of econ analysis, that I think is -- hurts cap and trade as a mechanism, and carbon taxes too, in the sense that there isn't this sort of tangible kind of points you can point to. You mentioned the investments, which are things that have been counted, and I believe there are reports that tried to identify them. They're a bit piecemeal. I don't know if they've been aggregated in a way that sort of tries to sum all those things together.

But at least those are -- those investments are things that we can count. But the activity itself is something that we should do more to try to measure, but isn't required as part of the regulation itself, and so that's why it hasn't been prioritized.

CHAIR NICHOLS: Other questions or comments?

VICE CHAIR BERG: Yeah. I would like to just
follow up on Chair Nichols. Thank you, Jim, for such a thorough report. When you look at 10 years ago and we have the same concerns, the same concerns on the modeling, on the assumptions – as you stated we had no legacy to fall back on, but as you look at 10 years ago today, what were some of the assumptions, not specifically, but your sense of how we handled the assumptions going in, were we able to make the changes over the last 10 years? Because looking back, we have a great success story. And looking forward, we have even greater reductions and more things to do, but how can we get a sense that it might not be as forlorning as it feels.

DR. BUSHNELL: I wish I had a great answer to that question. I do think that -- and actually in the process of discussing with staff about how to think about this study, you know, it kind of comes up. We'd like to see more retrospective analysis. This is what economists are actually better at is sort of looking backward program evaluation, and understand how some of these programs really have worked or not worked, because we're feeding strong assumptions about how well they will work into the next round of simulation. And it would be nice to know whether those assumptions have any evidence sort of supporting them. And I do think connecting those dots is still something that we need to do a lot more work on.
So that said, I think one thing we've learned is that there -- I mean, we kind of knew this, but we've learned it sort of -- we've lived it, is that there is a lot of uncertainty about a lot of aspects of our carbon -- of the economy, of carbon, and of abatement strategies. And we have experienced less robust growth in emissions than we expected.

And that keeps the carbon price lower than we expected. And it's sort of interesting to walk through the reactions to that. There are people who are sort of frustrated that we're not raising more money from cap and trade. But that's a result of the fact that we don't have as much carbon emissions as we thought we would. And so that's not necessarily a failure. You know, we haven't had as much aggressive abatement activity maybe because we haven't had as much emissions as we thought. Is that a failure now to sort of -- that's kind of part of how one should think about cap-and-trade and it's part of how one should think about things like where the floor price should be and where the ceiling price should be on a cap and trade mechanism.

I often say the best thing we did with the cap and trade mechanism was have that floor price. We have the highest carbon price in the world and it's because we had the highest floor price in the world. And so in the
face of uncertainty, those things were really important.

VICE CHAIR BERG: I appreciate your perspective on that, because what I am hearing is that we were able to look at these assumptions and be able to work with them through the last 10 years, so we're on pretty solid footing to be able to go forward, understanding there's still great uncertainty. But going to the devil we don't know would be great uncertainty as well.

And so trying to weigh these various scenarios, really keeping all of these things in font of us will be really important.

DR. BUSHNELL: Right. I would agree with that. And I think there's still work that could be done to try to quantify some of these benefits of -- in the face of uncertainty and hopefully, you know, that can be done in coming months.

VICE CHAIR BERG: I would support that too.

Thank you.

CHAIR NICHOLS: Ms. Takvorian.

BOARD MEMBER TAKVORIAN: Thank you.

Thank you, Mr. Bushnell, for your report. I just had a question about whether your analysis of our analysis incorporated the health, quality of life, and environmental impacts that are often in low-income communities of color and disadvantaged communities, and
how you would incorporate that into your economic analysis?

And secondly, how you would respond to the academic report that came from Mr. Cushing and colleagues that showed that greenhouse gas emissions from facilities that are located in disadvantaged communities and environmental justice communities are substantially -- are not substantially dropping? So I just wondered how you factor that into your analysis?

Thank you.

DR. BUSHNELL: Okay. Yeah, a lot of layers there. All good questions. So again, it's not our analysis. We are sort of reacting and trying to just give feedback to the analysis that staff and others have been doing. My reaction to the early discussion about health effects is that we should be very cautious about what we expect from our models 15 years from now. That the more precision we try to extract from them, the more, you know, skepticism we need to apply to any results coming out of it.

And so one of the challenges with trying to measure health impacts is trying to understand what exact measures would be applied. So we could -- we could assume that greenhouse gas reductions could go down at certain facilities by 10 or 20 percent, but if we don't know
exactly how that's going to be accomplished, we don't
exactly know what the local criteria pollutant
implications of that would be. And there's certainly
strategies that reduce greenhouse gas emissions, but do
not affect local criteria pollutants, and in some cases
even increase local criteria pollutants.

And so trying to measure -- and this is just kind
of the challenges that the consultants have had trying to
deal with a greenhouse gas policy, and then translate that
to measures that are addressing even greenhouse gases
requires a lot of assumptions. And then there's a second
degree of assumptions you have to make about what the
local pollutant impacts would be, which is not to say --
you know, there should be -- there will be very wide error
bars around anything like that.

And it has to do with trying to identify exactly
what the measures would be that would -- would be
implemented as part of this sort of broader scoping plan
framework.

BOARD MEMBER TAKVORIAN: So it sounds like
you're -- not to put words in your mouth, but it kind of
sounds like you're saying that the direct emission
reductions that the environmental justice communities has
been calling for, and the greenhouse gas reductions need
to be taken together, so that we can have more certainty
about what the future of our communities looks like.

DR. BUSHNELL: I guess the way I would put it is that policies that are effective at reducing greenhouse gases are not necessarily the same suite of policies that effective at addressing local pollutants. And we sort of focused on cap and trade as to whether that's -- but it's really sort of all the greenhouse gas policies we've adopted that have affected the data in the reports that have come about.

It's, you know, been in the context of not just cap and trade, but all of the complementary measures that have been in place. And we can see what those measures all combined have done to greenhouse gas emissions at different facilities. We don't know what those facilities would have looked like in the absence of those policies. And so that's sort of the next step that would need to be done in analysis. We can see what's happened.

The economy has grown. Building has, you know, picked up. And so knowing exactly what economists call a counterfactual, what the world would have looked like without those regulations is the next step in trying to understand the impact of all those regulations.

But I think we need to keep in mind that, you know, what addresses global greenhouse gases is a different set of regulations than ones that are targeted
at local pollutants. They can be correlated, but the
actions that reduce them may not necessarily be
correlated.

BOARD MEMBER GIOIA: So I just need to make one
comment. I'm not an economist, but when I hear -- when I
hear economists -- when I've spoken to economists about
sort of uncertainties -- and you've acknowledged yourself
the cost differences between scoping plan alternatives
could grow dramatically under uncertainty, and those
differences are not well captured in the current analysis,
it just -- it see -- that all economic analysis have
uncertainties. It just seems that economists have been
more willing to accept the uncertainties of economic
activities than health impacts. That's what I hear from
environmental economists.

And so part of it is pushing through and
understanding that there's uncertainty in all economic
analysis. But I think honestly there's a bias to not
accept the uncertainties in health impacts and benefits,
but to accept the uncertainties like in the -- like you
acknowledge exist in this analysis. And so it's just a
question of how much uncertainty, and how we define, and
acknowledge that there's uncertainty and identify a range.
That's sort of -- in listening to other discussion, that's
sort of an observation.
DR. BUSHNELL: Yeah. Thanks for that. Let me clarify that bullet point. I think what I'm trying to express is not just that there is uncertainty - that's sort of obvious - but that the uncertainty -- the response to the uncertainty that we would get out of the different alternative measures, scoping plan sort of options, will be different.

And so some -- you know, some --

BOARD MEMBER GIOIA: Yeah.

DR. BUSHNELL: -- plans respond to that uncertainty differently than others. I think we can do better trying to -- trying to capture that.

BOARD MEMBER GIOIA: Right. I think the acknowledgement is we can always do better on how we, you know, quantify, come up with a range, but that crossing that line over into the health field seems to be a line many economists don't want to -- you know, don't want to cross. And they will put the uncertainties off in a different category than the uncertainties that they're dealing with in their traditional analysis.

So I guess I'm just pushing back on this point that there's too much uncertainty on this health side, so we shouldn't really include that, but we're acknowledging there's uncertainties on all the other analysis we're doing.
That's my point.

DR. BUSHNELL: Okay. Yeah. No, I'm not arguing against including economic sort of translation of health impacts. I think that is appropriate. It is being done. I'm just trying to set expectations at the, you know, sort of --

BOARD MEMBER GIOIA: Yeah, I think it's all about expectations and understanding how exact all of this is going to be, right.

DR. BUSHNELL: Yeah.

BOARD MEMBER GIOIA: And it's not exact.

DR. BUSHNELL: Far from it.

BOARD MEMBER GIOIA: We tend to find more exact in numbers than in sometimes things that are not numbers.

DR. BUSHNELL: Yes, we take comfort in those -- in those numbers.

CHAIR NICHOLS: Yes, wise words.

Thank you so much for coming and for sharing your thoughts. And we would now like to move to the very patient, but important, people who have come to participate in this discussion who've signed up to testify.

So I'm just going to start calling. But actually, if the list goes up, you can bring yourselves forward. And I would also really appreciate it if you
would use both podiums to make it easier, and that will
cut time as well.

Okay. Ms. Darlington.

MS. DARLINGTON: Hi. Good afternoon. My name is
Christiana Darlington. I'm here on behalf of the Placer
Air Pollution Control District. Our new APCO just took
his position with us last year from your esteemed staff,
Erik White. He's traveling today and I'm speaking on his
behalf.

Today, we'd like to -- I'm going to be speaking
very quickly, since I have 3 minutes, so please bear with
the speed. So what we're -- what we're speaking with
about today is black carbon from wildfire. That is the
specific issue that we would like to draw your Board's
attention to for these comments. Black carbon is
essentially the same thing as PM2.5, in case you're
interested in making those correlations, okay? So for
reference.

The global warming potential of black carbon is
hundreds to thousands times larger than CO2 alone. This
draft plan states, just to note, that in 2013 other
sources of black carbon, not wildfire sources, emitted
10.7 million metric tons of CO2e equivalent. And that was
emitted through industrial sources, diesel trucks, cooking
and other types of activities. That same year in 2013, 1
wildfire emitted 11.7 million tons of black carbon. That's a half million more tons than was emitted by the entire source of anthropogenic black carbon black. Black carbon from wildfire cannot be ignored in this plan. It is an essential part of reducing greenhouse gases in California.

Another mention of black carbon in your plan is that in the decade of 2001 to 2010, 150 million metric tons of CO2e equivalent was emitted from land disturbance. Of those 150 million tons, 120 million were associated with wildfire. Again, we're -- we have a theme here. We can do a lot to reduce wildfire -- to reduce black carbon, but when it comes to looking at the real reductions, it's going to come in reducing wildfire. So when we ask ourselves what can we do about this, the science has improved significantly relating to how we can predict wildfire. We also understand the health impacts of wildfire and PM2.5.

Some of the benefits you could see with reducing black carbon from wildfire includes your EJ community's interest in seeing those co-benefits from PM2.5, because those are -- those bring some significant health programs. So when you reduce black carbon, you reduce PM2.5, you increase the health concerns of your EJ community.

Your economic analysis also in your plan talks
about reducing costs, and there's no benefit to the short-lived climate plan implementation in the economics line item. If you -- if you take a look at how much money you could save by reducing catastrophic wildfire and emission -- and response time at CalFire, I promise you, you could fill that block with millions of dollars. You could see more benefits to our State for -- in the economics category.

I wanted to also suggest that we bolster up the references to the forest carbon action team's work in your existing plan, and -- okay. That went fast

CHAIR NICHOLS: You did it.

MS. DARLINGTON: And hopefully support our work to get black carbon more recognized at the legislature.

Thank you very much.

CHAIR NICHOLS: Thank you. Mr. Pike.

MR. PIKE: Hi. Thank you for the opportunity to provide comments today. My name is Ed Pike, and I Energy Solutions, a professional engineering services firm, whose mission is reducing carbon emissions and improving energy and water efficiency.

And we commend you for ARB's innovative and critical work to reduce greenhouse gas emissions. And we would also like to recommend including strategies to achieve the benefits of fuel efficient passenger vehicle
replacement tires as you work to finalize the 2030 scoping plan. And our research for the South Coast Air Quality Management District has found that replacement triers are generally less efficient than the factory-installed tires on new vehicles. As you issue your commendable regulations to push auto makers to reduce the greenhouse gases from new cars as much as possible, they will respond by continuing to reduce the fuel use due to tires, but that will increase the gap between what's available in the replacement market now.

Fortunately, ARB found in the 2014 greenhouse gas scoping plan that fuel efficient passenger vehicle -- excuse me passenger vehicle tires can be utilized by both new and in-use vehicles in the near term to achieve greenhouse gas emission reductions, and the strategies could include incentives, potentially standards. So there's a lot of opportunity to have improvements, and in addition, fuel efficient -- fuel efficient replacement tires are consistent with the State level goals that were described earlier by staff looking at economic benefits, air pollutant co-benefits, and similar types of benefits.

The California Energy Commission has found that a 10 percent improvement in the rolling resistance for replacement tires could reduce greenhouse gases by 2.7 million metric tons, which is nearly a quarter of the
additional transportation sector greenhouse gas reductions called for in the 2030 draft plan.

And in addition, the CEC found that they would save consumers $882 million annually. And we would estimate that the average driver would save about $800 over the life of their vehicle. And that's especially important because our study for South Coast Air Quality Management District found that. This opportunity was particularly beneficial and applicable for disadvantaged communities, because those residents are much more likely to be driving vehicles using replacement tires, due to affordability of new cars, and would especially benefit, of course, from air quality benefits that could be achieved by fuel efficient fires.

So again, we commend you for your work on the 2030 plan and recommend including this opportunity.

Thank you.

CHAIR NICHOLS: Thanks.

Mr. Beebe.

MR. BEEBE: Good afternoon. My name is Bud Beebe. And I'm here as a senior advisor to the California Hydrogen Business Council. The California Hydrogen Business Council certainly supports the ARB's efforts and its vision as the trans-2020 scoping plan is developed. The Business Council appreciates the role for hydrogen
that the ARB has included in the present draft, and
indeed, all of the encouraging programs and plans that are
done, not only here, but also at the California Energy
Commission and in the local AQMDs and other agencies.

So it's true, of course, that the hydrogen
business community would like to see some more specificity
of hydrogen programs in the scoping plan, for instance,
development of hydrogen fueling infrastructure,
development of zero carbon hydrogen production facilities
that can be compatible with the fueling requirements of
that infrastructure, renewable energy, growth, and
renewable energy grid integration, and, of course, for the
transformation of air quality impacts to our communities
around California.

For instance, the scoping plan uses the general
term electrification of transportation. This includes
certainly hydrogen and fuel cell electric vehicles, as is
acknowledged, but this may not always be understood by the
broader stakeholders. And it would really be helpful in
other stakeholder processes, in other agencies, if they
could specifically see in the scoping plan that hydrogen
and fuel cell electric vehicles were a specific part of
the future.

The CHBC will participate, of course, in coming
workshops to fully cover some of these important hydrogen
opportunities. And the CHBC supports your vision for a cleaner energy future that fully supports California's economic and health needs, and your use of scientific facts as a basis for the scoping plan process, which transparently includes a broad input from all communities. Thank you so much for your attention.

CHAIR NICHOLS: Thank you.

MR. LAGERCRANTZ: Madam Chair, the Board, thank you so much for allowing me to come and talk to you. My name is Jakob Lagercrantz. I'm the founder of the 2030 Secretariat from Sweden. I bring you greetings from Sweden.

We are an organization committed to decarbonizing the transport sector. We work with a multitude of fuels, a multitude of power trains, and behavior, maybe the most forgotten part of the change for meeting the 2030 targets. I want to say how important it is what you're doing here today. We are looking at you. You're a beacon of hope on the other side of the Atlantic. We need large countries, if I may call you. You're a state, but economy-wise, you're a country.

(Laughter.)

MR. LAGERCRANTZ: We need large economic powers actually pushing the 2030 agenda. So we need what you're doing and we're looking at it very closely.
We represent large and small companies in Sweden. We're not for profit representing the largest and some start-ups, but some of the largest companies, all the fuel companies in Sweden. They are committed to actually meeting the 2030 target. In Sweden, the 2030 target is a 70 percent reduction in carbon dioxide in the transport sector by 2030.

The fuel companies in Sweden are telling us push harder. We are not sure that the politicians will actually deliver. We want more. We want more action, because then we have certainty how we can make money in the long term and saving the climate. Of course, the fuel companies they don't own any oil sources. They are refineries. They could produce fuels from the forest, from waste, from anything.

We've had a fantastic week here in California. We've been to Tesla. We've been to the electric bus company Proterra. We've been to CalStart. We've met so many different innovative companies. We need that strength with us in Sweden. We would like to see a much stronger cooperation. We have our plan, our scoping plan. Our politicians need to hear about the ZEV credits, the Low Carbon Fuel Standard, your cap and trade. Maybe there's something that we can share with you on labeling of the fuels that will come on every pump from 2018.
There will be a climate label on all the fuel pumps in Sweden. That's good stuff. It's good for the consumer.
So I just want to say it's a pleasure to be here. I'm honored to speak to you. We are looking very closely at what you're doing.

Thank you very much.

CHAIR NICHOLS: Thank you for being here.

Mr. Biering.

MR. BENGTSSON: Good morning, Chair Nichols and members of the Board. I am not Mr. Biering. I am Nathan Bengtsson. Pleased to follow a fellow Swede. I'm here today to represent -- represent Pacific, Gas & Electric Company. And that perspective is firmly rooted in the interests of the millions of Californians who we provide light and heat to.

Our customers are concerned about the well-being of their communities like we've heard today from other folks in this room. And one of the ways that we can contribute to the health and well-being of Californians is by providing affordable, safe, and reliable energy, both on a strong and growing foundation of the renewable resources that our State is famous for.

And I want to point out that last week we put forth a $250 million electric vehicle proposal, $211 million of which is focused on electrifying heavy- and
medium-duty vehicles directly tackling some of the most
significant contributors to local criteria air pollution,
almost 50 percent of which comes from the transportation sector.

So with all that said, my message today is simple. And that's just that basically the scoping plan options that include cap and trade are the best way for our State to achieve our environmental goals.

As the magic 8-ball and preeminent and academic advisors tell us, "Uncertainty is certain". California's greenhouse gas reduction goals are ambitious and long term, and myriad factor will influence whether and how difficult it will be to achieve those goals.

So the all cap-and-trade and preferred scoping plan options are the best options for ensuring that greenhouse gases will be limited to a fixed cap, but in a way that delivers emissions reductions cost effectively.

And additionally, if our direct -- if our direct measures achieve more emissions reductions than expected, cap and trade allows allowance prices to adjust, meaning California can achieve its environmental goals without being locked into arbitrary extra costs for households.

And I want to say that speaking of costs, UCLA's Luskin Center for Innovation study actually found that low income Californians are actually very well protected, in
that cap and trade may actually provide a financial
benefit.

Additionally, I have to point out that cap and
trade is beneficial, because it's the only option that
leaves the door open for others to follow behind us, like
our friends in Sweden here. We have to leave that door
open especially at a moment when the federal policy is so
uncertain. In comparison, a scoping plan composed
entirely of direct measures is inflexible, and it could
require new regulations that might not be adopted in time
to achieve emissions reduction.

Moreover, a carbon tax is essentially just a less
flexible and less certain version of cap and trade from an
environmental perspective. If our direct measures
underperform, cap and trade prices -- well, pardon me. If
the carbon tax amount isn't right in getting the
reductions we need, there could be a complicated political
process to change that price, including maybe even a
two-third's vote every time we want to adjust, and that
could be politically difficult. Cap and trade adjusts
automatically.

So I'll just end by saying that a scoping plan
that includes cap and trade is the best option to achieve
our environmental goals. California's State agencies and
top academics agree on this issue, and the data shows that
cap and trade is reducing emissions and protecting customers, even as jobs and businesses continue to grow.

Thank you.

CHAIR NICHOLS: Okay. Are we going to return to the order that we had before? I'm not clear if we've lost a lot of people or what's going on here.

MR. BIERING: Hi, Chair Nichols. Sorry for the confusion there. This is Brian Biering on behalf of Turlock Irrigation District. Nathan and I traded places with --

CHAIR NICHOLS: You just switched.

MR. BIERING: We switched.

CHAIR NICHOLS: You did a voluntary trading --

(Laughter.)

CHAIR NICHOLS: -- and you didn't have pre-approval.

(Laughter.)

BOARD MEMBER GIOIA: But he was way further down the list.

CHAIR NICHOLS: Got it. Oh, yes. All right.

MR. BIERING: So since my clock has started, I'll go ahead.

CHAIR NICHOLS: Yeah, go ahead.

MR. BIERING: I'm here on behalf of Turlock Irrigation District. TID was the first publicly-owned
utility formed in the State of California. I wanted to highlight 2 unique aspects of TID that I think are germane to your analysis of the various alternatives in the scoping plan. The first is that the majority of the consumers that we serve are in disadvantaged communities. So we are particularly sensitive to the cost impacts on those customers.

The second is, is that TID serves its own balancing authority, which means that within our service territory we have to balance our load and our generation. And it limits our ability to specifically integrate renewable resources right in our service territory. Instead, we often purchase renewable resources outside of our service territory, or outside of the State of California.

Why that's important is, is that the cap and tried is a cost-effective measure, in part because it gives us the flexibility to manage our resources, and to achieve GHG emission reductions where they are the most cost effective.

We're also very sensitive to the cost impacts of our disadvantaged -- on our disadvantaged communities. And the reason that this is important to us is that unlike some of the other utilities, where disadvantaged -- they may serve disadvantaged communities, but they're a small
percentage of the overall customer base, most of our customers are disadvantaged.

So any cost impacts that are borne by the cap and trade or other GHG emission reduction measures will be borne by all of our customers. We're not ratepayer -- we are ratepayer owned, we're not investor owned, and our ratepayers directly bear those costs.

We strongly support the continuation of a well-designed Cap-and-Trade Program and look forward to commenting on that when it become -- when it comes before the Board.

Thank you.

CHAIR NICHOLS: Thank you very much.

Betty Chu?

Are you here?

Jamesine Rogers Gibson.

MS. ROGERS GIBSON: Good morning, Chair Nichols and Board members. My name is Jamesine Rogers Gibson, and I'm a senior analyst with the Union of Concerned Scientists.

On behalf of our 80,000 supporters in California, I thank you for your continued climate leadership and the staff's work in developing this draft scoping plan update.

In order to meet the State's climate goals, UCS supports strong sector-specific policies combined with a
well-designed carbon price, and done so in a way that
minimizes negative impacts on disadvantaged communities.

While we support the proposed strategies -- while
we support the proposed scenario's overall approach, we
recommend the Board strengthen the plan in several ways.
So my comments today will focus on the electricity and
transportation sectors. And we plan on submitting more
extensive comments on the plan at a later date.

Thanks to SB 350, half of our electricity will
come from renewables in 2030, but we may need even more
electricity generated by renewables as opposed to natural
gas, in order to reach our 2030 climate goal. Given the
falling prices of renewable energy, and the advances in
grid reliability and storage, UCS recommends California be
ready to deploy a more aggressive strategy for renewable
procurement than prescribed by the RPS or assumed to occur
under cap and trade.

In addition, UCS believes fuel switching from
natural gas to electricity to heat air and water in
buildings is a cost-effective, least regret strategy.
Natural gas use in buildings represents 7 percent of the
State's current carbon emissions, so we believe the
scoping plan should therefore recommend that the State
initiate action to reduce natural gas use beyond existing
energy efficiency programs, particularly through building
Vehicle electrification is also crucial for meeting our climate goals, and ARB has implemented ambitious programs, like the ZEV Program, to advance electrification. However, the recent mid-term review of the ZEV Program shows that anticipated vehicle sales for 2025 will fall short of the original 15 percent target.

The final scoping plan should be updated to reflect this analysis, and a strengthen and commitment to additional measures needed to stay on track for 2025, and the ultimate goal of 4 million EVs by 2030.

In addition, self-driving vehicles offer significant promise, but also potential risk in achieving our climate goals. A recent study found that they could reduce vehicle emissions by up to 50 percent, or they could double them.

So we strongly encourage ARB to include a near-term action to evaluate self-driving car technologies, their climate impacts, and policy options in collaboration with DMV and CEC, and also to identify strategies to pair self-driving car technologies with EVs and ride-sharings, and policies and strategies to prevent negative climate outcomes from potential increase to VMT from self-driving cars.

Thank you again for your leadership on this
issue, and we look forward to working with you as you
refine the plan and put it into action.

CHAIR NICHOLS: Thank you.

MS. MMAGU: Good afternoon, Madam Chair, members
of the Board, Amy Mmagu on behalf the California Chamber
of Commerce. We've really enjoined the robust
conversation this morning surrounding the scoping plan.
In addition, we appreciate the recognition of the timeline
that we have right now, and the possibility of having
additional comment periods. One thing that we are looking
for is we'll be looking forward to the additional
information that comes out in the economic analyses, as
indicated in the appendix.

But we would also like the ability to be able to
review all of the analysis for the listed scenarios within
the scoping plan. We note that there's a couple of
scenarios where there is no analysis made, and we would
really like to see that to help better inform us. We look
forward to submitting comments and we thank you for your
time.

CHAIR NICHOLS: Thank you.

ALTERNATIVE STRATEGIES SECTION MANAGER SULLIVAN:

BOARD MEMBER GIOIA: Right as the speaker was up,
we appreciate, an email came through, "California's
economy has prospered due to the State's ambitious climate
efforts."

(Laughter.)

CHAIR NICHOLS:  Great.

BOARD MEMBER GIOIA:  So that was good timing.

CHAIR NICHOLS:  And was that a Tweet or was that --

BOARD MEMBER GIOIA:  It's the California -- you know, it's that California Energy News listserv had the article, yes.

CHAIR NICHOLS:  Oh, okay. Good. Good. Well, we heard it here.

Hi.

MS. SULLIVAN:  Hi. Good morning, Madam Chair and Board members. My name is Shelly Sullivan. I'm here representing the Climate Change Policy Coalition. My comments today are going to be very brief, but we do look forward to submitting further comments, more detailed comments as we move forward.

One of the things we really want to say is that we appreciate the Board and other chair member -- Board members' recognition regarding the various requests to delay the actual approval of the final 2030 scoping plan. We echo those requests, because we think that the information that we're waiting for is very valuable and is going to be very needed as we go forward in making our
comments.

We acknowledge, as staff acknowledges, that there are certainties -- uncertainties that remain in helping us to better inform the final scoping plan. CCPC, as my colleague with the Chamber also stated, is we're specifically looking for the economic analyses for all the policy scenarios. We think that that's going to be a piece of information that will be very helpful as we look forward in making our comments.

We believe that the best path forward is having the stakeholders being able to look at all of that as we make our comments and the development.

So thank you, and we'll look forward to working with you.

CHAIR NICHOLS: Okay. Thank you.

Hi.

MR. PIMENTEL: All right. Chair Nichols, Board members, Michael Pimentel with the California Transit Association. I think many you know about my organization. We represent more than 200 transit-affiliated entities across the State of California, including transit agencies, original equipment manufacturers, and part suppliers. Taken together, my members provide the vast majority of the 1.44 unlinked transit trips taken in California annually, and drive innovation in the
heavy-duty vehicle sector that reduce greenhouse gases and improve air quality.

I want to start my comments today by thanking ARB staff for putting forward a proposed scoping plan, which advances a bold vision for achieving greenhouse gas emissions -- greenhouse gas emission reductions through 2030. The California Transit Association enthusiastically supports key elements of the proposed plan, including the recommended extension of the Cap-and-Trade Program beyond 2020, the maintenance of the Low Carbon Fuel Standard, and of course, the proposed continued investment in public transit.

The proposed plan is rightly bullish in its support for public transit and recognizes very importantly that transit is not just about mobility in the environment, it's about public health, the economy, access to opportunity, and making good on our commitments to disadvantaged communities. Investment in transit is, as the proposed plan would say, a win-win strategy.

In the coming months as you move to adopt this document, I hope you will consider and share with your partners in the State legislature and the Governor's office a few key points.

Number one, the expansion needs of public transit are significant and growing. Currently, they stand at
about $25 billion over the next 10 years. And even under the best case scenarios, existing State, local, and federal funding will be insufficient for addressing these needs.

We know that tackling this issue head on is not merely an option, it's an absolute necessity, if you're to believe the California Transportation Plan 2040, if we are to meet our greenhouse gas targets for 2030 and beyond.

With that said, we support augmenting -- augmenting the Greenhouse Gas Reduction Fund's existing transit supporting programs, like the TIRCP and the LCTOP, which have reduced greenhouse gas emissions by 4.2 Million metric tons, and driven more than $650 million of investment in disadvantaged communities. And these are in the last 2 fiscal years alone.

And number 2, I want to emphasize that mode shift isn't just about expansion or innovative technologies. It's about reliability, safety, and on-time performance. If we, as a State, don't get serious about stabilizing and identifying new revenues for operations, maintenance, and rehabilitation, much of the work that you are pursuing will be for not.

For that reason, we urge you to discuss with the State legislature and the Brown administration - I understand that this is largely outside of your role, but
the -- I want to emphasize the importance of communicating to them the criticality of investing new flexible revenues beyond those in the GGRF in public transit.

I do want to take just a few seconds to say we do continue to have some concerns with the inclusion of the Advanced Clean Transit Regulation under the Mobile Source Strategy, that is brought into this program, and we'll continue to communicate with you on that.

Thank you.

CHAIR NICHOLS: Thanks. Ms. Immel. And after you, we will take a lunch break.

MS. IMMEL: Okay. Melissa Immel. I'm with Shaw/Yoder/Antwih here today on behalf of the legislative task force of the California chapters of the Solid Waste Association of North America. Thank you for the opportunity to comment.

Director Oglesby mentioned earlier the CEC's 2017 Integrated Energy Policy Report, and the SWANA LTF supports the scoping plan's recommendation that that report include recommendations for the development and use of renewable gas. We'd add that we'd like to see those recommendations promote renewable gas as captured from landfills and derived from waste that would otherwise be disposed.

We'd also ask that the plan identify State
funding sources for the public and private infrastructure that's needed to implement organics disposal reduction goals. And on that note, we're a bit concerned that the organics diversion timelines are unrealistic. Collection and processing of organics is challenging and agencies need time to build their programs and facilities.

And while the State acknowledges the need for funding and facilities, the diversion is required to occur before barriers are removed. The plan also suggests expanding upon diversion mandates that have not been fully implemented yet. And so the LTF would ask that the State allow time for existing regulations to be implemented and their success measured before expanding on them.

Lastly, we have some policy concerns with disposal-based funding, but the tip fee increase anticipated by the plan would still need to be adopted by the legislature with a two-thirds majority.

So we'll submitting written comments as well. Thank you again, and we look forward to continuing the conversation.

CHAIR NICHOLS: Okay. Thank you. We'll take a break. Do you think we could get back here in a half an hour, and still have a lunch?

Yes. Nodding.

Okay. We'll be back at 1:30 then.
Thanks.

Oh, there's a closed session at lunch. I'm sorry. Then -- no, it's 5 minutes -- 5 minutes of executive session. Five minutes of closed session. So I think we can do it in a half an hour. Thank you. But we will be having a closed session.

Thank you.

12:59 p.m.

(Thereupon a lunch break was taken.)
A F T E R N O O N  S E S S I O N

(On record: 1:45 p.m.)

CHAIR NICHOLS: Okay. Can I get the sound back here? Yes, thank you.

The Board members who are still in the back can hear the proceedings. We have them piped into the back, but they are making their way out, so I am going to ask the next witness to come forward. We stopped right after number 12. So next on the list was number 13. Shrayas Jatkar from the Coalition for Clean Air.

That is not you.

MR. MAGAVERN: He had to leave, so as reflected, on the list there, I'll be substituting for him.

CHAIR NICHOLS: Okay.

MR. MAGAVERN: Bill Magavern with Coalition for Clean Air.

CHAIR NICHOLS: Okay. That's fine. I can't see what's behind my head, so I'm working off the old sheet. Sorry.

MR. MAGAVERN: You have a lot skills, but that one you haven't developed yet.

CHAIR NICHOLS: You know, my mother was a junior high school teacher and she was able to convince her students that she did have eyes in the back of her head, but I didn't -- didn't learn that.
Okay.

MR. MAGAVERN: Well, thanks. Madam Chair and Board members, good afternoon. First, I'll say that we very much support the move that this plan takes with the other plans you're doing this year towards an integrated approach, and we encourage, wherever possible, using this scoping plan and the measures that do reduce greenhouse gas emissions to also seek the maximum possible reductions in criteria air pollutants and toxic air contaminants.

So we think you've done that in a number of ways, and we urge looking for more ways to do that. And I think that that really is a probably the major import of AB 197, which we supported. And I think that the presence here of your refinery emission reduction measure does show that you are already seeking to implement AB 197, and we definitely support that measure.

Looking to the transportation sector, we think there are a number of measures that you had that could be strengthened, and others that we'd suggest that you add, both to this plan and to the Mobile Source Strategy.

We think that you should be phasing in zero emission technologies wherever possible for trucks and buses, and the offroad sector. So we think that the clean transit rule and the clean truck rule, for example, could be done on a quicker timetable and with more ambitious
targets. And we're submitting specific recommendations on these.

We also suggest adding measures for cargo handling equipment, and agricultural equipment, and also for public fleets and other regulated fleets to turnover more quickly to clean technologies.

We very much agree that the ZEV standard should be ramped up aggressively post 2025, and we support the addition of a replacement tire efficiency measure as you heard testimony earlier on that.

In the fuels area, we support the low emission diesel standard, and think that that could be put on a quicker timeline, and support the increase in the Low Carbon Fuel Standard.

And finally, when it comes to transportation planning, we think that the SB 375 targets in this next round should be much more ambitious than the last round were, and that we need to get every last bit of emission reduction out of those measures in terms expanding public transit, and biking, and walking through better land-use measures.

Thank you.

CHAIR NICHOLS: Thank you for substituting for your colleague.

Okay. Mr. Smith, hi.
MR. SMITH: Hi. I'm -- there we go. Green. Hi.
Adam Smith with Southern California Edison. I'd like to just touch upon 3 points briefly.

The first is our continued support for the Cap-and-Trade Program, and specifically the proposed scoping plan scenario as it was laid out in the draft we've just seen. You know, we also applaud ARB's release of the pathways modeling data, that allowed us to get a chance to kind of look under the hood and tinker a little bit ourselves. And it confirmed our kind of early suspicions that the Cap-and-Trade Program mixed in with some of the other measures that you guys had included in the discussion draft was the best policy mix going forward. It further confirmed that for us.

The second point I'd like to touch on is Southern California Edison's continued support for widespread electrification. We obviously applaud the efforts to kind of incentivize zero emission vehicles, in both light-duty, medium-duty, and heavy-duty sectors. Southern California Edison has recently put forth an application to further electrification and further zero emission vehicles in many of those sectors as have our sister utilities.

I think there is a little bit more room -- more room for improvement. The proposed scoping plan makes mention of the -- you know, the ARB's interest in hearing
comment on the possibility of going towards something like, you know, 100 percent zero emission vehicles in specific sectors, dates aren't necessarily included, but there's a pathway there.

While Southern California Edison doesn't have firm answers right now, I think we applaud asking that question. And we want to be partners in pursuing the answers with you guys. Obviously, as a large infrastructure provider, we feel like we have a lot to offer as far as technical expertise and discussing the kind of grid implications of that.

Third and finally, with just a minute to go, I just want to touch upon the kind of delicate translation that I think has to occur between the pathways modeling efforts, which end up with sort of GHG outputs for the electric sector, which will then be taken by the PUC and the CEC and divided up to be become LSE specific, load serving entity specific, GHG emission targets.

There's lots of nuances. We've submitted comments on this. We've been chatting with your staff here, as well as some of the other agencies. One of the nuances we'd at least like to tee up right now, more in probably comments later, is the fact that with increased electrification -- I'm not -- I don't think I'm sharing anything incredibly new here, but with increased
electrification, you may see the electric sector's emission rise, while, from a societal perspective, you see transportation emissions fall.

And without specific -- there's a few regulatory barriers we see, some of them in the Cap-and-Trade Program itself, through allowance allocation, and some of it in determining these GHG IRP targets. We just want to ensure that there's some guard rails on there that would recognize the societal emission reductions that are occurring.

With that, I'll stop. Thank you.

CHAIR NICHOLS: Thank you.

Gary Hughes.

MR. HUGHES: Honorable, Board Chair, and esteemed members. Excuse me. My name is Gary Hughes and I'm the senior advocacy campaigner in California for Friends of the Earth. We 70,000 members here in the State, 500,000 members throughout the country.

And, you know, I've heard it said that you need to say probably 7 positive things to get a person to hear one piece of firm feedback. I'm only briefly going to say that we do very much appreciate the fact that the State has taken a very public role on recognizing climate change as existential threat, and there's a lot of good things happening.
An example of the good things is the international cooperation. Yesterday's Climate Change Symposium was an example of that. Nevertheless, we're very concerned because the actual substance of that international cooperation, for instance, the desire to expand California's pollution trading schemes overseas is of great concern.

And we want to look specifically at the international sector-based offsets, the international efforts as they're described in the scoping plan, and there's talk about tropical deforestation. Unfortunately, the way tropical deforestation is described in the scoping plan is it demonstrates the lack of competency amongst the ARB for addressing this issue. There are very severe motors of destruction that are causing tropical deforestation. This not something that's just happening all of a sudden, and then trading some carbon credits is going to resolve.

As an example, let's talk about the Western Amazon and Amazon crude. Now, Colombia and Peru are both nations that are mentioned in the international efforts aspect, which means we understand that there's a high possibility that eventually that even though the linkage Acre is literally a footnote in the scoping plan, there is the possibility of trading credits with Peru and Columbia.
Amazon Watch, an organization based here in California, working for more than 20 years in the Amazon has recently released their Well to Wheel Report, in which it has documented that of all the crude oil being exploited in the Amazon, 60 percent of it is coming to the United States. And of that 60 percent, 75 percent of it is coming to California.

On average, 180,000 barrels of Amazon crude are being refined here in California every day. Most of that is going through one facility in El Segundo that belongs to Chevron. Chevron is the number one purchaser of offsets. So we are looking now at this hypothetical, but possible situation in the future, where people in the Amazon will be subject to the double land grab, one of losing their land to oil extraction and exploitation, and 2, losing their land to carbon credits projects.

This is defined as climate colonialism for California to promote a scheme that will basically put the responsibility of our making changes to respond to climate change upon the poorest and most marginalized people on the planet. So you need to drop the REDD offsets.

CHAIR NICHOLS: Have you submitted written testimony or do you have written --

MR. HUGHES: We've submitted written testimony many times. Since the scoping plan only came out last
Friday, of course, we haven't been able to provide --

CHAIR NICHOLS: Yeah. No, no. I see that you have not, but you --

MR. HUGHES: But we -- I could provide --

CHAIR NICHOLS: -- you've attached of the --

MR. HUGHES: -- you all of the letters that we've provided, and the --

CHAIR NICHOLS: You have repeatedly --

MR. HUGHES: -- academic material.

CHAIR NICHOLS: -- spoken on the subject of offsets. I get it. I thought you might have something new. Thank you.

MR. EDGAR: Madam Chair and Board members, my name is Evan Edgar --

CHAIR NICHOLS: It's really quite okay. We get it. Okay. Thank you.

MR. EDGAR: My name is Evan Edgar. I'm the engineer for the California Compost Coalition. I have a letter and filed that I submitted today. And we support the vision of AB 30 scoping plan, and it's tied to the short-lived climates plan. I think he did a great job of linking organics to energy and compost.

We have 3 missing metrics today. I want to talk about working lands. Today, as a baseline, compost is used on a million acres of irrigated cropland, about 7
million tons a year. That's today's baseline, but it's not a metric. So we want to baseline that.

    Plus, we want to double down on compost. We believe we can double that by 2030 by another million tons of irrigated cropland with another 7 million tons of compost that would only put 22 percent of irrigated croplands on compost use, but that is a huge missing metric as part of the working lands.

    We've submitted comments and participated with that model, and we can double down and the compost industry can use agricultural as a huge carbon sink and get organics out of the landfill.

    The landfill folks are here earlier today and they tried to call a landfill a carbon sink, but a landfill is a carbon toilet. And we need a tax at 10 bucks a ton in order to fund the compost infrastructure. The landfill tip fee has been raised since 1993. It was a buck 40 a ton. This is the year we kick it to 10 bucks a ton to fund the compost infrastructure. We can fund it.

    Number 2, metrics in the model is that compost anaerobic digestion is the most cost effective program. On table 3.3 under the different measures, under the short-lived climate pollutant, if we were to add compost and anaerobic digestion, it's $9 per ton.

    The LAO office submitted a report last year that
is the most effective-cost program, and on that table, that metric is missing. So to get organics out of the landfill, we can used the money from, not only, cap and trade, but the tip fee in order to have the most cost effective program to make compost and biomethane for the heavy-duty trucks.

And lastly, what's missing is a program from 2014 called Net Zero for the Waste Sector. It was a key point that we supported and the waste industry can be net zero by 2030. In fact, many people I represent, were net zero now, with zero waste, and are running our fleets on a carbon negative fuel by making biomethane out of food waste that comes out of landfill.

So it's a great report. We highly support the 2017 plan, the linkage to the short-lived climate pollutants. Let's get organics out of the landfill. Let's use compost, double down, and make agriculture the great carbon sink that it should be.

Thank you.

CHAIR NICHOLS: Thank you. Hi.

MR. FACCIOLA: Good afternoon. My name is Nick Facciola with Origin Climate. I was the project developer out of San Francisco. I'd like to share some stats with you that I and the other members of the Ad Hoc Offsets Group have compiled. They're kind of interesting. So
despite the 24 officially registered projects in the State of California, we account for 54 projects that are reducing emissions in California. That discrepancy is largely due to refrigerants that are being pulled out of California and destroyed somewhere else.

Out of the 54 million tons of registered emission reductions to date, nearly 16 million of those are from California. That's nearly one-third. Slightly different from the 20 percent, 80 percent split we heard earlier.

And then this one is really interesting. There are 20 projects that are in disadvantaged communities in California. But we wanted to look outside of California, so we used some EPA EJ mapping tools to find that there are actually 46 projects that are serving disadvantaged communities across the states. That equates to about 1 million metric tons of carbon dioxide equivalence, or 220,000 vehicles taken off the road for 1 year in disadvantaged communities. I believe these numbers will grow over time, especially with a thriving carbon market and chance for ARB to develop new and additional protocols.

Thank you for your time.

CHAIR NICHOLS: Thank you.

MR. CARR: Good afternoon. I'm Michael Carr from Shell. I thank you for the opportunity to comment. My
first to the Board. Compliments to the staff for a lot of hard work. I'm certain they have worked very long hours.

I want to keep it high level today. First and foremost, Shell supports mitigating the effects of climate change and supports the Paris Accord and taking steps to get below 2 degree C net temperature increase.

We do advocate market-based mechanisms as the most cost effective means to achieve these goals. And you have gotten, and will continue to get, a variety of input today, representing a broad spectrum of perspectives. I would urge the respective members of the Board to consider the comments through 2 critical lenses.

The first lens I would highlight is cost containment. A cost effective program is vital for our economy. As Chairman Nichols stated in her opening remarks, people are watching us worldwide. If the State damages its economy, it will not inspire those watching us to follow our path.

I think it was an important reminder from the Ministry of Ontario that a market-based Cap-and-Trade Program has been demonstrated as the most cost effective means to achieve these outcomes.

The second consideration would be that a cost effective program is critical for California's citizens to mitigate the impact of the climate agenda, because it
doesn't come without costs.

In the executive summary, it mentions that it's only a half percent impact. Dr. Bushnell reminded us it could be a lot more. A half percent impact potentially equates to 100,000 jobs in the State of California, given the size of our workforce. So even a half percent must be considered and weighed -- weighed up in the ultimate plan that we choose to move forward with.

The second item I would highlight is around program feasibility. Aspirations are great, but until they're demonstrated, they're dreams. You know, some technologies will not play out as we would like them to. We've got to keep all technical options open. We're happily playing in discussions about electrification and transport. Towards the aim of keeping options open, I would remind the Board that CCS is among the most important of the suite of technical options to address climate change. The good news is that's not a dream, but a reality.

I'm proud to say that Shell is successfully operating a facility in Alberta. In the last year and a half of operation, in fact, a little less than that, it's already sequestered over one and a half million tons of CO2, and safely kept it out of the atmosphere.

CHAIR NICHOLS: That's your time. Thank you.
MR. CARR: Thank you.

CHAIR NICHOLS: Mr. Blumberg.

MR. BLUMBERG: Thank you, Madam Chair and good afternoon, members. My name is Louis Blumberg. I'm the California climate change program director for The Nature Conservancy.

Now, more than ever, the continuity, the success, and the stability of California's Climate Change Program is needed, not only for the reductions it's going to and continue to produce in California, but also for those reductions that can leverage globally and the signal it sends to others around the world in other states and other countries.

We applaud this effort today to move forward on the process. You've spent a lot of time. We've had 10 years of work on this, 6 years of experience. Now is not the time to disrupt the momentum with a major shift. We appreciate the staff work and we support the proposed scenario for those reasons.

A scenario with the suite program, a comprehensive program that includes maintenance of the Cap-and-Trade Program. Now, that said, we understand that there could be some conversations about fine-tuning specific design elements and to determine if there may be areas for improvement. And if that's so, we urge you to
keep a role for offsets and for linkages.

You heard from Prime -- Minister Murray about the linkage with Ontario. The linkage with Quebec is well underway. And I'll also point out that the Native American tribes in California, like the Yurok, are using the Carbon Forest Offset Program to generate revenue and they are now reassembling their ancestral lands with that revenue, so building their -- rebuilding their cultural heritage with proceeds from the AB 32 program.

That said, you know, the maintenance of the greenhouse gas program is also able to achieve significant co-benefits for vulnerable and overburdened communities. And we applaud those efforts to do that, and they are not mutually exclusive, and we urge you to continue that effort.

And finally, we're very pleased to see the attention given to the natural and working lands sector, as noted is the 5th pillar of the Governor's strategy. And in there it's important to get numbers quickly. You know, a plan in 2018 may be too long, so we need to -- we want to help you achieve those numbers, go through that analysis more quickly. And we're happy to help in any way.

And thank you for your attention.

CHAIR NICHOLS: Thank you.
Ms. Roberts.

MS. ROBERTS: Good afternoon, Madam Chair and Board. My name is Tiffany Roberts from the Western States Petroleum Association. And I thank you for having us here today and allowing us to comment.

First, let me just say that on behalf of the petroleum industry, we're very proud of what we do, what we do day in, day out. And what that is, we help people move around the world. We help moms and dads get their kids to school. We help families get to work. We help parents get their kids to soccer practice and piano lessons. We help folks get their aging parents perhaps to a doctor's appointment or to pick up their medicine. So we are very proud of what we do, and we hope that we can continue to do it, both here in the State of California and around the world.

Because of that, we also think that it's very important that as we move into this next stage of developing the scoping plan, that there continues to be a very, very good focus on cost effectiveness.

We were happy that the staff, as part of the economic analysis, developed an Alternative 3 and an Alternative 4 of that analysis, looking at an all Cap-and-Trade Plan, as well as a cap and tax plan.

We do, however, want to point out that within the
economic analysis, unfortunately the results of
Alternative 3 and Alternative 4 were not released, so we
got the proposed plan. We got Alternative 1 and we got
Alternative 2, but we'd like to see the other results of
the studies. We think they're important.

As my colleague from Shell mentioned, Mr. Carr,
you know, it looks in these numbers to be kind of a
sterile statistic. But when you think about it, 100,000
jobs, if you're one of those people, that's very
important. Again, that means that you no longer have a
way to necessarily put food on your table.

And so to the extent that we're deliberating
about a post-2020 scenario, we want to make sure that all
of the information is on the table, so that you as
policymakers are able to deliver deliberate and figure out
the best path forward.

So with that, thank you for the comments, and we
look forward to talking with you more in the future.

BOARD MEMBER GIOIA: Can I -- can I ask a
question?

MS. ROBERTS: Sure.

CHAIR NICHOLS: Yes.

BOARD MEMBER GIOIA: So would you like to sort of
explain further WSPA's thinking on extension of cap and
trade?
MS. ROBERTS: Yeah, I mean, you know, in the State of California we certainly recognize that we're going to have climate policy here. And so we support a market mechanism. Obviously, in California we've got a Cap-and-Trade Program.

And so to the extent that we can have a consumer-friendly Cap-and-Trade Program post-2020 that contains a number of different cost control mechanisms, we definitely welcome that conversation. And so we'd love to continue to have that conversation with you.

BOARD MEMBER GIOIA: Thank you.

VICE CHAIR BERG: Good afternoon, Scott.

MR. HEDDERICH: Good afternoon. My name is Scott Hedderich. I work for a company called the Renewable Energy Group. We are North America's largest biomass based diesel manufacturer. We are third globally behind 2 companies. I can't even think of their names, based in Europe.

(Laughter.)

MR. HEDDERICH: I want to comment on 3 things real quickly.

First off -- and it's a little bit funny that Chair Nichols has stepped out. So the discussion on the comments that were made earlier this morning around listening and around trying to find what it is that are
concerning to other stakeholders and other communities, very powerful. And the fact I think everyone on the Board is on the same page with respect to wanting to be in that is a great thing. I think that -- and by that, I mean listening -- is something that's not in every capital in our country today.

But I'll segue from listening to talk about how I think the staff has been done a wonderful job in listening to stakeholders. This is a good document. Is it perfect? No.

I think that the process that you laid out will refine it to make it much better. But it's critical we don't let the perfect be the enemy of the good and we move forward.

And since I mentioned Washington D.C. and their incapability of listening, I'm going to segue to Washington D.C. and consistency. It's not there right now. So it's very important that this document and what the Board does with respect to climate change and the programs that are within it, that there's a clear document path forward. I mean, there's a great track record going back almost 10 years. It's critical to stay on that, and to be, as I think other folks said, a bit of a shining light for others, whether it's our nation's capitol or folks in Canada or where have you.
And lastly, I just -- I want to point out one thing with respect to the biodiesel industry. We think again it's a good document, but there's one area we think that could be a little bit more aggressive within the LCFS targets moving to 18 percent. We think that could go higher, 20, 22 percent by 2030, especially given the slow -- and I'll say it again slower, slow -- development of electric vehicles in the heavy-transportation market.

There's an opportunity here in this document to set out a good target. Our industry needs that landmark, if we're going to deploy capital. We're certainly not seeing any clear beacons out of Washington. So for that to come out of California is helpful.

Thank you.

VICE CHAIR BERG: Thank you. Hi, Jon.

MR. COSTANTINO: Hello. Thank you for having me. This is Jon Costantino. And today, I'm here on behalf of the Offsets -- Ad Hoc Offset Group, a group of 13 developers responsible for over 50 million tons of real and quantifiable reductions.

Today, we've heard short-lived climate pollutants need to be controlled. We need real reductions. We need cost effective reductions. We need working lands to be addressed. We need methane to be addressed. We need climate leadership. We need things that extend past our
borders. We need incentives for private capital.

And when you think about an offset, you go check, check, check, check. All those things are true. And so I just wanted to briefly note that we're pleased to see on the staff's presentation that cap-and-trade with 8 percent offset is what's being proposed. And we understand that one of the options is to look at offsets and their value.

And we get that Chair Nichols in the beginning said new science, new evaluations, and we're not against that. We just want to make sure that it's not just a one-way direction. I think the scoping plan said the only option would be to reduce. And I think there's options to think about how they could benefit local communities. It depends how the program is written, but I just don't want to focus on only a one-way direction on the evaluation. I think if you're going to look at it, you should look at it holistically.

But for all those reasons, you know, we're happy to answer any questions. And I know there's going to be some more discussion about offsets, and we look forward to engaging in that dialogue.

Thank you.

VICE CHAIR BERG: Thank you.

MR. SHAW: Thank you, Chair Nichols and members of the Board. Michael Shaw with the California
Manufacturers and Technology Association. We represent the interests of roughly 30 plus thousand manufacturers in the State of California who employ 1.2 million Californians in the State.

One of the things that we know about manufacturing is that we have seen a -- continue to see some growth in the manufacturing sector in California, but we know that there is a much slower rate of growth in California than there is elsewhere. In fact, it's about 2.6 percent of manufacturing job growth from 2010 to 2015 has occurred in California, or that's been the rate of growth here.

It's 7 percent on the national average. So we're growing, but we're growing slower than other parts of the country are, and so there's an opportunity for California to grow at a faster rate, and to create a lot of good paying jobs. In fact, the average manufacturing wage in the State of California is $83,000 per year.

But to specifically the scoping plan, the discussion this morning, there were a lot of -- there was a lot of discussion earlier in the day with about research and the need for more research and data. And we would agree that there's certainly always going to be more. There's always going to be more opportunity for better data, for more complete data to fill out holes that we see
in the data and the research that exists today. And we can't wait necessarily for everything, but I would encourage you strongly to wait for the information that you have already promised the public and requested yourselves from staff and from other researchers. So whereas you can't get perfect, you can get what you've asked for, and that is certainly something that would help inform the decisions that you are about to make that will significantly influence the California economy.

Additionally, the data regarding the economic analyses for Alternatives 3 and 4 in the scoping plan, we would like to see those as well. And I actually had a question that maybe you can answer now or at a later date, but have the economic reviewers seen that economic data as well, those analyses that were not released to the public? Then the last piece regarding cap and trade specifically, we believe that this is the most cost effective way to reach that goal. The flexibility that exists in the Cap-and-Trade Program provides the option for California manufacturers to seek an affordable way to reduce their emissions or to account for those emissions, which is a part of a global challenge that we are facing, not necessarily a specific California challenge.

As we've all heard many times before, we
represent a fraction of the global emissions, so we cannot
certainly fix the entire problem by ourselves, but if we
proceed in a way that provides both environmental
benefits, as well as economic success, we can be a leader
for public policy around the country and around the world.

    Thank you.

VICE CHAIR BERG: Great. Thank you. I have one
question. What source do you cite for that $83,000 a year
on average for manufacturing?

And we can provide that to the Board members and to the
staff as well.

VICE CHAIR BERG: Thank you. I'd appreciate
that.

MR. SHAW: Will do. Thank you.

VICE CHAIR BERG: Thank you.

Good afternoon.

MR. GARDNER: Hi. My name is Ryan Gardner. I'm
with Rincon Consultants. And I'm going to kind of
represent myself as the climate action planning community.
The scoping plan is an important document for Climate
Action Planning. And strengthening the connection between
the scoping plan, local plans, and CEQA would help clear
up a lot of uncertainty surrounding the impacts of SB 32
on a local and project LEV.
And there are a few actions by which we think that this could be addressed. First, a per capita goal of 6 metric tons by 2020 -- or 2030 and 2 metric tons by 2050 has been specified in the scoping plan. But then it's suggested that a per service person threshold may also be acceptable for local jurisdictions. However, no quantitative thresholds were given for a per service person emission threshold.

Climate action planning practitioners can calculate this number on our own. But having it in the document itself would be helpful for setting policy when we're working on local plans.

Secondly, it appears that the scoping plan actions will achieve a 40 percent reduction below 1990 levels per capita goals set for local districts -- or the per capita goal for local districts will also achieve a 40 percent reduction. So it seems like there may be some -- at least some double counting between those two.

So a clarification on what the fair share of local governments would be and what would actually make a qualified -- a Climate Action Plan a qualified greenhouse gas reduction goal. And this goes back to kind of strengthening these linkages between the scoping plan and CEQA.

And finally, the greenhouse gas significance
analysis for CEQA has kind of been all over the Board. And different jurisdictions have employed a vast variety of quantitative thresholds. So setting a quantitative project level threshold per different development sector or land-use type would really help the State and all of the CEQA planners, and practitioners, and these local projects, or local programs, climate action plans specifically set goals that are consistent with SB 32 and take out a lot of the guesswork that we're currently having to do.

Thank you.

VICE CHAIR BERG: Thank you very much.

MR. LEVINE: Thank you, Madam Vice Chair, members, former colleagues. I am former Assembly Lloyd Levine. I'm here today representing the California Emerging Technology Fund.

I want to talk to you about something that sometimes sounds a little bit like a Ginsu knife, but that's broadband as a green strategy. And I will admit myself I was a little bit of a skeptic of that as well when that concept was first proposed to me, but have since come to embrace it and understand how broadband technology encompassed in the scoping plan can be part of California's green strategy.

And I'll simply say this, as a former PUC
Commissioner put it to me recently, you can't have the Internet of things without the Internet. We currently have 30 percent of Californians without meaningful broadband access. The mission of CETF is to bridge the digital divide. One of the ways we do that is to leverage existing entities and organizations to foster greater deployment of broadband, recognizing that helps the state and helps us achieve our mission.

Broadband, in and of itself, is not a solution, but an enabling technology. What I'm talking about is the old axiom of if you teach a person to -- if you give a person a fish, they'll eat for a day. If you teach them to fish, they'll eat for a lifetime. You can take somebody to the library and let them use a computer. By fostering greater broadband development, it allows solutions to penetrate throughout California.

I'm talking about deployment into rural areas, where currently less than 50 percent of rural communities have access to the Internet. I'm talking about remote control of water facilities, remote control of energy facilities, real-time communication between facilities so that we can manage our infrastructure and utilize our resources in a greater way. I'm talking about the transportation sector, where we are only just on the cusp of realizing smart technology and smart cars.
But when we have a system of smart cars that talk
to each other, millions of cars on the road in California
that talk to each either, that talk to the road, that talk
to censors under the road, that talk to our streetlights,
we're going to need bandwidth like we've never seen
before.

But we have the ability in doing that to
recognize an amazing amount of efficiency and greenhouse
gas savings through intercoordination between
transportation systems, between systems at our ports,
between systems at our utilities.

So I could go on, and I see my time is running
out. I have a number of different examples here. We've
submitted testimony via piece through Valley Vision that
we commissioned on various ways. We will submit
additional written testimony. But I encourage you, as you
review the scoping plan, and revise it, please consider
the fact that we need broadband to enable so many of these
solutions and technologies that we're talking about.

For example, if 10 years ago I had referred to
something as a nest, you would have thought I was talking
about what a bird sleeps in. Now, I'm talking about a
thermostat, but I'm talking about a thermostat that talks
to my cell phone, that I can control from somewhere else.

The types of technology that we're going to see
in the future are going to make the Nest thermostat look like child's play. So I encourage you in the revision to please incorporate broadband as a significant part of the solution.

Thank you.

VICE CHAIR BERG: Thank you.

Good afternoon.

MR. FOSTER: Good afternoon, Board members, Chair Nichols, in her absence, and staff. My name is Quentin Foster. I am the director of climate and energy for California for the Environmental Defense Fund, and appreciate the opportunity to extend some comments.

First, I would like to extend an appreciation and thanks to the staff for their very diligent work. It is a complex task of incorporating a very diverse set of perspectives into a proposal, but I think that they are doing a very good job of being as inclusive as possible under the leadership of Director Corey. So thank you.

I would also like to extend a thanks and appreciation to the EJAC Committee for their presentation, and providing a perspective that is critical and important to ensure that we are looking at climate policies that will benefit all Californians as we move forward. So thank you to them, even in their absence.

EDF is here, however, to support staff's proposed
scoping plan scenario, which includes cap and trade and a suite of additional measures that will improve California's environment, reduce local climate pollution impacts, all while recognizing and incentivizing job growth from protecting the California economy is critical. While there's always room for improvement, EDF believers that cap and trade is an important part of California's climate package.

I'd like to underscore a point that Minister Murray made earlier with reference to cap and trade as one of the most effective ways for California to partner with other like-minded, ambitious, climate-leading jurisdictions, which I think we will all agree is more important and critical for our efforts moving forward.

For many of those sectors, the Cap-and-Trade Program represents the first time that their carbon pollution has been regulated and has had a cost. The benefit of creating that reduction incentive is an important one, and so is providing some flexibility and a cost effective way to achieve our climate goals. And, yes, we need to consider all of the costs, including health and social cost, when we think about what is cost effective.

It is clear that too many communities in California continue to face serious air quality problems.
And we know these impacts are disproportionately affecting low-income communities, and communities of color.

I am confident, however, that your very capable staff will be able to find not an "either/or" approach, but an "and" solution, one that incorporates the benefits of cap and trade, but also addresses the real need to reduce local pollutants in communities.

We look forward to continuing to work with you, the Board, the legislature, and engaging in a constructive dialogue with our environmental justice colleagues and those in this room who represent the range of stakeholder perspectives on these issues.

Thank you for your time and look forward to the continued conversation moving forward.

VICE CHAIR BERG: Thank you for your comments.

MS. VAZQUEZ: Good afternoon, Chair and Board members.

VICE CHAIR BERG: Good afternoon.

MS. VAZQUEZ: My name is Diana Vazquez. I'm here on behalf of -- representing California Environmental Justice Alliance. And as we heard earlier from the Environmental Justice Advisory Committee, there was a lot of recommendations that were seeing said, and we fully sport those recommendations. We also understand that your staff and the Board has been really working hard on really
trying to really understand our concerns, and how we can integrate them.

We have a couple issues that we still have concerns with. The draft, specifically as most of you know, that we at CEJA put out a report last fall, specifically by Manuel Pastor. And we feel that a lot of the -- at least ideas and some parts were not included in the draft, specifically some of the parts of the scoping plan, including the industrial section does not -- it contradicts the preliminary findings that show a connection between PM2.5 and greenhouse gases.

Second, there's no discussion of the significant findings of concern regarding the overreliance of offsets within the current system.

And then third, there's no discussion in the document about corresponding to make air pollutant data more available to the public as directed by Assembly Bill 197 that was passed last year.

Another issue that we have is really having a robust sense of all the alternatives, specifically the last alternative, the cap and tax. We just feel, as other individuals have indicated, there's not really enough data for us to really get a sense of all of the alternatives and how do we weigh them with each other, given that some alternatives have more data, more information than the
other alternatives.

So for us to really use those alternatives as a way to actually get a sense of what's the mechanism we're going to be moving forward, we need to get a more robust sense of Alternative 3, and specifically Alternative 4.

And lastly, really including a little bit more information on Assembly Bill 187. I know the bill just passed last August, and it was just enacted this year. But one of the things is we really want to get a sense of really the language that indicates where can we see direct and prioritizing emissions of really looking at direct greenhouse gas reductions, and looking how is that going to work, with including all stationary sources, not just refinery, as the plan indicates, but also including mobile sources.

And lastly, we really just want to say we look forward to working, and honestly just the conversation of how we can actually have a separate meeting of really discussing some of these really critical issues that are affecting our populations. We have seen this over and over kind of being played out throughout the year, but just getting a sense from the Board just with Chair Nichols saying that you all want to have a meeting, a separate meeting, to really just discuss these issues gives a sense of really working collaboratively on this
approach, and really look forward on how do we actually
get to where we need to get to the final scoping plan.

So thank you.

VICE CHAIR BERG: Thank you.

MR. SKVARLA: Mikhael Skvarla on behalf of
California Council for Environmental and Economic Balance,
We're a business/labor coalition supporting a better
evironment and strong economy.

Initially, I just wanted to express our support
for the market-based mechanism of cap and trade that's
included in this plan. While the scoping plan is not
perfect, we expect it to continue to work with the Board
and staff to hone in on something that gets California to
its 2030 goal, with that inclusion of a Cap-and-Trade
Program that has been supported by the legislature and
will continue to be supported by the administration, I
think, moving forward. And we'll see that debate play out
in the next few months and through the end of this
session.

We want to specifically kind of address some of
the things that have been brought up today in and around
some of the studies that have been cited and as well as
the 197 comments.

Specifically, the USC study that Kirchner -- that
was just mentioned a few moments ago and it was mentioned
earlier in today's testimony, I kind of wanted to indicate that in the conclusion statement it does say further research is needed before firm policy conclusions can be drawn from this preliminary analysis. I just want to highlight that. Until this study is complete, the Board should probably reserve taking action on anything too extreme.

Also, the CEC last year -- or in 2015 during the IEPR discussions, there was a UCI study that indicates due to California's rigorous local rules on criteria pollutants and air toxics, there's not that one-to-one correlation with greenhouse gas reductions, and sometimes it's inverse.

So sometimes you could reduce NOx and increase greenhouse gases. It's not as clean as we'd like it to be, especially because of how strict California is, especially in those heavily regulated basins, where most of Californians are, South Coast, Bay Area, or San Joaquin.

And so with that in mind, trying to get a greenhouse gas policy, such -- you know, the scoping plan, and specifically cap and trade, to do something that they're not really designed to do is going to always kind of run us into that problem, that we're not going to get the results that we want. Because they're good at
reducing greenhouse gases, but they may not be great at
reducing criteria pollutants, which is why we have those
local rules at South Coast, and Bay Area, and San Joaquin
and all the air districts.

And I think, you know, Placer brought it up -- or
Placer APCO brought it up -- the APCO bought it up, black
carbon from forest fires is a huge health issue, and we
don't currently address that. And I think that's a place
for exploration and obviously staff has looked into it.

And as things move on, hopefully we can continue
to examine that as a piece of this puzzle, because that is
a place where we can truly make an impact, and it's kind
of outside of the scope of things that we currently do
that's not regulated at the local level or per se, other
than with the fireplace rules and things like that.

So appreciate your time. Thank you.
VICE CHAIR BERG: Thank you.
Hi, Brent.
MR. NEWELL: Good afternoon, Madam Vice Chair,
how are you?
VICE CHAIR BERG: Fine. Happy New Year.
MR. NEWELL: Thank you. You too.
It's great to be here today. And I was really
enjoying the tone and atmosphere from the Board and from
staff while the presentation was happening, while the EJAC
was giving its recommendations. It's so different than what was happening 10 years ago when the Board first started implementing AB 32.

Many of you on the Board weren't here. And there was actual -- you know, the EJAC had such frustration in their recommendations being ignored back then. They were denied resources and data to do their job.

It's totally different this time around. You know, the EJAC is getting resources. It's making these recommendations, which we join. But I'm a little discouraged at the actual policy in the draft plan that's come out. That seems to not be very congruent with where the EJAC is coming from. And it gives me a little concern. It makes me wonder whether EJAC is at the table, but still on the menu.

It's important that we do this meeting that you're talking about, this kick-off-the-shoes meeting that the Chair suggested, to take these recommendations to heart, really, really do a good job in evaluating these alternatives, because last time around there was no real consideration of the alternative carbon tax policy.

This time around you should do it. You should do a real, good faith, reasoned analysis of that strategy. A carbon tax provides emissions certainty when combined with a cap, and the AB 197 direct reductions that are required,
and the Board's duty to revisit how we're progressing towards that 2030 target.

You're going to do another scoping plan in five years. So all of that combined provides an excellent regulatory system to ensure emissions certainty.

A carbon tax also provides price certainty and revenue stability. Right now, you're 1250 a ton. Who knows where you're going to be. That's not the price that's needed to drive down reductions period. We all know that.

There's also different revenue allocation options, like the Just Transition Fund that Board member Gioia mentioned. There's dividend to help low income consumers adapt to reduced or increased costs.

I want to address Board Member Mitchell's comment about anaerobic digesters in the valley. Those that produce electricity are 20 times more pollutant intensive than a natural gas fired power plant. That is not the solution that valley communities need. Pasture based dairy operations reduce methane, sequester carbon, like the person from the Natural Resources Agency was talking about with the Wildlands Program. It's important to get solutions that work and not make things worse.

That's why a carbon tax is important. That's why pasture based dairy operations are important. That's why
really listening to the EJAC is critical. So I want to thank you. I look forward to working with staff, and I hope that we're not on the menu this time.

VICE CHAIR BERG: Thank you very much.
MR. NEWELL: Thank you.
MR. JACKSON: Good afternoon, Board. Alex Jackson with NRDC. I'd like to echo the sentiment we heard from Mr. Newell. No one should be on the menu in California at this. If there was ever a cause for unity in the face of more pernicious foes, I think we are in it.

I'd like to speak in support of the proposed strategy today. And to do so, I'd like to just begin by acknowledging the passing of a real legend this morning, with the death of Art Rosenfeld, who was truly the Godfather of energy efficiency.

And for an organization whose institutional priority has been promoting and capturing all cost effective energy efficiency I would be remiss not to. And I want to just invoke a remark he made, that I think is as timely and sage today as it was back then. After the passage of AB 32, when he was a CEC Commissioner, he was asked when should we expect reductions from this new law to take effect? And he answered 1973, which is, of course, when California began implementing the first
appliance energy efficiency standards, building efficiency standards.

I think it just reminds us all that a lot of the foundational policies that this State has pursued to reduce emissions, carbon intensity of our economy date back decades, and will continue to be the foundation of our policy moving forward.

So as we debate our carbon pricing mechanism, I just want to remind the Board that so much of our progress has been the so-called complimentary policies are truly our foundational policies, and that I think we should check our expectations about how much we want to get out of one policy that is designed really to just put a price on the emissions We know we need to discourage.

But in that spirit, I would like to encourage the Board and staff to not overly rely on that mechanism moving forward to close the gap towards our 2030 target. And specifically, I want to highlight the building sector, which already is on par with in-state power generation, in terms of its emissions, but lacks a comparison -- a comparable policy framework to ensure that those emissions fall over time.

And our concern is that a lot of the barriers that that sector faces, as we heard from Dr. Bushnell, you know, those are market barriers that aren't going to be
too responsive to a price signal alone. And I think to inspire this sort of market transformation, we need to see to stay within our long-term carbon budget in efficient electric technologies, in sustainably sourced renewable natural gas. We'd like to see the final revised draft include more of an emphasis on those targeted reduction strategies in the preferred scenario, and not simply in an alternative.

But on that note, I thank the work of the Board and staff, look forward to working together.

CHAIR NICHOLS: Thank you. Before the next witness comes up, I just want to point out that we're getting close to the end of our list. If anyone has not signed up and is planning to speak, or thinking about speaking, please sign up now or we're going to close the hearing when we finish with number 40.

Okay.

MS. BUSSEY: Okay. Good afternoon, Madam Chairwoman and Honorable Board members. My name is Julia Bussey, and I work for Chevron Corporation. I have 3 points and requests that I'd like to share with you.

I'm going to short-circuit some of my testimony, because it repeats what other people have said, and I trust that you will believe that I have a rationale behind what I'm asking for.
Okay. First, I'd like to thank staff for adding some scenarios to the draft scoping plan, but I would like to ask that we explore the economic impacts from those scenarios. This is something other parties have asked for, and I think it’s very important that we all understand economic impacts.

Secondly, I would like to talk a little bit about cap and trade. The cap-and-trade measure requires direct reductions for 92 percent of its emissions and up, and can, in fact, include more. In this scoping plan, that would be a 175.7 million metric tons. Cap and trade does require direct reductions from sources. And we know that it has to be from the larger sources, because even if you added and eliminated all of the small sources, you could never get 175.7 million metric tons from those sources.

So we're a little bit troubled by the fact that in the scoping plan, it states that the refinery measure is the measure that really addresses direct reductions. And we believe that, and, in fact, ARB has stated that the cap and trade requires direct reductions as well, and we think is more effective.

We're also very concerned about that refinery measures target, the 20 percent, because it's really not founded on any specific data. It's not founded on any background. And we understand that, you know, you've
stated that not everything that's happening today will necessarily happen in the future, but we think that the investment signal that you send to the investors does matter, and we are concerned about the amount of investment that's taking place in California.

The refinery sector is 50 percent -- is the largest sector of manufacturing in California. So we think that this is concerning.

And then lastly, although the scoping plan states that it addresses leakage, we believe that the leakage analysis, which allows for a 7 percent reduction in any sector prior to industry assistance is really flawed. Seven percent is equal to the Great Recession. California lost a million jobs in the Great Recession. We do not think that this kind of sacrifice is appropriate prior to considering leakage treat -- you know, industry assistance.

So that really concludes my comments, unless any of you have any questions.

Thank you.

MS. HOLMES-GEN: Great. Madam Chair and members, Bonnie Holmes-Gen with the American Lung Association in California. And the American Lung Association proudly supports our 2030 and 2050 greenhouse gas goals as critical public health measures. And we're pleased to be
here once again to work with you in developing this
critical plan, which this plan builds on the history of
California's leadership and broad public health and
community support for fighting climate pollution.

And we strongly believe that California must
continues leading the way in transforming vehicles and
fuels and tackling both our climate pollution and criteria
pollution problems at the same time. And clearly,
improving public health has to be a key element of this
plan. We're pleased with the discussion today about
further analyzing the public health impacts from these
scoping plan measures, and making sure we're playing --
placing the highest priority on measures to -- that will
get highest community health benefits.

We -- we'll provide some more comprehensive
comments as we go forward, but I wanted to raise a couple
of key points. I'm not seeing my time here, so I just
wonder if the clock is on. I have two minutes.

CHAIR NICHOLS: Over there.

MS. HOLMES-GEN: Thank you. Okay. We're --
first of all, we're looking for strong -- stronger
correction in this plan on how to achieve deeper
reductions in the transportation sector. We, of course,
strongly support our core transportation and vehicle and
fuels programs, LCFS, ZEV, sustainable freight, and
others. And we appreciate the strengthen, but we would like to see how we can go further and speed up the pace of electrification, especially in the heavy-duty sector, look at more robust LCFS targets behind the 18 percent, and accelerate our measures at ports, railyard, and other hot spots.

But I wanted to chat about sustainable communities for a moment. Lots of discussion today. This is a critical part of the scoping plan, a difficult and challenging part. We recommend you take some time to consider how to Step up the Board's work and focus in this area, in collaboration with local governments, air districts, and regional agencies.

So this involves careful consideration of how we're going to achieve the 7 percent VMT reduction that was discussed earlier that's embedded in the plan. It's embedded in the 2030 targets, but we don't have a clear path to get there.

Finalizing the regional targets is an important piece of this in getting a clear read on how far the targets can take us toward this goal, but there's some other underlying issues that I think that you should address. I encourage you to go deeper and look at some of the obstacles that we face in California to achieving these targets, specifically funding and lack of sufficient
State and local funding for building sustainable communities with more transportation choices.

Take a look at more clearly, and maybe this can be done in the kicking-off-the-shoes session. You know, some of the road blocks to funding for local strategies that have been faced by the regional MPOs. Look at what actually is the amount that's needed, how much funding is needed to support these local efforts, and how could that funding be provided? Could this plan make a stronger statement about the need to work more closely with within the Governor's office, SGC and other entities to realign existing state funds in identifying new --

CHAIR NICHOLS: Okay. Your time is up, Bonnie.

MS. HOLMES-GEN: I know. Thank you for the time.

CHAIR NICHOLS: If you don't take a breath, it doesn't stop the clock.

(Laughter.)

CHAIR NICHOLS: It doesn't work. Thank you. We appreciate your testimony.

Okay. Hi.

MR. WIRAATMADJA: Hello. Good afternoon, Madam Chair and members of the Board. Vincent Wiraatmadja here on behalf of BYD Motors. It's been a long day. I'll keep my comments brief and follow up with written material.

BYD is supportive of the proposed scoping plan
and the existing commitments, especially with the cap and trade scenario. We do want to highlight, however, our support, especially for the actions focused on heavy-duty vehicles, which represent 7 percent of the State's greenhouse gas emissions, even though they are -- only make up 7 percent of the State's vehicle population. They also emit 33 percent of the State's NOx and 40 percent of PM.

These strategic regulations focused on heavy-duty vehicles will be critical to achieving the goals in the scoping plan, especially hitting the 2030 targets, providing air quality co-benefits as noted with the emissions rates on PM and NOx, and direct reductions from mobile source. It's important that these actions receive the Board support. And it's also important that the Board remember that in considering these proposed regulations, that SB 350 and the advice letters coming out from the IOUs take a critical piece, the infrastructure piece, and make it more palatable.

So we hope you keep that in mind as we move forward with the implementation of the scoping plan.

Thank you so much for your time.

CHAIR NICHOLS: Thank you.

MS. NAGRANI: Hello, all. I'm Urvi Nagrani from Motiv Power Systems. And I just wanted to make a couple
quick points. One, timing is essential. You keep hearing wait, wait, wait from people who are asking for more data or let's look at the economic impacts. And the people who are saying wait have the most to gain from the status quo. They're the oil companies who have the most to gain, and they're stakeholders who have had their voices left out and need time to get established.

Both of them have different reasons for wanting that. But when Chevron or Shell, who've been around for over 130 years, say wait, it's enough time usually to kill off smaller companies that are providing the sustainable alternatives that will not exist in 5 years if you keep waiting. So urgency is important.

The other thing is for stakeholders to actually have a voice at the table. Their organizations need to be respected, they need to know each other, they need to know which organizations have efficacy in which areas, and that does take time.

But we cannot wait to take action until everybody is there. So we need to start taking action, and as we build, keep bringing in more and more to the coalition.

I think this is essential both for environmental justice as well as for environmental efficacy. Specifically, there are things that we can do right now, which will improve all of this plan. If we look into page
103 of your plan, we only get one sentence specifically that is non-lightduty ZEV penetration. And we get to make significant progress.

I have no clued what that means. I don't know if significant progress is 3X the amount of vehicles, or if that means we're going to have 5 percent market share, or if that means we're on our way to 100 percent in 50 years. All of those have different emission reductions. And as a business person, I can't plan how do we manufacture or create jobs to do that if I don't know those numbers.

There's another one line thing that could make life a lot easier, streamline CEQA compliance. In 2014, I came to a planning workshop here, which led to the creation of a grant, which 6 months later I started working on writing a grant. We got a coalition. We applied for the grant. I submitted it 1 year ago today. Three months later we were told, yes, we can go forwarded. You are conditionally award.

Then the budget didn't come till August, your Board approved it in October, today we still have not started work on the vehicles that we started talking about in 2014. That's a 3-year gap. And when I see a timeline in here, and I see, okay, you've got 2020 for when we're doing something. Does that mean 2020 we are starting the plan? Does that mean 2020 it's your staff is evaluating?
Does that mean 2020 and award was announced; 2020, the money is ready; or 2020 we started deploying vehicles?

I think that is essential. If 2020 is when we deploy vehicles, that means today we are starting, and then I'm very happy, because that means cleaner air.

The other thing that's very important is I'm a millennial. Most of my friends, if you tell them 3 years from now what are you doing, they could have started a company, sold it, moved cities.

And if that's how long it takes me to get one proposal through, how do I convince my friends that the best way, and the most effective scalable way to have impact is to come work with coalitions here?

(Laughter.)

CHAIR NICHOLS: Thank you.

(Laughter.)

CHAIR NICHOLS: Well done.

BOARD MEMBER SERNA: That is the most efficient use of 3 minutes I've ever seen.

(Laughter.)

CHAIR NICHOLS: I think you made your points very effectively.

Okay. Next.

MR. PATNEY: Hi there. Arjun -- is this on?

Arjun Patney, American Carbon Registry.
Thank you, Board, and as well as the EJAC community that was hear earlier. Just a first point. I just wanted to make sure there wasn't any misunderstanding with Board Member Mitchell had mentioned that her perception that there were more offsets from outside of California due to, if I heard correctly, lesser regulations outside of California.

And if that's the case, I just want to clarify that offsets that cannot be issued in California due to regulatory coverage, due to regulation cannot be issued outside California either. So it's not a regulatory disparity that drives that -- the difference in offsets, having more offsets outside of California. And the staff could certainly speak to that as well.

So, you know, I do appreciate that the scoping plan recognizes the effectiveness of the existing Cap-and-Trade Program, including offsets. We support the position that the offsets limit of only 8 percent, as it is now, should not be reduced further, and although we believe that an increase would be good for both the planet and the economy.

You know, to think that -- to think about taking certain emission reductions off the table is to consider a luxury that we cannot afford. We cannot afford it given the climate crisis, and we likely cannot afford it -- we
likely cannot afford making greenhouse gas mitigation more expensive in terms of the impact on our economy, and a reduction in jobs potentially as well.

The American Carbon Registry has been an offset project registry in the program since it began. And working with ARB, we believe that every offset we have issued is a real emission reduction that has helped counter the potentially devastating effects of climate change. Because climate change can be addressed with emissions reductions anywhere, we have not been particularly focused on where reductions the occur.

We do recognize, however, that others in this room do care where those reductions occur. And if we're hearing them correctly, they want the co-benefits of cleaner air and jobs.

So we are beginning to look, at ACR, at how opportunities for emissions reductions, based on our existing methodologies, overlay with disadvantaged communities, and the opportunities are there.

The next step would be to give thought to new approaches to emissions reductions that are specifically geared towards disadvantaged communities. We would hope that ARB would look at that, and we will be looking at that at ACR as well.

As we move forward, we'd be interested to work
with the EJ community and other interested stakeholders.

Thank you very much.

CHAIR NICHOLS: Thank you.

MR. BOCCADORO: Michael Boccadoro on behalf of Dairy Cares. I appreciate the opportunity.

We do have some concerns with some of the costs associated with the plan as it relates to the agricultural community, but I'm going to leave those for another day.

I did want to briefly provide some comments on the dialogue that occurred earlier today between Board Member Mitchell and the environmental justice community. It's really important that we foster some better communication between the dairy industry, the agency here and the environmental justice community, because we appear to be talking past each other.

There's absolutely no question, and -- to the fact that dairy digesters can provide substantial greenhouse gas benefits in the State. There appears to be a lack of understanding that these projects, if done right, can also provide substantial criteria pollutant reductions and benefits to disadvantaged communities.

We're trying to move these projects working with your staff. There's a sustainable freight project that ARB is sponsoring, along with State, down in Kern County, on a large dairy cluster down there, two transportation
fuel projects.

If we can accomplish that, they have the opportunity to provide substantial NOx benefits in the San Joaquin Valley by converting diesel trucks to natural gas trucks, and running them on dairy biomethane. So there's a huge opportunity here. And I sent an email earlier today to Mr. Corey and others. The air district down at the San Joaquin Valley. Dr. Sherriffs has been working with us to calculate what those NOx reduction potentials are, and they're huge. They're in the tens of thousands of pounds per project for some of the larger dairy digester projects.

So we need to stay committed to that, working towards that. It's not easy. We don't have one working here in California today, but we're on the right path.

And just lastly, let me thank your staff. Most of the folks sitting in front of me on your staff have been out to view a dairy digester or more than one dairy digester. Dr. Sherriffs, Mr. Eisenhut, Ms. Riordan have also been out. We encourage others to take that trip and see the good work that the industry is doing, and see the potential.

There's a vision here. We want to maximize the benefits of these projects and get the criteria pollutant benefits in the disadvantaged communities.
And then lastly, let me just say, it's not all about digesters. The industry is also looking at other alternative manure management projects, along with ARB and CDFA, solid separation, conversion to scrape where it makes sense, and even pasture based dairy operations.

They don't work in the San Joaquin Valley very well where we have irrigated pasture, but they do work on the north coast. So we're open to all of those things, and those projects can also have other benefits, including water quality benefits.

And the dairy digester projects provide water quality benefits. So we need to quit talking past each other, foster some better communication, and we're going to looking to your staff to help provide that opportunity.

Thank you.

CHAIR NICHOLS: Thank you.

Betty Chu.

MS. CHU: Good afternoon. My name is Betty Chu and I'm with Calpine Corporation.

CHAIR NICHOLS: Could you speak a little closer to the microphone, please? Thank you.

MS. CHU: My name is Betty Chu, and I'm with Calpine Corporation. Calpine is the largest generator of electricity from natural gas and geothermal resources in the U.S. We're proud that out of the country's 10 largest
power generators, we have the lowest emissions of criteria pollutants and greenhouse gases.

We've long supported California's groundbreaking climate change program and have stood alongside ARB and the State in defending EPA's efforts to reduce power sector emissions. Calpine strongly supports staff's proposed scoping plan scenario. Continuation of the Cap-and-Trade Program will provide greater certainty that the state will achieve its ambitious 2030 goal than the other options considered. It also provides the opportunity for linkage with other states and provinces.

Now, more than ever, it is critical for California to play a strong leadership role in working with other jurisdictions to combat climate change. And continuation of the Cap-and-Trade Program is a key component of that leadership.

We also believe that the proposed scoping plan scenario strikes the right balance between the criteria provided by AB 32, such as minimizing leakage and maximizing benefits to the State, and AB 197's instruction to prioritize measures resulting in direct reductions at sources.

And the revenue generated by the auctions allows for investments that can achieve targeted reductions and promote equity throughout the State.
Thank you.

CHAIR NICHOLS: Thank you.

And, Paul Mason, you are the last on the list, I believe.

MR. MASON: Well, thank you, Chairman. Paul Mason with Pacific Forest Trust. And being the last, I will try not to repeat anything else and be brief.

I wanted to thank the staff. Obviously, they've done a tremendous amount of work here, but it's really been, I think, a stretch and a stretch done pretty well by the Air Resources Board to integrate the natural and working lands sector into their thinking, because it is a much more holistic way of approaching things than looking at a tailpipe or a smokestack in bringing down the emissions in that one area, because in natural systems things are so interrelated. So I really appreciate the staff really stretching to build that into the thinking in the plan.

And as the Minister from Ontario noted earlier today, as well as Natural Resources Agency, the natural and working lands sector is just so tremendously consequential. If we don't get a grip on reducing the emissions that are starting to happen there from that sector frankly coming unraveled in some places, and take advantage of that sequestration, all of the rest of our
efforts are going to be for not, because they're just
going to be overwhelmed by the emissions coming from the
natural lands. So it's really something we need to
prioritize.

And that brings me to the action plan that's
proposed in this section, because frankly it is
complicated. We do have some uncertainty and I fully
understand that we're going to need to take some
additional time to develop some more specific plans for
different regions of the State to get down to, okay, what
specifically are we going to do?

But I look at the forest carbon plan. It was a
product of the last scoping plan that came out in May of
2014. And it was a, you know, 1 bullet point item there.
Two and a half years later, we finally see the first
substantive draft of that on Friday. And I want to make
sure that as we're embarking on another round of planning
processes, that we make sure that there are some good
benchmarks built into there, and sort of a scaffolding
within which to work, so that we don't end up with a
planning process that goes on and on without really
getting to those actions steps that are going to be
necessary in that sector.

So the draft plan does layout a lot of things
that should be addressed, and we'll include some
additional suggestions in our written comments for how to make sure that we actually get there. But I think that it is something we're going to need to pay attention to, since it is such a major part of what we're looking at here, that it doesn't become a soft target that slips out until 2018, 2019, and, you know, never really gets down to action steps.

Thank you very much

CHAIR NICHOLS: Thank you.

Okay. That is the end of our public testimony. And therefore, I think we can close the record at this point, is that right, we can close it for this proceeding or how do we do this?

CHIEF COUNSEL PETER: We actually have the CEQA comment periods open, so we can -- we're still receiving comments on -- in the docket and it's open.

CHAIR NICHOLS: Okay.

CHIEF COUNSEL PETER: You can close the public testimony as of today.

CHAIR NICHOLS: Yes, for the testimony we'll -- for today will certainly be closed. Okay. So at this point, I think we need to have a brief discussion of what happens next. And I believe Ms. Takvorian had some comments.

BOARD MEMBER TAKVORIAN: I just have a couple
questions, then I have to run to catch a plane.

CHAIR NICHOLS: Yes. Okay. That's all right.

Great.

BOARD MEMBER TAKVORIAN: So actually it dovetails with I think what you were asking, but I wanted to ask the question, because I've been asked. Many people submitted comments in response to the discussion draft, and I wanted to clarify whether those could be responded to as part of the CEQA process in the response to comments? I think it's confusing for members of the public to think that they've submitted comments and not to know that they might need to submit them again.

CHIEF COUNSEL PETER: Let me address that. The CEQA process has a beginning date and it's attached to a particular document. So if somebody wants to comment on that, they need to submit the comment for the -- during the CEQA period.

There's been so many, you know, workshops and so forth, that it would be unclear what's in and what's out. And so that's why the statute provides a very specific beginning end, and an ending end.

So the time is -- was triggered by the announcement when it was released. It's currently set for 45 days. As the Chair indicated, it can continue onward. Comments that are made at the hearing during the -- during
that period also will be addressed. But some of these discussions have gone back, as you know, you know, months in workshops and so forth. So we're in the comment period right now.

BOARD MEMBER TAKVORIAN: Okay. Well, that's what I was afraid of, because I think I understand CEQA pretty well. So that's why I wanted to ask the question. I do think that if staff could look at the discussion draft comments and not ignore them, that -- I get it in terms of the official responses, but I think a lot of people responded to the discussion draft and I hate to lose those, so --

CHIEF COUNSEL PETER: No, I totally agree there.

BOARD MEMBER TAKVORIAN: Okay.

CHIEF COUNSEL PETER: You can include other information. Somebody could also resubmit it during the period. That's the other thing they could do.

BOARD MEMBER TAKVORIAN: Right. I just wanted to make sure everybody got that -- that word.

And then the other just couple things I wanted to say were that I agree that the Board workshop would be great. And I appreciate that comment.

And I also wanted to just say that I really appreciate the integration of environmental justice and health and air quality that seems to be running throughout
the plan. I think that's a huge change, and a real step forward.

I'm saying this in shorthand, so please take lots with it, but that I think it's inconsistent. There are actually places in the plan where that is -- it actually says the opposite, that it says that greenhouse gases and direct air pollution reduction and criteria pollutants are not consistent to be -- shouldn't be integrated. So I'm concerned about that, and I think we need to clean that up. So I'm hoping that we can do that.

And then the other thing about the environmental justice analysis that has been raised is that that really does need to be consistent across the Board, and that each of the scenarios needs to be assessed against the environmental justice analysis, as well as the measures, I think.

And then I would just reiterate that I think the measures and the benefits need to be articulated and quantified.

In the industrial sector specifically, I don't think that the scoping plan goes far enough, so I'm looking for what else we can do beyond the cap-and-trade scenario that's laid out. And I've already given my comments about the VMT and transportation.

Thank you.
CHAIR NICHOLS: Yes. Thank you. Yeah. Just with respect to the comments that we've heard coming along, you know, through the discussion process, many of those comments were really high level, "You should think about this", "You should emphasize that", "You should focus differently." And they were really good comments. I mean, there was nothing -- you know, nothing wrong with them as comments. They may not have been specifically answered, but I would hope that we would go back and take a look at them and see where there are ideas or themes that we haven't incorporated or that we could do a better job of calling out in the final document.

A lot of the comments are about things that are written in a way that either might be slightly misleading or not reflect everything that we think or that we've done. And just going back and sort of thinking more about how to -- how to document our thinking is going to be very important as we go forward.

I do think that a number of the comments that we heard reflect the fact that this scoping plan is a really big deal, and people are hoping that it's going to guide everything that happens, you know, from local land use decisions, to investments by Caltrans, to -- you know, to the future of the State's economy, and in a way, of course, it will. It needs to, if we really are going to
be serious about making our State climate resilient and incorporating climate thinking into everything we do. It's a -- it is a thread that has to run through everything that we do.

But that means that there are a lot of other agencies and entities that have jurisdiction here that also have to be involved, and have to find either incentives or reasons why they need to be involved in doing all the things that we think they should be doing. The comment about 375 especially, you know, caused me to smile a little bit, because we've gone so far beyond, you though, where people thought that was going to take us in terms of the thinking that's going on at the regional and local level about carbon reduction, but it's still nowhere close to what needs to be done.

So it's -- I guess, it's easy to just sort of tick off the things that have already happened and focus on what needs to happen going forward. And this is a forward-facing plan.

Anyway, I'm pleased with the level of participation, with the breadth and diversity of the comments that we heard. I'm also pleased, in general, with the level of interest on the part of all sectors of the community, and being part of this effort, and helping us do a better job with it. So I think we're -- I think
we're well begun, but we have, as we keep saying, a lot of work to do. And part of that, of course, is going to be to incorporate new studies and new ideas that come along.

With that, we don't take any action today, but if there are Board members who have additional thoughts.

Dr. Sperling.

BOARD MEMBER SPERLING: Yes. I'd like to follow up on your comment about SB 375, which I was going to say anyway.

CHAIR NICHOLS: Oh, good.

BOARD MEMBER SPERLING: You know, I feel like we've suffered through years with SB 375 with one key aspect ignored over and over again. And I think this is the time to really call attention. And so Bonnie Holmes-Gen was starting to go there.

We need to get the California Transportation Commission, California State Transportation Agency, and the MPOs much more engaged on the funding of transportation. And the scoping plan largely ignores it, or is very passive on it, let's say. And I think that's, of all the things I saw in the whole scoping plan, that's the thing that stood out to me that really needs a lot more attention and could be very influential going forward, and should be.

CHAIR NICHOLS: I agree with you. Mr. Corey
actually went and spoke to the California Transportation Commission not too long ago, a rather scary place to appear if you're there.

BOARD MEMBER SPERLING: I'll tell you my anecdote on that. After one of these meetings, previously, I did this -- I went to CTC. I said, you know, we need to figure this out. How do we get funding to follow the SB 375 SCSs, how do we start changing that, and can you give me a tutorial on this?

So I sat down with them for 3 hours. They had their top analysts. And after 3 hours, I was more confused --

(Laughter.)

BOARD MEMBER SPERLING: -- Than when I walked in. It's really complicated. And I don't know if people use that intentionally or not, but stuff is not happening, you know.

(Laughter.)

CHAIR NICHOLS: One might wonder if the process was designed -- let's say it's the opposite of user-friendly as your experience showed. So, I don't know, Mr. Corey, if you have any additional thoughts about your adventures with the CTC?

EXECUTIVE OFFICER COREY: I was advised not to
go -- but

(Laughter.)

EXECUTIVE OFFICER COREY: -- a large Commission
that is historic -- you know, several local
representatives. And part of the conversation -- the
objective of the presentation was to provide an overview
of the scoping plan, the target -- really, what we just
talked about here, but at a higher level.

The conversation got into VMT, and the
perspective by some. And I'd be the first to say pretty
diverse group. I mean, there are some folks that really
would share, I think, significantly the vision that you
can't get to our GHG target without a significant
transformation of the transportation sector. I don't
think that viewpoint is shared across necessarily all the
members.

And, to me, there is a lot of work to do with the
Commission, with the CalSTA, with Caltrans. We have
been -- I've personally taken on to meet with the
executive director every other week, because I think
forming that relationship of a group that we really
haven't had that history is going to be key to move
forward. But this is an area I'm actually looking for
some help, guidance, because I think that's what it's
going to take.
(Laughter.)

CHAIR NICHOLS: And that's just one aspect of this program that we're dealing with here. All right. Yes, Supervisor Serna.

BOARD MEMBER SERNA: Thank you, Chair Nichols. I just want to say that I -- you know, this is -- if you look at the executive summary of the draft, it explains, about as simply as you can explain it, what this document is intended to be, and that is a framework of action.

And while I totally agree with that. You could judge by the thickness of it, that it's a pretty detailed one. And it should be. I mean, there's been additive legislation. Other laudable intent with a mid-term target that now is incorporated into this.

And I just want to say having had discussions with people that are much smarter than I am when it comes to CEQA, and it's application in this State, there has been quite a bit of concern for -- especially on the local land use CEQA side of things that the scoping plan is obviously going to help inform quite a bit, in terms of impact analysis and appropriate mitigation when it comes to land development especially in our cities and counties.

So I, for one, am actually very encouraged by the level of detail in here, because I think that that's going to be a very clear signal to that particular industry, and
certainly for us in local government, that we have something we can rely on, and we won't have to go to court every single time on projects, because there is something that's nebulous or misunderstood.

So I think taking the time to do it right and certainly with respect to the urgency of this has been wed -- wed together appropriately so thus far. So again, thanks to staff and certainly the Environmental Justice Advisory Committee for all their continued hard work, and everyone that spoke today. And I'm sure that we'll continue to give us a piece of their mind in the future about this very important document.

Thank you.

CHAIR NICHOLS: Ms. Mitchell.

BOARD MEMBER MITCHELL: First of all, thank you staff for a very comprehensive document. And I think one of the highlights of this scoping plan is the collaboration that you have achieved with the other agencies that are involved, because eventually all that greenhouse gas reduction money goes to some of these agencies, and we need to work with them to get the job done. So I congratulate you on all that hard work.

The one thing in the plan that I am most excited about, and also concerned about is the transportation sector. One of our speakers highlighted page 103, and it
was the page that I had marked myself, because it does
call for accelerated use of clean vehicle equipment and
technologies in the freight operations.

And it also calls out, and much to my
gratification, the work that is being down on I-710, and
that you've noted that we can work with the Caltrans on
getting a zero emission -- near zero or zero emission
freight lanes on that road, which is something that that
community, which is an EJAC community, has been working
very hard on.

So -- and I think we have some more work to do on
the incentives. Obviously, we need incentives to
transform those fleets that are moving our freight. And
so, as you know, we're trying to work on that down in the
South Coast. And we appreciate your help on that as well.

So that's one of the things I'm most concerned
about as we move forward with our scoping plan.

Thank you.

CHAIR NICHOLS: Other comments?

Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Thanks. Just 2
points. One is a point that I've made before about the
politics of cap and trade. I appreciate that staff is
looking at all of the different options and how they all
fit and what direction we might go, including dumping cap
and trade.

But it's always good to remind ourselves about the political realities of the options in front of us. As I've said to many of my former colleagues, staff, advocates, there's 3 options on the table. There's cap, no trade. We could just regulate it. And there's nuances to these obviously, but the core of them are 3. Cap, no trade, where we just regulate reductions. There is a carbon tax, and there's cap and trade.

Of those 3, cap and trade is the most politically acceptable for -- we wouldn't be able to do a carbon tax. We, here. They, over there, would. And so that is a reality that we have, not just in California, but in any political environment. And so that also has to constantly be brought you up. And I take it upon myself to do that, as someone who used to be in that building.

It is very important that we always keep that in mind, because we could come up with the best program that makes the most sense in this room, and it wouldn't stand a chance over there. And so we need to keep that in mind as we go through this.

And then secondly on the EJAC recommendations, it was very rich. There was a lot stuff in there, but there were a lot of really good mitigation strategies, and targeted, geographic improvements that could be made that
supplement cap and trade. And we've had this conversation among ourselves individually. I don't know that I've ever had the conversation here in the public.

   But there are some really good ideas in there that I think we need to cull and incorporate into our thinking of -- on a going-forward basis, regardless of how we move forward, that we incorporate some of those things, because we've -- we need to do more in those areas.

   Thank you.

CHAIR NICHOLS: Thank you.

   Any other -- yes, Dr. Sherriffs.

BOARD MEMBER SHERRIFFS: Yeah, and I just have to add coming from the valley to be certain that we are aware as we do these of any adverse impacts that there may be on air quality criteria pollutants, and that we recognize those, and consider how they would be addressed.

   Thanks

CHAIR NICHOLS: Yes.

   Any other Board members want to be heard at this time?

BOARD MEMBER RIORDN: I just, Madam Chair, I wondered about the workshop. Have you thought through this or are you going to let us know what you might work out? I think it's a -- I think it's an excellent idea.

   CHAIR NICHOLS: I thought it was such a good
idea. I thought I should just let others implement it,
and --

(Laughter.)

CHAIR NICHOLS: Well, to the extent that I have
given it more thought, it was to hope that we could get it
done and get everybody there. And the easiest way to do
it is in connection with a Board meeting.

So if we can find a way around the February Board
meeting, either afternoon and evening before, or
something -- probably before is better, just because it
gives us an opportunity to reflect on what we've heard at
that workshop, and then organizing it in a way that it's
really productive, so that everybody can speak, and can
hear, and I think is going to be the key to it is having
the right agenda, and possibly a facilitated situation
just to make sure that we keep ourselves all moving
forward.

Yeah, I'm pretty excited about the idea actually.
So I hope we can work along those general -- those general
lines.

I can't resist sort of saying one more thing
about -- in response to -- really to Hector's comment.
There's no question that the Cap-and-Trade Program is the
ing thing that attracts the most attention about the scoping
plan. But we have to keep reminding ourselves that it
isn't the scoping plan. It is just one piece of the scoping plan, and we could take it out of the scoping plan.

By contrast, let's say, taking out our vehicle emission standards would destroy the scoping plan, and the threat that we face of that actually happening as a result of congressional action is real. We don't want to overplay it, and we certainly don't want to do anything to encourage it. But on the other hand, we have to be mindful of where the real bang for the buck is. And maybe we haven't done a good enough job of sorting of articulating that aspect of it. We've done it in kind of a defensive way sometimes when we, you know, needed to, you know, try to explain that we weren't just all cap and trade all the time.

But I think maybe we need to have another -- another way of kind of framing that discussion. But the other thought that came to me as you were making that comment was that this is not a body, which is well suited to cutting a deal on what the legislation is going to look like. We don't have the ability to -- for starters to get into a back room, you know. And to the extent we tried to do that, we would really undercut our credibility and what we do bring to the table.

So I want to make sure that we have the robust
discussion and do what we can to make sure that everybody
understands the facts -- the real facts, not the
preferred, or pretend, or alternative facts, or whatever.

But at the same time -- and that we can also spell out
where we think there's room for changes, for additions, or
as you were suggesting, things that come out of this
discussion that could make the program less burdensome,
more attractive to people who oppose it.

But I don't want to get into the position where
we're negotiating with ourselves or with other people
about what it's going to look like, because we can't do
that. That's not our job.

So I know you didn't mean that, but it was
just -- I wanted to make sure that we were all clear on
that fact, that we don't get to -- we don't get to do
that.

So with that, I think we will conclude this item,
and maybe just shift staff and take a stretch break, but
it's time for us to let Mr. Corey give us his plans for
the rest of the year.

Long vacations, lots of --

(Laughter.)

CHAIR NICHOLS: He turns red when he --
CHIEF COUNSEL PETER: He's got a camera on him
right now.
CHAIR NICHOLS: Okay. While we're getting settled here, I do need to note, and I didn't, because we launched right back into the discussion on the scoping plan, I have to note for the record that we did hold a closed session during our lunch break. That the Board was briefed on litigation, but there was no action taken during that closed session.

So that's for the record.

Okay. Are we ready for the Executive Officer's report?

EXECUTIVE OFFICER COREY: We're ready.

CHAIR NICHOLS: We're going to hear about our program priorities for 2017. And once again, we know that 2016 was a big year. And we made a lot of progress, but we are going to be advancing a wide range of initiatives in 2017. And so this report is intended to be an overview, and some sense of the timing in which things will be coming forward. It's just an information item. So we will hear from the public, if anyone wants to address it, but there's no formal record on this proceeding.

(Thereupon an overhead presentation was Presented as follows.)

CHAIR NICHOLS: Of course, it does become part of your job review, but you know --
(Laughter.)

EXECUTIVE OFFICER COREY: Of course.

CHAIR NICHOLS: Okay.

EXECUTIVE OFFICER COREY: Ready?

CHAIR NICHOLS: Yes, we're ready.

EXECUTIVE OFFICER COREY: All right. I'm pleased to report the work we've been doing over the coming year. I want to highlight some of the significant actions the Board is going to be considering, but really to get to the punch line. I believe that this is going to be the most ambitious and important year for our agency in decades presenting great opportunities to build on our successes. And I will underscore, over the course of this presentation, why that is.

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EXECUTIVE OFFICER COREY: As you know, this year is the 50th anniversary of the Air Resource Board. Therefore, I think it's fitting to start my presentation by highlighting some of the activities we'll be undertaking to mark this occasion.

I also want to reflect on many of the major air quality and climate accomplishments in 2016, and the work that staff has done to position the agency for the challenges ahead. There is a lot to be proud of. But as noted, we also have a great deal more work to do here.
This year, more than ever before, presents a tremendous opportunity to define the path to achieve our air quality and climate goals.

EXECUTIVE OFFICER COREY: As you know, ARB was established in 1967, and was the first air agency of its kind. The Board's 5 decades of stewardship has led to exceptional air quality progress, continuing technical innovation, and environmental leadership, both nationally and internationally.

To recognize this important milestone, we're planning a number of activities over the next year. This will include events highlighting the progress that has been achieved, as well as the key actions and dedicated staff that has been so fundamental to the success.

We'll also break ground for the new laboratory in Riverside, which will have a state of the art vehicle testing facility.

Finally, we'll be redesigning our website to provide greater access -- accessibility to the public and stakeholders.

EXECUTIVE OFFICER COREY: Let me start with some of ARB's accomplishments over this past year.
EXECUTIVE OFFICER COREY: We continue to see air quality improve throughout the State. Last year, EPA determined the San Joaquin Valley, one of only 2 extreme nonattainment areas in the nation, met the 1-hour ozone standard. EPA also recently recognized the progress that has been made in San Luis Obispo, and Mariposa counties, with these regions now meeting the 8-hour ozone standard of 75 parts per billion.

And Imperial County now meets the 24-hour PM2.5 standard improving the health of residents in a region with one of the highest rates of childhood asthma in the State.

Health risks from air toxics also continue to decline. Diesel particulate matter, which accounts for over two-thirds of the total known air toxics cancer risk in the State has dropped nearly 70 percent -- 70 percent since 1990.

But we know we need more -- we need to do more to meet our air quality and risk reduction goals. Approximately one-third of California's 38 million residents still live in communities that exceed the federal ozone and PM2.5 standards. And exposure to diesel particles is too high, especially in Disadvantaged communities near freight facilities such as ports, rail yards, and distribution centers.
The efforts I'll describe later in my presentation will be critical to achieving our public health and risk reduction goals.

EXECUTIVE OFFICER COREY: On climate, our actions are putting us on track to meet the 2020 greenhouse gas reduction target mandated by AB 32. California's greenhouse gas emissions have declined at the same time the State's Gross State Product has continued to grow, representing an ongoing transition to a thriving low carbon economy.

In 2016, 100 percent of covered entities complied with the cap-and-trade regulation's November compliance event. Over $3 billion was appropriated for climate investments, ranging from cleaner technologies to more sustainable communities.

EXECUTIVE OFFICER COREY: Meeting our air quality and climate goals will require an ongoing transformation to cleaner technologies and fuels. 2016 saw continuing progress.

By the end of 2016, over 250,000 zero emission and plug-in hybrid electric vehicles were operating on California's roadways. By the end of 2016, there were 30 makes and models of electric vehicles, when just 6 years
ago there were only 5 available. Six of the models available now, including the Chevy Volt, have more than 200 miles of zero emission range.

Thirteen thousand public and workplace electric charging stations support this growing number of ZEVs. The number of hydrogen fueling stations also doubled last year, with 12 new stations that increased the total number of retail stations to 25.

In the heavy-duty sector demonstration projects of zero and near zero technologies are underway, and the use of solar power also continues to grow. The Green Omni Terminal Demonstration Project at the Port of Los Angeles will be a solar-powered facility that uses zero and near zero emissions cargo handling equipment to move goods. And since 2013, overall solar power generation in California has more than doubled as a result of policies, such as the Renewables Portfolio Standard.

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EXECUTIVE OFFICER COREY: 2016 was a major year for climate actions. At the State level, the California legislature passed a number of key bills called out here. They were provided in a briefing that our Legislative Director provided a few past, so I won't go over each one. But they'll have a significant impact from a climate policy standpoint.
And at the federal level, EPA finalized their phase 2 GHG standards for heavy-duty trucks. The Kigali Agreement signed in October 2016 phases down the production of fluorinated gases. United States, California and industry commitments to fund the research necessary to assess the feasibility and safety of low-GWP refrigerants is also underway.

Implementation of the International ZEV Alliance, which is a collaboration of national and subnational governments working together to accelerate the adoption of ZEVs around the world also continues to expand, as does the Under 2 MOU, which was discussed earlier today.

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EXECUTIVE OFFICER COREY: 2016 also marked a focus on public health protection, especially disadvantaged communities. ARB staff continued to support implementation of our programs through compliance outreach and enforcement efforts, including focusing on large freight hubs and disadvantaged communities.

Incentives continue to play a vital role in promoting cleaner technologies. Last year, over $700 million was invested through multiple programs. And efforts to reduce NOx emissions from heavy-duty trucks are also critical for meeting ozone and PM2.5 air quality standards.
In response to work by ARB staff and petitions by local air districts, headed up by the South Coast District, in December of last year, EPA committed to the development of new low-NOx engine standards as part of a harmonized rulemaking with California. We plan to continue to work with EPA to move expeditiously in developing these requirements in recognition of the critical public health benefits they'll provide.

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EXECUTIVE OFFICER COREY: As I mentioned, incentive programs have been essential in spurring the deployment of cleaner technologies and air districts are key partners in implementing these programs. This slide highlights just a few of these local investments.

The Prop 1B program funded the purchase of 30 Tier 4 locomotive engines throughout the State. The Carl Moyer program supported the purchase of 13 electric transit buses in South Coast, and 86 units of electric airport ground support equipment in the Bay Area. The San Joaquin purchased 15 electric transit buses and the Sacramento district 29 cleaner school buses using AQIP funding. Funding for cleaner school buses is especially important to reduce children's exposure to harmful diesel particulate.

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EXECUTIVE OFFICER COREY: Ensuring these new technologies operated as expected in the real world is also critical. As you know, VW installed defeat devices on certain diesel models to cheat test cycles used for assessing compliance with California’s emission standards. Last October, the federal court approved a landmark 14.7 billion settlement for 2 liter diesel engines—cash to individual owners or lessees and mitigation and other payments to the states. The settlement could not have happened without the extraordinary work of ARB’s technical and legal staff in identifying the defeat devices, and in working with EPA to negotiate the appropriate mitigation and penalties.

Expanded testing programs have also discovered additional violations, with the recent announcement regarding the certain Fiat Chrysler diesel vehicles. These efforts underscore the need to continue to enhance ARB’s vehicle testing and enforcement programs.

The new state of the art laboratory in Riverside is pivotal to that effort to ensure that the new vehicles operate as certified under a full range of real-world driving conditions.

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EXECUTIVE OFFICER COREY: Significant progress occurred in our efforts for the new Southern California
facility. Escrow closed on the Riverside site earlier this week, and the Governor's proposed budget for fiscal year to 2017-18 includes funding for the new facility.

The proposed funding is a major milestone for the project, and, if approved, will pave the way for the final design and construction of the facility by the end of 2021.

We're also working -- or early 2021. We're also working on several efforts to support employees during the transition. Our administrative staff have conducted 3 tours of the Riverside area for El Monte staff in cooperation with the Mayor's office, other Riverside representatives, and UCR. These tours will continue in 2017.

Finally, we've continued to work closely with the Department of General Services, the master architect, and various other contractors to complete the Draft Environmental Impact Report, and develop the necessary performance criteria for the new facilities.

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EXECUTIVE OFFICER COREY: The accomplishments I just highlighted are the foundation for our future efforts. Before I walk through the specific items, I'd like to briefly describe what I see as the priorities for 2017.
EXECUTIVE OFFICER COREY: This will be a critical year, and one that is unprecedented in the number of actions the Board will be taking to chart our course over the coming years. One of our key priorities will be to foster increased integration of strategies for meeting our air quality, risk reduction, and climate goals to maximize co-benefits.

These strategies will require comprehensive actions to transform the technologies and fuels we use, the design of our communities, and the way we move people and freight through the State. And as they have in the past, strong regulatory actions will drive development and deployment of the cleanest near zero and zero emission technologies, but strategic investments will also be needed to facilitate this transition.

We'll also continue to strengthen our environmental justice efforts and ensure that our programs benefit disadvantaged communities and reduce exposure to air pollutants that are still too high.

Finally, ARB will work with the new federal administration to ensure California continues to move ahead on implementing our programs.

My next series of slides will highlight a number of challenges we'll need to address as we implement these
priorities.

EXECUTIVE OFFICER COREY: California has made significant progress in improving air quality. But as illustrated here, we have more work to do. Today, about a third of the State's population lives in communities that exceed the federal ozone and PM2.5 standards. The South Coast and the San Joaquin had the 2 most critical air quality challenges - meeting ozone standards in the South Coast and PM2.5 standards in the San Joaquin Valley.

Meeting the ozone standard in the South Coast will require an 80 percent reduction in NOx by 2031, 80 percent. ARB's draft SIP strategy released last year outlines the actions necessary to achieve needed mobile source reductions. These actions also support California's efforts to reduce greenhouse gases, diesel PM, and petroleum use in the same time frame.

We're also continuing to define the nature of the control strategy for meeting PM2.5 standards in the San Joaquin Valley. Reductions from both stationary and mobile sources will be needed, given the diversity of sources that contribute to PM throughout the year.

EXECUTIVE OFFICER COREY: Along with efforts to meet air quality standards, we'll continue to implement
programs to reduce exposure to toxic air contaminants. While emissions of air toxics have decreased substantially, new health evidence shows that exposure to current levels represent a greater risk than previously estimated, especially for young children, we'll therefore be enhancing our air toxics program to address the higher risks and will provide recommendations on further actions to the Board later this year.

And as discussed earlier, as part of AB 197 we'll also be focusing on identifying opportunities for direct emission reductions, particularly for addressing localized risks around industrial facilities.

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EXECUTIVE OFFICER COREY: As you heard in the prior item, we released the State's proposed scoping plan to reach the 2030 greenhouse gas reduction target. This represents the most ambitious target in North America. And finalizing that plan is critical in mapping out our overall strategy.

The proposed plan includes actions that address short-lived climate pollutants, cap and trade, and the Low Carbon Fuel Standard.

We'll also work in partnership with the local air districts, and we'll be looking for opportunities to support more air quality co-benefits in its climate
actions going forward.

We also recognize the disproportionate impacts of climate change on certain communities, and that equitable climate action requires us to promote a low carbon economy to reduce emissions and create a healthier environment for California residents, especially those living in disadvantaged and low income communities.

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EXECUTIVE OFFICER COREY: Incentive programs have been an important part of our portfolio to accelerate the penetration to cleaner technologies across all our air quality and climate initiatives. A substantial enhancement in these programs will be essential going forward to achieve the technology transformation needed. This means that we'll need to look beyond traditional State grants and subsidies and look to financing California's low carbon, low NOx future in new ways that take advantage of synergies between public and private funding partnerships.

Defining the scope of funding needed and assessing priorities for investments is a first step. Staff will be presenting information to the Board on these investments over the coming year as part of the State Implementation Plans for the South Coast and San Joaquin Valley, as well as in funding plans for the individual
incentive programs.

These efforts must also provide funding in low income and disadvantaged communities following the requirements of AB 1550, SB 350, and SB 535 to maximize benefits for residents living in these communities.

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EXECUTIVE OFFICER COREY: Our Commitment to provide all Californians with healthy air and reduce greenhouse gases as part of global action on climate will remain our highest priority. This means continuing to build our efforts on the highest technical and scientific standards. We must also continue to evolve our program to adopt and enforce strong emission standards, promote advanced technology vehicles and equipment, and support the transition to clean renewable sources of energy.

ARB leadership at both the national and international level has advanced the science of air pollution, grown the market for advanced technologies, and led to countless innovations. This leadership will be increasingly important. Our collaboration with EPA over the last 8 years has been very productive. We look forward to opportunities for continued partnership.

At the same time, we'll continue to use our authority under the Clean Air Act and California law to tackle the important work that remains, and set strong
emission standards that lead the nation.

EXECUTIVE OFFICER COREY: Now, I'll preview some of the major items that will be coming the Board this year.

EXECUTIVE OFFICER COREY: On air quality and climate plans -- or rather our air quality and climate plans lay out the roadmap for turning priorities into action. During 2016, the Board heard updates on a number of plans that highlighted the interconnected nature of our public health and climate goals, and how strategies can help meet multiple goals.

This year, the final version of these plans will come to the Board for consideration. These plans will provide the Board an opportunity to discuss activities that will define the work of ARB for many years to come. This will be especially important as we continue to integrate and align strategies to maximize reductions across pollutants.

Along with key plans, the Board will be considering a number of significant regulatory actions and incentive program investments.

And finally, the Board will hear updates on the VW mitigation plans.
EXECUTIVE OFFICER COREY: Over the coming year, the Board will consider 5 major air quality and climate plans. Each of these plans draw from a climate -- a common core of new strategies, along with additional focused efforts to meet individual mandates.

Today's meeting was one of several discussions on the proposed scoping plan for meeting the 2030 target. In March, the Board will consider the proposed State Implementation Plan, which provides the State's commitment for reductions from mobile sources, fuels, and consumer products to meet federal air quality standards in South Coast and San Joaquin Valley. These measures will also enhance air quality progress in the remaining areas of the State.

And as required by SB 605, ARB is developing a plan to reduce emissions of short-lived climate pollutants. ARB released a draft plan in September of 2015, and the Board will consider the final plan in March.

And under the federal Clean Power Plan, States must develop compliance plans to meet the CO2 limits. ARB staff has already held several workshops and hearings on the plan, and anticipates presenting a draft to the Board in spring of 2017.

Lastly, staff will provide an informational item
on proposed updates to the per capita greenhouse gas reduction targets under SB 375 in March with final recommendations in the summer.

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EXECUTIVE OFFICER COREY: The Board will also consider 15 regional SIPs to meet federal ozone and PM2.5 air quality standards, 15. This map highlights the span of those SIPs across the State. Two of the most significant SIPs will be those of the South Coast and San Joaquin that I mentioned. Now, as mentioned staff will be bringing the South Coast SIP to the Board in March.

As directed by the Board, staff will also provide updates on the status of the public outreach and identification of near-term measures for meeting PM2.5 standards in San Joaquin Valley. An integrated SIP to meet multiple PM2.5 standards will be presented to the Board in fall of this year.

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EXECUTIVE OFFICER COREY: A number of proposed regulatory measures contained in this year's plans will be coming to the Board initiating a substantial regulatory development calendar over the next 4 years. Many of this year's efforts will build on current technology and efficiency standards.

The Board will consider the mid-term review for
the Advanced Clean Cars program in March. ARB's recently released staff report confirms that the previously adopted package of greenhouse gas standards, technology forcing zero emission vehicle standards, and the most health protective particulate matter standards in the world are appropriate and should be maintained.

Staff recommendations align with EPA's final determination signed on January 12. The mid-term review also recommends that California's efforts now focus on stronger regulations for greenhouse gas reduction beyond model year 2025, and increased emphasis on a broad framework to support zero emission vehicles as part of and Advanced Clean Cars 2 program.

For heavy-duty vehicles, last October, EPA and the National Highway and Transportation Safety Administration released the final heavy-duty Phase 2 GHG rule. Staff will bring a California Phase 2 regulation to the Board this fall that harmonizes with the federal program.

And over the course of last year, staff has been working on proposed amendments to the Cap-and-Trade Regulation as discussed earlier. Staff will be returning to the Board in spring as well.

Ensuring in-use emissions performance as trucks age is also critical to the control emissions -- to the
control of emissions from heavy-duty engines. Therefore, ARB will bring enhanced warranty and opacity requirements to the Board later year.

And lastly, because new technologies did not develop as quickly as anticipated, staff will bring a set of amendments for portable equipment ATCM and the PERP regulation. Both amendments will contain new elements to improve the enforceability of the regulatory requirements.

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EXECUTIVE OFFICER COREY: ARB staff will also be setting the foundation for future regulatory actions that will be coming to the Board in subsequent years. These include the post-2025 requirements for advanced clean cars that I mentioned that we'll be discussing more later this.

ARB staff has also begun work on development of a mandatory low-NOx standard for heavy-duty trucks and will continue to coordinate with EPA a national standard. Consistent with the mobile source strategy, California will develop and propose low-NOx engine standards alone if the EPA does not move forward with national standards.

We're also developing a heavy-duty inspection and maintenance program that takes advantage of the on-board diagnostic systems on modern trucks.

Other efforts will focus on enhancing penetration of zero emission technologies in the heavy-duty sector.
This will include last mile delivery operations and approaches to achieve a comprehensive transformation of California's transit systems.

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EXECUTIVE OFFICER COREY: A strengthened focus on environmental justice is an integral part of ARB's activities. As discussed earlier, we are increasing our outreach and enforcement efforts within environmental justice communities.

This will include meetings with community groups, and the EJAC to solicit input on our programs and how they can most effectively serve the needs of disadvantaged communities. We'll also be continuing to conduct targeted enforcement efforts in these communities.

Besides outreach and enforcement, the Board will hear a report on policy options for eliminating barriers to zero and near zero emission transportation options in low-income and disadvantaged communities.

And, investment plans presented to the Board this year will address requirements under recent legislation to dedicate higher percentages of cap-and-trade proceeds to low-income and disadvantaged communities.

And finally, I'm pleased to report that after a broad solicitation and interview process, I've appointed Ms. Veronica Eady as our Assistant Executive Officer for
Environmental Justice. Ms Eady brings vast experience to ARB. Most recently, she has been director of the Conservation Law Foundation in the Massachusetts office. She was associate general counsel and director of environmental justice at New York Lawyers for Public Interest, a nonprofit civil rights law firm in New York.

Veronica also served as director of the Environmental Justice and Brownfields Program for Massachusetts Executive Office of Environmental Affairs, where she was the principal author of Massachusetts environmental justice policy.

We're all looking very forward to have Veronica join our team. She'll begin her work with us on March 1st.

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EXECUTIVE OFFICER COREY: As we all know, last October, the United States District Court approved a partial consent decree between ARB, EPA, VW, and the United States Department of Justice. The consent decree partially resolves the Clean Air Act and California claims against VW for equipping it's 2 liter diesel vehicles with defeat devices.

This slide outlines the elements of that agreement, the stats of both 2 and 3 liter. And additional material is available on the website.
EXECUTIVE OFFICER COREY: Before I wrap-up, I'd like to again emphasize the importance of partnerships at all levels of government. The private sector and the NGO community help us achieve our goals. These partnerships have been a cornerstone of our success.

At the regional level, ARB staff has developed a close relationship with the State's metropolitan planning organizations. Staff continues to work closely with local air districts and CAPCOA, and we've increased coordination among State agencies, through our climate planning efforts, the Sustainable Freight Action Plan, the ZEV Action Plan, and the Clean Power Plan.

We plan on continued collaboration with EPA and other federal agencies, and will continue to foster domestic and international partnerships.

EXECUTIVE OFFICER COREY: I began my presentation by recognizing the 50th anniversary of ARB. Because of this Board's leadership, the number of premature deaths, asthma cases, and lost work and school days due to poor air quality continues to decline. We continue to reduce emissions of toxic pollutants throughout the State, and in our most vulnerable communities, as we also make progress towards our climate goals.
This Board's efforts in 2017 will continue to build on the success and set the stage for the next 50 years of progress.

This work will continue to demonstrate that clean air, progress on climate, and a robust and growing economy go hand in hand. And it's an honor to be part of the ARB team and to work with such a committed visionary and practical board.

And thank you. And the executive team, staff, myself look forward to working with you over this coming year.

CHAIR NICHOLS: It's a rather large and comprehensive agenda. Sobering thought. A lot of work obviously for the staff, but it's -- it is also well organized -- the presentation was well organized to short of show how things fit together, which I think is helpful. It doesn't really account for all the things that come up that aren't in your plan.

(Laughter.)

CHAIR NICHOLS: And they will, you can be sure of that. But I think it is helpful to just know that that's kind of sketched out there. So thank you for that.

It actually sort of flows well into the last item on the item. There was no one who signed up to speak on this item, which probably indicates that they're stunned.
CHAIR NICHOLS: They're stunned into silence.

EXECUTIVE OFFICER COREY: So well done. Nothing to add.

CHAIR NICHOLS: We have a comment here from Vice Chair Berg.

VICE CHAIR BERG: I do have a quick comment, because I had the privilege of going to China just this last 10 days, and attend the EV 100 conference. Alberto is learning to delegate, I understand.

VICE CHAIR BERG: So he and I'll have a conference later. But it was a wonderful opportunity. And one of the things that was so striking, it was in Beijing, we happened to land when it was beautiful blue skies, and -- but every day, everybody gets up and they look at the -- what the current reading for the PM is going to be for that day.

And as the days marched on, they brought us 3M masks in case the PM got worse. And we were advised day by day what the air quality health levels were going to be.

And we forget, as a young child who grew up here in Southern California and used to play outside until our
lungs hurt, how much progress we have made. After Beijing, I went to Shanghai where I did make a presentation to my global industry, and I used one of Richard's slides, which showed a picture of L.A. in 1947. And I put that slide up at the beginning of my presentation, which really was about innovation and opportunity for industry.

And as I was talking about trends, at the end of my presentation, I brought up the slide of Beijing -- I'm sorry -- yeah, Beijing in 2013. And I did not put the title right away. But as I brought up the title, and although the air quality ozone for L.A. but PM for Beijing were identical. Had you taken the titles away, you wouldn't be able to tell the difference between the photos, because at the end of the day, you could not see the building across the street.

What I could tell the participants is that it won't take them 50 years to clean up their air. They'll be able to do it in a decade, rather than 5 decades. And it really is because of the work that this fine agency and our sister agencies have done. And that is a lot to be proud of.

So congratulations, Mr. Corey. I've been through 13 -- I think this is my 13th state of what we're going to be doing. And now I'm calming down a little bit. We have
a tremendous amount to do, but we're going to do it.
    So thank you very much.
CHAIR NICHOLS: Thank you. I think it would be
great if we could also know give some attention to the
issue of inventories, because this is one of my -- I know,
it's my favorite topic.
    (Laughter.)
CHAIR NICHOLS: It's -- but every thing that we
do depends on the quality of the information that we have.
And the basis of it all is the data that we collect about
air quality. And there's a lot of attention being focused
on that now, and rightly show. And one of the things that
one -- that AB 197 gives us an opportunity to do is to
think again and get others to work with us to find better
ways to not only collect and keep and display inventory
information, but also to make it available accessible to
the public, so that people can figure our what they're
actually being exposed to, which is a very important step
on the direction -- in the direction of empowerment of
people to do things about what they're -- what's affecting
them, so -- to take action.

So with that, I am going to turn this item over
to Mr. Corey to do a brief intro, and then we can hear the
staff presentation.

EXECUTIVE OFFICER COREY: Thanks Chair. And to
your point, emissions inventory is the foundation of our programs here. ARB currently has 3 separate emission inventory systems for smog-forming criteria pollutants, toxic air contaminants, and greenhouse gases.

While each emissions inventory effectively supports its receptive[sic] program goals, as we pursue greater integration across program and pollutants in order to maximize public health and climate benefits, a new multi-pollutant inventory system is needed.

And that's what you're going to hear about. And I'm going to skip down to introduce Beth Schwehr of the Air Quality Planning and Science Division to give the staff presentation.

Beth.

(Thereupon an overhead presentation was presented as follows.)

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you, Mr. Corey. Good afternoon Chair Nichols and members of the Board.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: In today's presentation, I will highlight the critical role that emission inventories play in all of ARB's programs. As our programs increasingly take on a multi-pollutant perspective, our inventories will need to evolve to meet
those demands. I'll therefore begin by highlighting the key program needs that are driving the move towards greater inventory integration, and some of the challenges we'll need to address.

I'll then provide a closer look at current inventory programs and discuss key differences between various programs.

Finally, I'll close by describing our plans for bridging those differences, and undertaking a fundamental redesign of current systems into an integrated inventory framework.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: Emission inventories are the foundation of all ARB programs. They serve as a fundamental tool for understanding the sources that contribute to our air quality and climate challenges, and how those contributions change over time.

This information is necessary to support multiple State and federal programs, including regional air quality planning, toxics risk reduction, and strategies to reduce greenhouse gases. They are also the starting point for all regulatory development efforts.

Lastly, in addition to defining the focus of current efforts, inventories allow us to track the effectiveness of our programs and the progress that has
been achieved.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: An emission inventory is typically one of the first elements to be developed when key mandates are established. This graphic highlights the timeline of key mandates, and the associated pollutants they address. As new mandates have been added, we have developed and maintained emission inventory systems to meet those needs.

Emission inventories for criteria, or smog-forming, pollutants were first required with the passage of the Air Pollution Control Act in 1956. And over the next 3 decades, ARB's emission inventory development efforts focused on these pollutants.

In 1983, the State legislature passed AB 1807, which required ARB to identify and control toxic air contaminants. Four years later, the Air Toxics Hot Pots Act required us to develop an inventory for industrial and commercial facilities that emit toxic substances.

In 2006, the California Global Warming Solutions Act mandated the development of a greenhouse gas inventory. An in 2008, ARB adopted the regulation for the mandatory reporting of greenhouse gases, which requires large greenhouse gas emitting facilities to report their emissions annually.
Most recently, in 2016, the legislature enacted AB 197 directing us to provide easy public access to multi-pollutant data, and an assessment of the benefits of programs across pollutants. As a result, while our individual inventories for criteria pollutants, toxics, and greenhouse gases have historically operated in parallel, going forward they need -- must begin to work together to meet new program needs.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: One of the most important aspects we need to enhance is providing greater transparency about our programs, and supporting communities' right to know through easier access to emissions data.

As just mentioned, new legislative mandates under AB 197 also provide a specific focus on enhancing the public's ability to compare emissions of different pollutants, especially from large industrial facilities in their communities. An integrated inventory will also better support broader efforts to understand the impacts of our programs across pollutants, including adaptive management assessments, and strengthen programs to continue to reduce community and regional air pollution.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: These
new program needs are leading to new questions about the
connections between pollutants. As we integrate our
inventories to better address these questions, we will
need to bridge key elements of the different systems.

For example, each inventory database has a unique
system for identifying large facilities. You have heard
about this challenge in recent Board discussion about work
done by Laura Cushing and her research partners to compare
greenhouse gases and criteria pollutant data at the these
facilities.

We have now found ways to better match this data
for the inventory visualization tool I'll be highlighting
in the presentation.

However, there are other integration aspects that
will require additional work to develop effective
solutions. Each inventory system has it own set of data
submittal requirements, emission methodologies, reporting
deadlines and frequency, and quality assurance/quality
control procedures developed to serve the needs of the
respective criteria pollutant, toxic, and greenhouse gas
programs.

The new system must be able to harmonize these
elements while still maintaining the ability to meet
individual program objectives. This greater level of
consistency will help us to better compare trends across
pollutants.

Improving our understanding of the causes of pollutant trends and relationships between pollutants may also require expanding the amount and type of information we collect. Understanding how control technologies and compliance options effect different pollutants will allow us to better design our programs to maximize co-benefits across pollutants, as well as detect and address any potential localized impacts from cap and trade.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: With that as background, now let's look at the current inventory programs in more detail, with a focus on key differences and how that will influence our approach to creating an integrated structure going forward.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: I'll start by going over the basics of emission inventories. An inventory is a compilation of information regarding various emission sources in a specific geographic region, and the pollutants they emit over a period of time, essentially it's the who, what, when, where, and how much of emissions.

Inventory development responsibilities are shared between ARB and the air districts with significant input
from facility operators, and several other local, State, and federal agencies. Typically, an emission inventory is a comprehensive accounting that includes individual large facilities, on- and off-road mobile sources, area-wide emissions, such as home heating and consumer products, and natural sources including wildfires and biogenic emissions from vegetation.

Inventories also reflect different points in time. Current, inventories and those of prior years include estimates of actual emissions. In contrast, inventory forecasts represent our best estimates of how emissions will change in the future, based on ongoing implementation of control programs and economic and demographic growth.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: As discussed earlier, each inventory was designed to meet specific objectives. And the information collected under each program reflects different levels of detail and geographic scope based on those program objectives.

This slide illustrates those individual program objectives. The criteria pollutant inventory covers 10 different pollutants, and was designed to support regional air quality planning. Therefore, the data is primarily collected and summarized at the regional level, but also
includes facility level data.

The toxics inventory contains data on over 200 air toxics. This data is summarized at the community level, but includes facility-level reporting to support localized risk assessments. These assessments often require detailed information about individual emission devices for hundreds of release points at the facility.

In contrast, the greenhouse gas inventory is designed to meet State and global climate change initiatives. It includes the major AB 32 pollutants, along with short-lived climate pollutants. The overall inventory is reported at the statewide level, but also includes detailed reporting for large facilities to support the Cap-and-Trade Program.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: These differing objectives have given rise to differing data responsibilities. This simplified schematic illustrates the data reporting relationships and inventory development responsibilities between ARB, the air districts, and facility operators.

Looking first at the left side of the graphic, facility operators are required to report greenhouse gas emissions directly to ARB, while criteria and toxic pollutant emissions from these same facilities are
collected by air districts and then reported to ARB.

As shown in the middle of the slide, ARB is responsible for developing criteria and toxic pollutant emissions for most area-wide source categories, and for mobile sources. ARB's EMFAC model, for example, is a state-of-the-art system for estimating on-road emissions. ARB staff also developed statewide estimates of greenhouse gas emissions for all sources.

Data developed by each organization in each sector are then combined to create the overall criteria pollutant, toxics and greenhouse gas inventories as shown on the right-hand side of the graphic.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: The objectives of each program have also led to different reporting regulations and guidelines. The criteria pollutant inventory was designed to address requirements in the federal Clean Air Act as part of designing programs to meet health based air quality standards. Specific requirements are outlined in the National Emissions Inventory guidelines that define the scope of emission sources to be included, as well as reporting frequency.

Toxic air contaminant reporting is defined at both State and federal level. This includes guidelines developed to meet the requirements of AB 2588, as well as
meeting the needs of the National Air Toxics Assessment program.

Similar to criteria pollutants, these guidelines dictate the pollutants to be reported, the level of emissions detail, and reporting frequency.

Finally, greenhouse gas emission reporting is braced upon international protocols to ensure that California's emission estimates are consistent with and can be compared to inventories developed by other national and subnational agencies.

In addition, to meet the needs of California's Cap-and-Trade Program, large greenhouse gas emitting facilities must follow ARB's mandatory reporting regulation.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: The program guidelines I just discussed often also define methodologies for estimating emissions, and the level of granularity needed.

Estimating the benefits of control technologies to reduce criteria and toxic emissions generally require facility data that is reported at the individual unit or device level. These emissions can be either directly measured through in-stack monitoring for large sources or estimated with engineering calculations based on emission
In addition, air quality modeling and toxic risk assessments require information about the location and release characteristics of emissions from stacks, in order to estimate downwind community impacts.

In contrast, greenhouse gas data are reported at the overall facility level based on aggregate fuel use. This level of reporting is consistent with facility level compliance obligations under cap and trade.

The same concepts extend to the estimation of mobile source emissions. Our estimates for criteria and toxic emissions reflect emissions by individual vehicle technology types, along with vehicle activity data specific to each region of the State, while greenhouse gas emissions are based on the statewide fuel use.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: The reporting frequency of emission data updates also varies between the 3 programs. Criteria pollutants for large facilities are updated annually, while smaller facilities are generally updated triennially.

Other categories, such as area and mobile sources, are updated periodically to support the development of State Implementation Plans. These updates are done to incorporate improved information on emission
estimation methodologies, the most recent activity data, and the benefits of new control programs.

Toxic pollutant emissions for point sources are typically updated every 4 years, although updates for large facilities can occur more frequently. Other categories are updated periodically to support individual risk assessments.

The greenhouse gas inventory is updated annually both for large facilities under mandatory reporting regulation requirements and also at the statewide level. This annual inventory is an important tool in tracking the State’s progress towards meeting targets established under AB 32 and now SB 32.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: The last element I'd like to touch upon is QA/QC procedures for facility emissions. Responsibility for review of facility emissions data is split along the lines of program reporting. For criteria and toxic emissions, air districts have primary responsibility for ensuring data quality prior to submittal to ARB with some additional review conducted by ARB staff.

However, because greenhouse gas emissions for large facilities are subject to the Cap-and-Trade Program, these facilities must complete third-party verification as
required under the mandatory reporting regulation.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: Each of the existing inventory programs has successfully supported their individual objectives. But as I discussed earlier, we need to move beyond our parallel inventory processes and towards an integrated system. This will represent a significant change from current practices and will require a substantial amount of work and resources for both ARB and the air districts.

In the final set of slides, I'll go over the work that is already underway, as well as our longer term plans over the next 5 years.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: Much of our near-term work is focused on implementing the requirements of AB 197. At the end of last year, we released an initial version of the Integrated Emissions Visualization Tool. The tool includes greenhouse gas and criteria pollutant emissions for facilities reporting under the mandatory reporting regulation.

We are now working to add toxics emission data by the end of this year. One of the key challenges we will need to address is how to effectively communicate the different potencies of individual toxic compounds.
Other near-term efforts include expanding the scope of the tool to include all other sectors, such as mobile and area sources at the county and subcounty level by the end of 2019. This task also includes assigning greenhouse gas emissions to facilities that currently only report criteria pollutants and toxics air contaminants.

We'll also continue to review emission trends in support of adaptive management assessments, and improve the data display and evaluation capabilities of the Integrated Emissions Visualization Tool to support community access and engagement.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: We provided a brief overview of the updated Integrated Emissions Visualization Tool at last November's Board meeting. The tool allows users to view data in a variety of ways, including summaries by sector, region, and community.

Data from the tool can also be downloaded to support additional analyses. This is an initial version of the integrated tool, and we are seeking input from communities, facilities, and members of the public regarding data displayed in the tool and ways to improve accessibility.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: The visualization tool is an important first step. However, in the longer term, we need to look towards redesigning our current individual inventory systems into an integrated database framework.

This new system will better connect emissions data for different pollutants, thereby enhancing our ability to compare trends and evaluate the impacts of our programs from a multi-pollutant perspective. It will also improve the efficiency of processing, reviewing, and storing emissions data.

At the same time, we need to ensure that we continue to maintain the diversity and specificity of data collected to meet individual program requirements.

To begin the process, we will be initiating efforts to evaluate how to address a number of design challenges. This will include how to better harmonize the timing and reporting frequency of data submittals for different pollutants.

Reporting guidelines for criteria pollutants allow for multiple methodologies for estimating emissions. As a result, air districts across the State may use a variety of methods for the same source category or type of facility.

Therefore, we will be working with air districts
to review those methodologies and determine how we can create greater consistency. We will also be enhancing the review and validation of data and assessing the potential for more consistent procedures and requirements.

Finally, we will be evaluating how best to convey the relative health risk potency when displaying toxics data, and how to meaningfully compare this data to emissions of criteria pollutants and greenhouse gases.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR:

Achieving our goals for an integrated inventory system will mean changes in data collection and reporting, and an increased workload for air districts. Therefore, we will need to work closely with districts to implement this effort, while ensuring that the new system also continues to support individual district program needs.

To improve reporting consistency, we will be working with districts to update inventory guidelines, and assess ways to achieve greater standardization of emission estimation methodologies. This will help ensure that differences or changes in methodologies don't mask overall trends in the data.

And we'll be evaluating the need for reporting of supplemental data to enhance our ability to understand the causes of year-to-year changes in emissions, and better
connect how these factors influence different pollutants.

Finally, we will continue to update the user interface and scope of data included in the Emissions Visualization Tool. These updates will further enhance data transparency and improve public engagement in designing effective programs to reduce emissions in all of our communities.

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STAFF AIR POLLUTION SPECIALIST SCHWEHR: We are beginning this longer-term effort in parallel with the near-term efforts now underway focused on implementing the requirements of AB 197.

As I mentioned, this long-term effort is a substantial effort that will take place over the next 5 years. This year's focus will be on assessing user needs and establishing the overall technical foundation, and system requirements.

This will be followed by getting needed IT and contracting support in place. Development of the database system, along with continued coordination with air districts will take place over the next 3 years with an initial version of the integrated framework completed by the end of 2021.

While this will be a large undertaking, the investment will support a transition to a more
comprehensive, efficient, and accessible system to meet our growing program needs.

This concludes my presentation, and we would be happy to answer any questions you might have.

CHAIR NICHOLS: Questions. Yes.

BOARD MEMBER GIOIA: Thank you for the presentation. I'm trying to understand the timeline of when all of this will become available. It says that the GHG and criteria data are -- have been released. So is that data now available on the website, and where is that? So in other words -- I'm familiar with the GHG inventory, and you can click on a facility and get the GHG data. Does that same site now have the criteria pollutant data?

AQPSD CHIEF MAGLIANO: That's correct. We originally had a tool that just displayed the greenhouse gas data for those large facilities. And at the end of the year, we updated that tool and so it now displays both criteria pollutant and greenhouse gas data to that same general tool mechanism. And I believe actually if you go to our home page, there is a link on the left side and you can go directly to that.

BOARD MEMBER GIOIA: So I was going to ask, it is accessible, because the last -- when I was trying to find the GHG, it was sort of hard to find. So it is now accessible on the home page.
AQPSD CHIEF MAGLIANO: Yes.

BOARD MEMBER GIOIA: On the left.

AQPSD CHIEF MAGLIANO: And so that is part of the broader accessibility --

BOARD MEMBER GIOIA: Great.

AQPSD CHIEF MAGLIANO: -- is getting people to the information they need more easily.

BOARD MEMBER GIOIA: Yes, I think that's important. And so it has -- and it has all the updated criteria data, which was really collected by the local air districts, and then provided to ARB, and, of course, the GHG data that we've collected. And then the toxics data looks like will be at the end of this year.

AQPSD CHIEF MAGLIANO: That's right. So we'll be working with the local air districts as part of adding that. And as we mentioned during the presentation, one of the key things will be -- you know, given that there are hundreds of individual toxic air contaminants, how do we sort of meaningfully display that data within this tool, so that people can really use it to understand what's going on in their community?

BOARD MEMBER GIOIA: So the -- and the criteria date is collected how -- how frequently is this collected? It's...

AQPSD CHIEF MAGLIANO: It varies on the source.
For the largest point facilities --

BOARD MEMBER GIOIA: Annual.

AQPSD CHIEF MAGLIANO: -- it is updated annually.

Smaller ones tend to be on every 3 year basis.

BOARD MEMBER GIOIA: So it -- just to understand, it's the cumulative -- it's the cumulative number for a facility, adding up all the pieces of equipment and all the emission sources at that facility, correct?

AQPSD CHIEF MAGLIANO: That's correct.

BOARD MEMBER GIOIA: You know what would be useful is also looking at how to link with some air districts, like in the Bay Area we are ramping up real-time data, air monitoring data, from stationery sources. You would be -- it would be good if this could link to those, so that there's one place people could go, so there's not many places, is that possible?

AQPSD CHIEF MAGLIANO: That was actually something we were just having a staff discussion about this morning. In terms of, you know, a longer term time frame as we're starting to make more and more community-based information available, how do we link all of that together? It's certainly something we need to spend some time thinking about, but, you know, making all of that data more successful -- accessible is a long-term goal.
BOARD MEMBER GIOIA: Okay. And finally, it's always useful to provide some interpretation or explanation of what that data means. We've had this discussion locally about real-time air monitoring data. It's useful to put the raw data out there, but it's useful also to have what the means from a public health perspective, because I think we have to under -- you know, try to provide the greatest useful information to residents who would look this up. How would we consider doing that?

AQPSD CHIEF MAGLIANO: We've started looking at that in terms of including some additional notes fields and documentation for the tool. But it's something we want to continue to partner with the local air districts on as you look at individual facilities, you know, how can we talk about what some of the factors that are associated with changes in emissions in that facility and how you interpret that.

So I think you're right it's very important to have that information alongside with just the individual data points themselves.

BOARD MEMBER GIOIA: Okay. Thank you.


BOARD MEMBER MITCHELL: Thank you for the report. I thought I heard in your presentation that the emissions
inventory for air toxics is every 4 years. Was that correct?

AQPSD CHIEF MAGLIANO: That's correct. Some of the larger sources are updated more frequently than that, but sort of the nominal update period is every 4 years.

BOARD MEMBER MITCHELL: I'm just wondering about that, because air toxics are so toxic and we've had some issues in my district on air toxics. So is it difficult to release that more frequently or -- I'm just wondering. Every 4 years seems a long time.

AQPSD CHIEF MAGLIANO: It does. And obviously, because air toxics is also data that's collected at the air district level, I think that's something that we want to continue to work with on the air districts looking at the resources and the workload associated with that on how we can potentially look at having more frequent updating across all 3 of the programs that we have.

DEPUTY EXECUTIVE OFFICER KARPEROS: If I may add. Some of the districts, in the South Coast in particular, because there are so many toxics and there is so much inventory information, it reports a quarter of its facilities every year. So every 4 years, a facility gets revisited.

And that is one of the issues that we're talking about in terms of the harmonization of the reporting
period. For both ourselves, but a member of the public coming on and looking at the inventory data, they're comparing a greenhouse gas data point that was refreshed last year, and the toxics data may be 3, 4 years out of date, as it were, or out of synch.

And so trying to understand the relationship between those 2 without a lot of caveat pages, as Mr. Gioia was referring to, is very difficult. So those are the types of things we're trying to tackle here.

BOARD MEMBER MITCHELL: Okay. Thank you.

CHAIR NICHOLS: Yes. Ms. Berg

VICE CHAIR BERG: You know it occurred to me, as I was listening to Ms. Mitchell, there is also an issue of permits. And these facilities are given permits that allow them to have a certain amount of emissions. So how do we tie the expectation of what's being allowed versus what's actual? You might have a facility that actually is permitting half as much. Maybe, they've done some things to bring their emissions down. You might have some facilities that are bumping up and running at capacity, because they're using their equipment to full capacity.

So as we're talking about how to present data it's so important to remember expectation. Transparency is critical, but if we're not educating and setting expectation, you know, one metric of something might sound
too much versus, you know, 100.

So as you're looking at this, I do think that expectation is really important, and to remember that we're not looking to find villains. We are tying to look at how to create the sense of getting people to reduce their emissions.

And certainly, we're looking for the bad actors. I know in your area not too far from my plant, there was some very bad actors. But we still, given even all of our measuring and all of our information, the bad actors seem to be able to stay out there longer than they should.

So it will be interesting to see how this all unfolds.

Thank you.

CHAIR NICHOLS: So I have dreams that go well beyond even what's been discussed here about what could come from this inventory project. And I realize that we have -- what we've already bitten off is very ambitious and it will be -- it will take time, and it will take coordination, and it will take resources.

But, you know, we've heard -- I certainly have been hearing since the moment I got to ARB in the 2007 incarnation about new ideas, about risk-based standard setting, and new kinds of monitors that are available that can do personal monitoring, or much more small scale and
less expensive air monitoring.

And I think we're not so far from a time when we're going to be looking at different ways of actually setting standards. And especially when we work internationally, that the whole idea of, you know, setting up the kind of very expensive, very equipment-based monitoring system that we have built and relied on in this country, which has served as very well isn't going to work for other parts of the world, where they can't possibly make those kinds of investments in the time frame that's needed to actually get results.

So I'm thinking about having a -- you know, how we can design a system that is compatible with citizen monitoring, and still has enough quality assurance in it, so that you don't just put up anything that anybody sends you, but you now have the ability to actually check it before it goes in there, and how you can find different ways to look at the data, that -- at the moment, it seems as though we're just focused on facilities, but there's real a lot more questions that we're going to want to ask about the information that we have in the future.

And so I am hoping that we can continue to sort of keep our eyes open to some of those possibilities, as we start to build this system as well. I know there are some very smart people both at ARB and at the districts
who are thinking about those things. So it actually is an exciting time to be thinking about data.

BOARD MEMBER MITCHELL: So one of the things that's happening are there's now in development these low cost monitors that an individual can purchase. And I think the dilemma for air districts is the reliability of those, and do they -- are they properly synchronized with the data that we keep, and the data we analyze?

So our district is looking at that, but it's both good and scary, I would say.

CHAIR NICHOLS: Yeah. Well, that's consistent with everything else that's going on.

(Laughter.)

CHAIR NICHOLS: Why should this be different? Okay. Probably enough speculating on that front.

We had one person who actually signed up to speak on this topic. Fariya Ali from PG&E. Hi.

MS. ALI: Good afternoon.

CHAIR NICHOLS: No, I think it's just -- hold it just a second.

MS. ALI: Thank you. Good afternoon. I'm Fariya Ali with PG&E. And I am privileged to be the only speaker on this item.

(Laughter.)

MS. ALI: I'll trial to be quick. PG&E is
committed to providing safe, affordable, reliable energy
to our customers. And in the same vein as the IEVT, the
Integrated Emissions Visualization Tool, we work to
empower our customers with data tools that help them
understand and manage, in our case, their energy usage.

For the IEVT, we would just like to note and echo
some of the points that the Board members have actually
already made. And the first one is that we're aware that
some of the data for some of the facilities was actually
found to be inaccurate. And we're conducting a review of
the data affiliated with our facilities, and we'll make
sure to provide those findings to ARB, so that any
necessary updates for accuracy can be made.

And so far, staff has been very responsive and
cooperative in recognizing the obvious concerns around
accuracy and we really appreciate that.

One other important consideration for the IEVT is
the context in which emissions information is provided.
And right now, the tool does a good job of showing raw
numbers and trends. However, what it doesn't show is
whether the raw numbers are, for example, within the
permit limits established on a scientific basis for the
health of the community and the environment.

Additionally, there is no comparison to other
non-stationary source emissions, which could contribute
greatly to the State's local air pollutant emissions. Energy sector facilities account for about 10 percent of GHG emissions in the State, but a mere 0.3 percent of criteria pollutant emissions.

And in many cases, for example, like a nearby freeway would be responsible for a far greater amount of criteria emissions than a power plant.

So when people see a number other than 0, they should have some help understanding what it really means. And the tool also does not speak to many legitimate reasons why some categories of emissions at a facility might go up for a year or 2, for example, when a natural gas plant as to run more frequently to keep the lights on when there is less water to generate hydro-energy because of a drought.

I know that staff is aware of these issues. And PG&E would like to work with ARB to ensure that community members, who want to use this tool, have the context to be able to appropriately interpret this data.

We're developing a few recommendations that we think would be useful in informing the public, and we look forward to sharing them with you soon.

Thank you very much.

CHAIR NICHOLS: Thanks. And thanks for your participation, especially in thinking about how to display
some of these disparate kinds of data. So that's good.

All right. No additional comments on this one.

No public comment, in general --

BOARD MEMBER GIOIA: I have a couple comments.

CHAIR NICHOLS: -- then I think --

BOARD MEMBER GIOIA: I was going to make one closing comment.

CHAIR NICHOLS: Okay.

BOARD MEMBER GIOIA: I don't want to embarrass anybody --

CHAIR NICHOLS: No, please do.

BOARD MEMBER GIOIA: But I understand this is the last meeting for our Legislative Director Jennifer Gress. And so I wanted to acknowledge her. I mean for those of us who also had Jen help coach us through the confirmation process - and there's a few of us that fall in that category - she's an amazing resource, and obviously been part of the success of the agency and working with legislators. And I just wanted to acknowledge that.

And, you know, after your years also of being staff for the Senate Transportation Committee, you're now going to city government. So you're going to take all these State skills and make a difference here in Sacramento with Mayor Steinberg. So I just wanted to acknowledge I appreciate, you know, all of your resource
help over the last, almost, 4 years now.

CHAIR NICHOLS: Well, I think we could make that unanimous. And you're so right, I, unfortunately, am still in denial on this issue.

(Laughter.)

CHAIR NICHOLS: So -- but, you know, she -- Jen is taking on a wonderful assignment for the City of Sacramento working on transportation and housing issues, which I know are very dear to her heart and an important position with the new Mayor who knows a thing to two about us, about air quality also.

BOARD MEMBER GIOIA: Yes.

CHAIR NICHOLS: So that will be good.

BOARD MEMBER SERNA: Chair Nichols, if I could?

(Applause.)

CHAIR NICHOLS: Yes, anybody else who wants to pile it on and embarrass her, please feel free.

BOARD MEMBER SERNA: Yeah, I, too, wanted to make some remarks about -- and applaud Jennifer her years of service here, and the fact that I'm the person on this Board that is probably going to intersect with her the most in terms of her new -- her new role with local government and the City of Sacramento.

But that doesn't mean I'm going to stop calling you by your nickname. So as Supervisor Gioia mentioned,
she has helped many of us prepare for our Senate confirmation hearings. So my nickname for Jen is Dr. Prepper.

(Laughter.)

CHAIR NICHOLS: We may have to come up with someway to memorialize that.

(Laughter.)

CHAIR NICHOLS: That's great. Very funny. All right. I think -- yes. All right. Please.

BOARD MEMBER SHERRIFFS: Yeah, I have a different landmark that I'd like to mention. Jen, thank you very much. Dr. Prepper you were great. Really appreciate it.

(Laughter.)

CHAIR NICHOLS:

BOARD MEMBER SHERRIFFS: Dr. Overprepper, which is the way to be. Thank you.

(Laughter.)

BOARD MEMBER SHERRIFFS: You know, I hope you're not tired of hearing about my EV vehicle.

CHAIR NICHOLS: Oh, no. Let's hear more.

(Laughter.)

CHAIR NICHOLS: Please. How do you like your EV?

(Laughter.)

BOARD MEMBER SHERRIFFS: You know, I'm pleased when I get to do errands, when I go to work, when I'm
doing recreation in my all-electric vehicle. No emissions when I'm idling. I'm proud of all we've been able to do to support that technology and advance it.

You know, this year, we've got, what, over 5 vehicles now over 200 miles, which is something of a game changer. But a reminder, especially perhaps for you testosterone-charged people, an electric vehicle just completed the Dakar rally.

And there's some nods. So you know a little about that. So the Dakar rally it's off road. It's endurance. 5600 miles, an electric vehicle. And some are short, but there -- there's I think a 500-mile leg of this thing. Okay.

So magic how they do it, right? Well, they've got 6 different batteries and they can charge them separately. And it's amazing, but I think, you know, it's another sign of how far we've come that indeed there is an all-electric vehicle that has been able to complete -- compete successfully in such an event, and more in the future.

Thank you.

CHAIR NICHOLS: Okay. Any other parting remarks? Hearing none, we are adjourned.

See you all in February.

(Thereupon the Air Resources Board}
adjourned at 4:38 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 7th day of February, 2017.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063