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AIR RESOURCES BOARD

ZOOM PLATFORM

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JAMES F. PETERS, CSR
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APPEARANCES

BOARD MEMBERS:
Liane Randolph, Chair
Sandra Berg, Vice Chair
John Balmes, MD
Hector De La Torre
Senator Dean Florez
Assemblymember Eduardo Garcia
Davina Hurt
Gideon Kracov
Barbara Riordan
Dan Sperling, PhD
Diane Takvorian

STAFF:
Edie Chang, Deputy Executive Officer, Planning, Freight, and Toxics
Chanell Fletcher, Deputy Executive Officer, Environmental Justice
Annette Hebert, Deputy Executive Officer, Southern California Headquarters and Mobile Source Compliance
Edna Murphy, Deputy Executive Officer, Internal Operations
Rajinder Sahota, Deputy Executive Officer, Climate Change and Research
Craig Segall, Deputy Executive Officer, Mobile Sources and Incentives
Ellen Peter, Chief Counsel
APPEARANCES CONTINUED

STAFF:

Alicia Adams, Manager, Central Valley Planning Section, Air Quality Planning and Science Division (AQPSD)

Michael Benjamin, Division Chief, AQPSD

Matthew Botill, Division Chief, Industrial Strategies Division (ISD)

Mae Colcord, Air Pollution Specialist, Railroad and Marine Enforcement Section, Enforcement Division (ED)

Shannon Martin Dilley, Assistant Chief Counsel, Legal Office

Wesley Dyer, Attorney, Legal Office

Rebekka Fine, Air Pollution Specialist, Central Valley Air Quality Planning Section, AQPSD

Maureen Hand, Air Resources Engineer, Climate Change Planning Section, ISD

Vernon Hughes, Assistant Division Chief, AQPSD

Stephanie Kato, Staff Air Pollution Specialist, Energy Section, ISD

Shelby Livingston, Manager, Program Operation Section, ISD

Gabriel Monroe, Senior Attorney, Legal Office

Adam Moreno, Staff Air Pollution Specialist, Program Operations Section, ISD

Juan Osornio, Manager, Fuels Enforcement Section, ED

Erin Petate, Air Pollution Specialist, Fuels Enforcement Section, ED

Heather Quiros, Assistant Division Chief, ED
APPEARANCES CONTINUED

STAFF:
Jordan Ramalingam, Air Pollution Specialist, Alternative Fuels Section, ISD
Elizabeth Scheehle, Division Chief, Research Division
Sylvia Vanderspek, Chief, Air Quality Planning Branch, AQPSD
Alex Yiu, Staff Air Pollution Specialist, Program Operation Section, ISD

ALSO PRESENT:
Cynthia Babich, Del Amo Action Committee
John Bottorff, CleanEarth4Kids.org
Todd Campbell, Clean Energy
Sean Edgar, Clean Fleets
Suzanne Hume, CleanEarth4Kids.org
Tom Krazen, Californians for Affordable Drinking Water and in Rural Areas
Muriel Strand
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CHAIR RANDOLPH: Good morning. The June 24th, meeting of the California Air Resources Board will come to order. This is the second day of a two-day meeting. And I just wanted to take a moment again to thank our audio visual staff, our -- the BARCU staff, our clerk, and the translators and the court reporter for all of the hard work you all did yesterday. It was a very long day and really appreciate that.

And I also want to thank our incredible staff who put together this Scoping Plan, Rajinder Sahota, Matt Botill and the rest of their staff and the contractors who worked on the Scoping Plan and all the other divisions that worked on the Scoping Plan, Elizabeth Scheehle, the Legal folks. Everyone worked incredibly on this plan. And this team works incredibly hard every single day working to reduce greenhouse gas emissions in the state of California. We have reduced emissions and grown our economy at the same time, since AB 32 passed. And it is due to the incredible hard work and dedication of the brilliant folks that work here at CARB. And I am so proud to work with them and I am so proud of what they have accomplished so far and what we have to accomplish in the future.

(Applause)
CHAIR RANDOLPH: Thank you. You guys are awesome.

And make no mistake, this draft Scoping Plan is ambitious. We are the fifth largest economy in the world and we are fueled largely by fossil fuels, our cars, our trucks, our buildings, our industrial processes, and a lot of our energy particularly at night is fueled by fossil fuels. This plan fundamentally upends that entire economy and transitions it to be fueled largely by clean sources of energy and it plans ways to address carbon that remains, including sequestering it naturally and mechanically. And it addresses short-lived climate pollutants. We are going to have a good discussion today. And I'm sure we're going to have a lot of input and I'm sure we're going to have recommended changes from this group of Board members.

But it is important to recognize that the State of California is working hard and it's doing it -- it's doing it -- let me put it this way. We cannot do it alone, right? We are one state in a large country. We have many states that are our partners work closely with us. We have states that are trying to stop us. We have states that are going to court and trying to stop us. We have a federal government that is sometimes supportive, sometimes overtly hostile.
So California has a lot to do and we need to all do it together, and we need to do it in a way that is strong and can be implemented. So I really look forward to the discussion for ways that we can improve this plan and ways that we can go forward and do the work we need to do as a state.

Lastly, I want to thank Chanell Fletcher Ambreen Afshan and Trish Johnson for all the work they have done supporting the Environmental Justice Advisory Committee and working on supporting community engagement for this plan. And I want to thank the environmental Justice Advisory Committee for the hours, and hours, and hours, and hours, and hours of work and thoughtfulness that you all have put into this plan and your work to push us to think about community impacts and addressing the concerns of vulnerable Californians.

Okay. With all of that --

(Applause)

CHAIR RANDOLPH: Let's clap for that too.

With all of that, I just -- I'm going to try to organize our discussion in a slightly different way today, because

BOARD CLERK ESTABROOK: Excuse me, Chair.

CHAIR RANDOLPH: Oh, yes. I'm sorry.

BOARD CLERK ESTABROOK: Just the agenda order for
today, we need to call roll and go over some of the  
housekeeping items.

    CHAIR RANDOLPH: Oh, I forgot all the  
housekeeping items.

    (Laughter)

    CHAIR RANDOLPH: I just rolled into the second  
    day.

    (Laughter.)

    (Multiple voices)

    CHAIR RANDOLPH: All right. Yeah. Exactly. I  
think we've been here all night. Okay. Clerk, will you  
please call the roll.

    BOARD CLERK GARCIA: Dr. Balmes?

    BOARD MEMBER BALMES: Here.

    BOARD CLERK GARCIA: Mr. De La Torre?

    Mr. Eisenhut?

    Senator Florez?

    BOARD MEMBER FLOREZ: Here.

    BOARD CLERK GARCIA: Assemblymember Garcia?

    Ms. Hurt.

    BOARD MEMBER HURT: Present

    BOARD CLERK GARCIA: Mr. Kracov?

    BOARD MEMBER KRACOV: Here.

    BOARD CLERK GARCIA: Senator Leyva?

    Dr. Pacheco-Werner?
Mrs. Riordan?

BOARD MEMBER RIORDAN: Here.

BOARD CLERK GARCIA: Supervisor Serna?

Professor Sperling?

BOARD MEMBER SPERING: Here.

BOARD CLERK GARCIA: Ms. Takvorian?

BOARD MEMBER TAKVORIAN: Here.

BOARD CLERK GARCIA: Supervisor Vargas?

Vice Chair Berg

VICE CHAIR BERG: Here.

BOARD CLERK GARCIA: Chair Randolph?

CHAIR RANDOLPH: Here.

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

CHAIR RANDOLPH: Okay. All Right. Sorry.

Housekeeping. We are conducting today's meeting in person as well as offering remote options for public participation both by phone and in Zoom. Anyone who wishes to testify on a Board item in person should fill out a request-to-speak card available in the foyer and turn it in to a board assistant prior to the commencement of the item. If you are participating remotely, you will raise your hand in Zoom or dial star nine, if calling in by phone. The clerk will provide further details regarding how public participation will work in a moment.
For safety reasons, please note the emergency exit to the rear of the room through the lobby. In the event of a fire alarm, we are required to evacuate this room immediately and go down the stairs to the lobby and out of the building. When the all-clear signal is given, we will return to the auditorium and resume the hearing.

A closed captioning feature is available for those of you joining us in the Zoom environment. In order to turn on subtitles, please look for a button labeled "CC" at the bottom of the Zoom window.

As shown in the example on the screen now, I would like to take this opportunity to remind everyone to speak clearly and from a quiet location, whether you are joining us in Zoom or calling in by phone.

Interpretation services will be provided today in Cantonese for the continuation of yesterday's item, 22-9-1. And Spanish interpretation will be provided for all of today's meeting. If you are joining us using Zoom, there is a button labeled "Interpretation" on the Zoom screen. Click on that interpretation button and select Spanish to hear the meeting in Spanish. If you are joining us here in person and would like to listen to the meeting in Spanish, please notify a Board assistant and the will provide you with further instructions.

I want to remind all of our speakers to speak
slowly and pause intermittently to allow the interpreters
the opportunity to accurately interpret your comments.

(Interpreter translated in Spanish)
(Interpreter translated in Cantonese)

CHAIR RANDOLPH: I will ask the Board Clerk to
provide more details on today's procedures.

BOARD CLERK GARCIA: Thank you, Chair Randolph.
Good morning, everyone. My name is Lindsay Garcia and I
will be calling on the commenters who are joining us
remotely today. And Katie Estabrook will be calling on
commenters who have turned in a request-to-speak card and
are joining us here in the room.

I will provide information on how public
participation will be organized for those who are joining
us in Zoom or by calling in to today's meeting. If you
are joining us remotely and wish to make a verbal comment
on one of the Board items or during the open comment
period at the end of today's meeting, you will need to be
using Zoom webinar or calling in by telephone. If you are
currently watching the webcast on CAL-SPAN, but you wish
to comment remotely, please register for the Zoom webinar
or call in. Information for both can be found on the
public agenda for today's meeting.

To make a verbal comment, we will be using the
raise hand feature in Zoom. If you wish to speak on a
Board item, please virtually raise your hand as soon as the item has begun to let us know you wish to speak. To do this, if you are using a computer or tablet, there is a raise hand button. If you are calling in on the telephone, dial star nine to raise your hand.

Even if you previously indicated which item you wish to speak on when you registered, you must raise your hand at the beginning of the item, so that we can -- so that you can be added to the queue and you will not miss your chance to speak.

If you will be giving your verbal comment in Spanish and require an interpreter's assistance, please indicate so at the beginning of your testimony and our translator will assist you.

During your comment, please pause after each sentence to allow for the interpreter to translate your comment into English. When the comment period starts, the order of commenters will be determined by who raises their hand first. I will call each commenter by name and will activate each commenter's audio when it is their turn to speak. For those calling in, I will identify you by the last three digits of your phone number. We will not show a list of commenters, however I will be announcing the next three or so commenters in the queue, so you are ready to testify and know who is coming up next.
Please note, you will not appear by video during your testimony. I would also like to remind everyone to please state your name for the record before you speak. This is especially important for those calling in by phone to testify on an item.

We will have a time limit for each commenter. Per the chair's direction we will begin the comment period with a three minute time limit and this could change at the chair's discretion. During public testimony, you will see a timer on the screen. For those calling in by phone, we will run the timer and let you know when you have 30 seconds left and what your time is up. If you require Spanish interpretation for your comment, your time will be doubled.

If you wish to submit written comments today, please visit CARB's send-us-your-comments page or look at the public agenda on our webpage for links to send these documents electronically. Comments will be accepted on each item until the Chair closes the record for that item.

If you experience any technical difficulties, please call (805) 772-2715 so an IT person can assist. This number is also noted on the public agenda.

Thank you. I'd like to turn the microphone back to Chair Randolph.

CHAIR RANDOLPH: All right. Thank you. And I
will just remind folks again that yesterday's item, the public comment is closed, so will be doing Board discussion and then we will be moving on to the Regional Haze State Implementation Plan agenda item, which we will be taking public comment on and then we also have open public comment.

All right. So I wanted to organize our Board discussion slightly differently. Given the breadth of information and issues in the Scoping Plan, I thought I would raise it by kind of topic. So I'll mention -- introduce a topic and then if folks have thoughts, or suggestions, or things they want to see in the particular topic, those of you who want to speak on that, can speak on that. And then we'll go through a few of the key issues that have come up. And then at the end, if folks want to have sort of an overall kind of expression of their thoughts about the Scoping Plan generally or issues that we haven't had a chance to cover, then we can do that as well.

I want to be mindful that we do need to -- I don't want to rush folks, because this is such an important topic, but I do want to try to be as intentional as we can, because we do have other items that we need to discuss today.

Okay. So I thought we would start with
transportation. That's obviously a big topic, right? We're talking about new technologies, zero-emission vehicles. We're talking about sustainable transportation. How do we reduce vehicle miles traveled? How do we encourage more sustainable mobility? We are also talking about the fuels that we use to power sources of transportation.

So things like VMT, public transit, low carbon fuels standard. I sort of have all of those kind of in the transportation bucket. So I will go ahead and ask my fellow Board members if they have comments in that general area.

Okay. Board Member Takvorian, you're on.

BOARD MEMBER TAKVORIAN: Okay. Great. There we do. Thank you so much.

I just did want to say a huge gratitude to staff and I know this is a huge beast and it -- to say that we're in a climate crisis seems trite at this point, but I think we all know that and we know that this is the critical strategy that we are taking the time to really look at and that we need to -- to really get right.

And I want to express huge gratitude to the EJAC. I don't know how many dozens of meetings and I'm deeply appreciative of all of the work that you've done. And I know that, you know, more than anyone, you all are feeling
what our communities are feeling, and that is not just the climate crisis, but the health crisis that we're in.

So I -- you know, there's lots to say about all of that, but I just want to really appreciate everyone's work and everyone who came yesterday from the communities, from businesses to really express their perspective.

And I think, Chair, thank you for starting with transportation. I think obviously it is the largest source of emissions and one that really impacts our health and climate. So I -- I really appreciate in the report that it's recognized and well -- well recognized and articulated that this is a critical element in the -- in our fight against climate change.

I think -- you know, I'll just say it's not ambitious enough. And I think you heard that repeatedly. It's not something that staff -- Rajinder is not going to be surprised by that. If I said yeah, it was perfect, she would fall over.

(Laughter.)

BOARD MEMBER TAKVORIAN: So we won't say that. But I do think that we really have to get clear about what our contributions -- what our strategy is related to VMT reduction. And I know that there's huge debate about that. But this, in my mind, is -- I guess it's an overarching comment - is a plan. And the plan needs to
say how we're going to get to the State goals.

   And I think there's inconsistency in the plan related to what's in statute, and what CARB has authority for, and what others have authority for. So I do think that this has to be a plan that lays out how we get there. And we don't have the authority to do everything that should be in the plan, and I think you say that in the plan. But then I think there's inconsistencies about well, we didn't include this or that, because we didn't have this -- the authority.

   So I -- I feel like we're all feeling like there's a little bit of confusion about that. So I'd like to get super clear overall as to what we have authority for, what others have authority for, and what we really need to do to get there. And I think there's references to it, but I don't actually think it's as clear as it needs to be.

   So VMT reduction is recognized as a critical strategy. I think we though are still focused on cars. And we spent all the last meeting on cars and I think it's critically important. Light-duty, I think we've said those strategies are not ambitious enough. We need to do better. Seventy-five percent by 2030 was talked about and I hope that we're going to take a look at that.

   I'd like to the see that in the plan to see how
Chair, I just want to make sure we're making a list of things we want to see modeled, right? I'm not asking... I'm just saying it's partly like what our perspectives are about what would be useful, but also what we'd like to see modeled that we need more formation about, so that we can make a better decision in the future.

CHAIR RANDOLPH: Well, I think -- I guess, I would say that that might -- in some instances, might be sort of questions to staff, because there may be things that people --

BOARD MEMBER TAKVORIAN: Okay.

CHAIR RANDOLPH: -- raise that don't necessarily need modeling, where we already have the information we need and it's just a matter of discussing it. And there might be areas where it would -- so I think you might want to -- as you're going through your issues, you might want to ask staff, like is this something we need to model.

BOARD MEMBER TAKVORIAN: Okay.

CHAIR RANDOLPH: So I think you get it.

BOARD MEMBER TAKVORIAN: So let's put it in the form -- we're on Jeopardy, right? Let's put it in the form of a question and say we'd like to see that and what's the -- what would it look like if we were at 75
percent by 2030 and 100 percent by 2035?

I think you -- are you yelling at him because he's late?

Good.

(Laughter)

BOARD MEMBER TAKVORIAN: All right. So the next thing is I think that as we reduce vehicle miles traveled, we need to look at what it's going to cost us to do that and I don't see that in the plan. I'd like us to really look at the costs that we're anticipating to get to zero-emission vehicles as compared to looking at what it's going to cost us -- what it could cost us to support public transit. We really don't have an analysis here of what it will take to get to hopefully 25 percent VMT reduction and -- sorry, 25 percent VMT -- VMT reduction as compared -- as -- by utilizing the strategy of public transit. So what can we do to support public transit and how do we compare the incentives that we're providing for cars and trucks as compared to mass transit. So I'd like to ask that question and see that modeled as well.

I felt like there was -- I have to say in Alternative 1, there was an exorbitantly expensive early vehicle retirement program that was proposed. I'd like to see comparing the costs of buying back all of those fossil fuel vehicles to direct investments in mass transit, which
I don't think were modeled. If we spent that money to
support mass transit, how would that -- how would that
play out in terms of GHG reductions and air pollution?

I'd like -- we talk a lot about the involvement
of local government. And I think we need to do a better
job of supporting local government. So you heard
yesterday that there was a very successful program in San
Diego with the launch of the PRONTO card. And there was
free passes for everyone in September, and there was a 16
percent ridership increase in the middle of a pandemic.

And so what would it cost us to support free
transit for all, or free transit for youth, or free
transit for those who are on a assistance of some sort?
Our Youth Opportunity Program -- Pilot Program that's
running right now has had a 38 percent increase in the
number of rides taken by youth countywide. So early data
says that works. So how do we compare those costs with
the costs that we are assuming we're going to incur in
order to support light-duty vehicles.

So I think on the heavy-duty side, I know that
we're working on ACF. I think again I want to see us
supporting those local governments that are moving
forward. So, for instance, I saw that the Port of San
Diego has a Maritime Clean Air Strategy with a goal of a
hundred percent zero-emission drayage trucks by 2030. So
how do we support those kinds of programs? If local
governments are stepping up and say they want to do it,
then how do we support that and how do we create a
structure that allows that would -- that would be able to
be accomplished?

There's a lot to say about health outcomes, so I
hope that's one of the categories that we're going to talk
about, but I would like to see related to transportation a
reanalysis of -- of the health outcomes, if we are
advancing VMT reduction to 25 percent, instead of the
numbers that we have in Scenario 3.

I'm going to -- I have many other questions, but
I'll stop there, and -- yeah, I'll stop there.

Thank you.

CHAIR RANDOLPH: In terms of the reduction, 25
percent, are you -- because Alternative 3 I think is 22?
I can't remember.

BOARD MEMBER TAKVORIAN: I recall it's 12.

CHAIR RANDOLPH: Twelve. I just wanted to -- I
mean, are you asking for a different VMT target, and if
so, what that is? I just wanted to be clear.

BOARD MEMBER TAKVORIAN: Yeah. Give me a
minute --

CHAIR RANDOLPH: Okay.

BOARD MEMBER TAKVORIAN: -- because I want to
make sure that I'm -- I've got 16 numbers in front of me, so give me a minute.

CHAIR RANDOLPH: Yeah, I know. I hear you.

Okay. Staff did you want to respond to any of those in the short term versus in the transition from draft to final?

DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. So thank you, Board Member Takvorian. The thing that is important to note about VMT reductions is that it actually helps with the buildout for energy that we're looking at for the transition, because you're not adding more to that grid in order to support that mobility option.

And so the more that we can look at options that reduce VMT, we do see a way that it actually doesn't increase that challenge that we already have on building out the clean energy sources that we're already going to need.

In terms of looking at the ACC II with the 25 percent -- or the 75 percent in 2030, 100 percent in 2035, I think we can do that without doing any modeling. We can do an analysis of that across the work that was done to support the regulation, ACC II, and the modeling data that we already have from the Scoping Plan, because we look at a range of VMT already, so we have that -- those spreadsheets available to us, so we can do that.
The detailed cost across transit versus retirement of early vehicles, that's a little bit of a challenge, because the model itself does not have that level of dis-aggregated inputs in it and it's hard for us to figure out where that transit would be, the estimated miles that would be associated with it in terms of moving from one mode of travel, which is single vehicle occupancy to a mass transit system. We can go back and look at that and see if can try and find some kind of analysis related to it, but it's probably not going to be part of the modeling either. So we will do our best to try and answer that question.

The other piece that I think that I wanted to touch on was the cost to reduce VMT. So the cost to reduce VMT really depends on the myriad of actual policies that we have to reduce VMT. And I think that there's some information there that we can glean from SB 375 and some of those plans that come forward in front of the Board, but the model itself does not have that level of detail, because it is meant to be very high level, and it's meant to look at energy consumption across the different economies. It's not a very focused model on mode shift or travel -- transit shift at any -- any disaggregated level.

But we will do our -- we can do our best to try and see if there's anything out there to pull a discussion
together, as part of a final plan. In the least bit, we can actually talk about directionally what it might look like if we do some of these -- if we were to look at some of these options of putting more transit out there and increasing that VMT target. Now, increasing the VMT target for the modeling itself.

Right now, we have a 12 percent below 2019 level by 2030, 22 percent below 19 -- 2019 levels by 2045. So I think we need some clarity from you Board Member Takvorian, would you like to see the 2030 number increased from 12 to 25, a 2045 number increased from 22 to 25? And I'm going to say that we can model anything at this level that is asked of us. The problem is we've modeled very aggressive VMT targets in almost every Scoping Plan we've done. We've delivered on none of those. And so this is an entrenched problem in the Scoping Plan in how we look at the transportation sector.

So even though can model it, we can give you the estimated benefits of doing that, we are also going to do an uncertainty analysis on the very final plan. And there's going to be high uncertainty that we do not meet that target, because that is what past experience has shown us. We have not met that target. We can show what it would look like if we met that target of a 25 in either 2030 or 2545, but the uncertainty is going to be very high
on that on the chances of actually hitting it.

BOARD MEMBER TAKVORIAN: Okay. So you said --
can I just comment -- respond to that.

DEPUTY EXECUTIVE OFFICER SAHOTA: Sure.

BOARD MEMBER TAKVORIAN: Thank you.

So you did, as you just said, you included in
Alternative 3, 12 percent below 2019 levels by 2030 and 22
percent below 2019 levels by 2045.

DEPUTY EXECUTIVE OFFICER SAHOTA: That's right.

BOARD MEMBER TAKVORIAN: So where did you get
those numbers?

DEPUTY EXECUTIVE OFFICER SAHOTA: So those were
generated in discussions with Craig's time as the lead
group on SB 375. So I'm going to ask Craig to jump in on
some of those questions.

DEPUTY EXECUTIVE OFFICER SEGALL: Yeah. Let me
fill in a few additional details.

BOARD MEMBER TAKVORIAN: I guess I'm asking
because you just said it's difficult to do that. So just
to be clear, what I'm asking for is 25 percent below 2019
by 2030 and 30 percent below 2019 by 2035. So I just want
to -- I'm just putting the context out there. I want to
hear what -- what -- how you got there, so that we can
understand why then you're saying those aren't reliable
numbers, which is kind of what I heard -- I thought I
DEPUTY EXECUTIVE OFFICER SAHOTA: Oh, no, 12 and 22 is based on a discussion with the staff on SB 375. We think those are ambitious numbers and we -- even -- even with those numbers, we think there's going to be a remaining challenge, because we hardly ever meet our -- I don't recall a time we've met our VMT target from the Scoping Plan. We can increase it. We can increase those and we can work with Craig's team to figure out what those policies could look like, but the uncertainty increases even more when you try to increase the ambition on VMT reduction.

DEPUTY EXECUTIVE OFFICER SEGALL: Yeah. Let me give you some numbers on both this and on the ACC II questions.

So on VMT, we recently came out with our draft SB 150 assessment report. This is how we track how we're doing. And what it says right up front is that we've generated some really good plans that we've failed, we collectively California, to fund. So, for instance, in San Diego, we set a target for SANDAG, the planning organization there, of a 15 percent reduction in VMT by 2020 and a 19 percent reduction in 2035.

VMT in San Diego is actually reduced to three percent. That is consistent across all the larger
regions. It's down to about one percent in the Bay Area and this is 2019, which is our most recent data, you know, four percent in LA.

The -- what our report says on VMT is that we've been really good at the State about setting ambitious plans. We've been really poor on funding it. And that is, in part, a CARB story. And one of the changes you saw in last year's funding plan that the Governor's budget hopefully really doubles down on is more and more funding for incentives and support for community level changes in transport planning. So bike lanes, buses, mobility, things like the Green Raiteros in the Central Valley where you have green rideshare.

All of those are really helpful programs, and there are about 420 million proposed for them in this year's budget currently under negotiation. That is a relative pittance compared to what the State spends on roadway expansion. And one of the conversations that we had at the Board meeting with the CTC was about reprioritizing that pipeline.

The strategy identifies in both a Scoping Plan appendix and in the SB 150 report a range of things we affirmatively can do, you know, including things like transit funding, free transit, et cetera, all of which I agree with are important to explore.
Some of them require administrative coordination, some of them require legislation, and we should just be frank about that, that as we set stronger targets, the really key thing, and we were trying to focus, is direct implementation, because otherwise you have to have strong targets.

On the ACC II question, I just want to tell you that we did look at 75 percent in the economic analysis there. It added relative to the then baseline, which has since gone up in response to both the autos accelerating and strong organizing by the EJ community. But to our original baseline, it cost about $30 billion in addition and added, I think, four or five hundred dollars to the cost of a car. We also had real concerns about feasibility and extension of the charging network.

Finally, on local government, you asked we -- that's another appendix we've worked on and we're in really close partnership with local governments. The really key thing is helping them build to do the right things. You know, it really, you know, Zone for affordable housing, provide chargers in apartment buildings. Build the facilities you need to move forward on generation and everything else. And we're trying to clear the way for them through whether it's environmental permitting review or other layer I can partner with them
on that. I just think it's really, really important to help them join us, because this whole project needs to be across all levels of government. So that's a strong component of the plan we worked on with Rajinder's team that I think is central.

Finally on trucking, I agree it's really, really important to focus particularly on the drayage fleet. ACF, as currently proposed, would turnover many, many hundreds of thousands of trucks, which is really important. We're well aware that folks would like to see us do more. And in both the State Implementation Plan and other measures, we're trying to figure out how you get at some of the small fleets where infrastructure and other issues are harder and it's been working with the IPEG with Board -- Vice Chair Berg and Board Members Kracov and Hurt on how to help work on that with small businesses in EJ communities, which is really important.

Finally, I just want to note that in terms of overall transportation system planning and incentives, obviously do not intend. It is clearly far more cost effective to improve the transportation system than to buy back every internal combustion car in California. And that is, of course, where we're focusing. So you see pivots toward helping lower income folks into cars, you know, statewide Clean Cars 4 All, pushing down income
limits in the Clean Vehicle Rebate Program, looking at
smaller fleets in all the trucking programs, and expanding
into transportation incentives while partnering whether
it's with housing -- with the Housing Department, and the
Strategic Growth Council, or in transportation with the
Transportation Agency, really, really focused on aligning
not just our money, but State budget priorities in general
in that direction.

BOARD MEMBER TAKVORIAN: Thank you. You know, I
really appreciate you adding that detail. And I also
appreciate that you -- what I thought you heard you say is
that we failed to fund in order for these to be achieved.
So I think that underscores my request which you've partly
responded to, but perhaps there's more work to do on what
it's really going to cost to fund public transit, so that
VMT can be reduced.

So I appreciate that I think -- I don't want to
put words in your mouth, but I think you're saying we set
these ambitious goals, which is what we need to do to
achieve our climate goals and we didn't achieve them
because we didn't fund them properly. And I -- I want to
acknowledge, I think it's tough, because we're a car
culture, right, and we know how to buy cars, so we know
how to help people buy cars. What we don't know is how to
help people change the culture, so that they are able to
ride public transit in a way that's economical, and
equitable, and efficient for them to get to work, and to
school, and wherever they need to go. So I appreciate
what I think I hear you saying, which is we need to work
on that more.

My question is how do we set ambitious goals in
this plan, so that we're not back here in five years
saying, you know, we -- we're working on it still, but we
haven't really put the infrastructure in. So that's --
that's what I'm struggling with is I -- and that's why I
would recommend the higher VMT reduction strategy, so that
we have to get that infrastructure in place, so that we
really can make it happen.

And I hear you, Rajinder, that it's never
happened before, but that's the point. It's never
happened before and transportation emissions are going up.
So what are we doing wrong? So that's -- that's what I'm
taking away from it and that's what I'm trying to figure
out.

And, you know, the -- getting the cars cleaner is
great, but it's not helping in terms of the emission
reductions, and it's -- it's not helping in our
communities. So I think that's what I'm hoping that we
can develop alternative plans related to that in the next
draft.
Thanks.

CHAIR RANDOLPH: Okay. Dr. Sperling -- oh, okay. I thought he -- yeah.

BOARD MEMBER SPERLING: I'm ready any time, but --

(Laughter.)

BOARD MEMBER BALMES: I'll be quick, because I'd like to hear Dr. Sperling. The one -- again, I want to thank staff for a lot of work on this and a very, I think, detailed response to Ms. Takvorian. I am still concerned, as I've said many times, about our ability to get enough zero-emission vehicle heavy-duty trucks out there in the time frame that we've set out for ourselves. It's very ambitious, and, in part, because I went to the ITS conference at Asilomar last summer on -- that made me particularly skeptical.

And I don't -- I understand why we don't want to rely on natural gas heavy-duty vehicles, because they'll be around for a long time, but I still think we have an issue with diesel emissions in the short term. So what all I'm requesting, and it's really not a change to the Scoping Plan necessarily, but I think we need to have a good discussion about the near-term transition. And this is to particularly protect low-income communities of color that get the most exposure to diesel.
You know, I studied diesel pollution -- diesel exhaust pollution on kids and we have to get rid of diesel -- dirty diesel. And I just -- when Cummins tells me that they can't come up with the claim dirty -- the clean diesel in a short time frame that we expect to be out there, I worry.

So I'm just making a plea for a -- at some point, a careful discussion of that near-term transition.

DEPUTY EXECUTIVE OFFICER SAHOTA: Chair, Craig and I are going to tag team on this one again, since almost half the transportation sector is big rigs.

On this transition piece, I think that is a common theme across all of the economic sectors that we're looking at. And if we're saying that all of them need to be substantially moved to electrification, that electricity is not going to all be available today in the amount that we're going to need, as we're pushing across all these sectors and end uses.

And so then it calls into question what does this sector look like in terms of a transition? How does that map to the energy source, the reliable energy source that we want to move to. And on that piece, I think that for transportation, you're right, we don't want to put more things out there that we know are not the ultimate solution.
We know we have the ZEV Executive Order that is pushing for, you know, zero-emission vehicles in heavy and medium space everywhere feasible by 2045. We know we have the State Implementation Plan to meet air quality targets, where we have to keep pushing on the sector. But we also have some transition fuels today that can help be that near-term bridge that don't actually require you to put technology on the streets today or fund something like CNG, because you can have renewable diesel, which does deliver significant benefits and it's a drop in fuel, and there are refineries that are trying to move into that space, so they can produce that clean fuel because we're going to be in that liquid fuel for a while. So -- so there are solutions for this transition, but everything you said about, you know, how -- what does it look like, what's the time period, how do we avoid trans -- stranded assets. That applies almost across every sector that we're looking at right now.

DEPUTY EXECUTIVE OFFICER SEGALL: Yeah, and a few points on --

BOARD MEMBER BALMES: Just -- I just want to say that's a very good answer, Rajinder. Thank you.

DEPUTY EXECUTIVE OFFICER SEGALL: And a few points on the diesel piece, Dr. Balmes. So the first thing is to say is, on course, we need to get rid of
diesel trucks. We also need to get rid of combustion trucks generally. So just a few points here.

First, it's really important to know that we actually have looked at turnover patterns across South Coast and statewide. And the truth of the matter is that switching to combustion trucks, including methane trucks, costs more and results in NOx and more PM. So in term -- under State law, you can't turn over those trucks until the end of their useful life, you then have to buy them all later while you have stranded assets in the gas system. So it's a big deal.

On natural gas trucks in particular, as you know, we work with South Coast in the labs to test many of those trucks for compliance with our standards. And what we saw, in that 200-truck study, is that many, many, many of them are actually well above, in real terms, emissions where they why certified to. So there are really significant durability and emissions questions of those vehicles that we're still investigating.

As to Cummins and recent industry statements on feasibility, the government --

CHAIR RANDOLPH: Okay. I'm going to interrupt here, because I -- I appreciate your point, Dr. Balmes. I think it's a great point and you guys have hit some really key points, but I want to try to stick as much as possible
to the Scoping Plan itself. So when I hear the phrase, I'm not sure it needs a change in the Scoping Plan, I think we should set it aside, so that we stay focused on the -- on the Scoping Plan.

BOARD MEMBER BALMES: Yeah, and I'm -- I'm happy with the staff response. Thank you.

CHAIR RANDOLPH: Okay. Perfect. Thank you so much.

All right. Dr. Sperling.

BOARD MEMBER SPERLING: Well, thank you. I think I'm going to be a little more frank here than usual.

(Laughter)

CHAIR RANDOLPH: Is there -- is there -- is that a thing?

(Laughter)

BOARD MEMBER SPERLING: So I think overall -- so I -- you know, I've done a tremendous amount of work. I actually led two -- a national study on how to decarbonize transportation for the UN. I was the co-lead on a study for California that the University of California did on decarbonizing transportation. So I am immersed in this -- in this topic. I'd say overall, I think the transportation plan here is right on. It's just about right with one major exception that I'll get to.

Well, let me jump right in. So I think it's --
VMT. So I appreciate all of the enthusiasm for reducing VMT. Ain't going to happen. It's failed and it's going to continue to fail, because of the land-use patterns we have, the car-centric transportation system we have, the sprawl we have. And I would point out that, you know, people that say, okay, let's increase transit. Well, before the pandemic, transit had been decreasing their mode share. They were -- it was -- it was slowly decreasing for many, many years. And it was less than two percent -- it got down to less than two percent of passenger miles were carried by transit, pre-pandemic. And now it's gone considerably below that two percent. So we're probably at one and a half percent now.

We could double it. It would make no difference. Actually, on top of that, you know, buses -- actually, diesel buses -- diesel transit buses are worse than cars from a GHG perspective. Now, okay, they go electric, so that's good, cars go electric. But transit from a climate perspective is a really minor part of this and we hugely subsidize it. So like right now, we pay -- average transit fare is $0.25 per passenger mile. The total cost is $1.25. So we're putting in 80 -- something like 80 percent subsidies for transit.

Now, if we're going to double it, it's just a huge cost. And so -- okay, one more thing on transit, not
to -- not to trash transit, but we need to be realistic about what we can do. And right now, transit is going to fall off a cliff. It's been declining. It's been kept alive the last couple years because of massive additional federal subsidies that are going to disappear. We're going to be lucky if we can keep transit. And I'll call it legacy transit where it is.

So I just want to say from our point of view, from a climate perspective, that is not the solution -- not legacy transit. So there is something here in this plan that I think is really good. It's talking about, you know -- it's a little vague about it, but it's -- there's all these new mobility options. And I think the only real opportunity to reduce VMT is to support the bike and micromobilities and integrate it better with transit.

But, you know, that's not what CARB is going to do. So, you know, Jen Gress's groups is -- you know, is working on this. And I think we need to support that, but mostly it's signaling and encouraging other agencies. And where Board Member Takvorian is exactly right is we need to encourage and support local governments much more. That's where a lot of the action is. It's not at the State level when we talk about VMT with a couple of exceptions, and that is we should be continue to encourage CalSTA and Caltrans to not put money into expanding
roadway capacity and to use it for like bike infrastructure, to use it for ways of encouraging more pooling, more -- better utilization of vehicles.

So, you know, the 22 percent reduction, that's just fairyland territory. You know, it's been going -- we've had these targets for SB 375 since 2008 and we've had -- every time, we come up with targets. And every time we don't even come close. And, in fact, most of the time it's been increasing. And by the way, these numbers we're using are -- usually, they're VMT per capita, so everyone should be clear, when they're talking about VMT. I -- and I think with the staff also their reference was VMT per capita.

Okay. So VMT is like -- is the hardest thing to do here. We have the least -- we, CARB, have the least authority over it. It's -- it's -- you know, to put money into transit is hugely expensive and goes against the grain of what the State is likely to be doing, you know, at the scale we're talking about. So we need to be encouraging the more innovative things, and we need to be encouraging local governments, and we need to encourage CalSTA and Caltrans to, you know, restructure how they fund it. They are moving in that direction. We could -- should continue to support them in terms of not Building more roadway capacity. Okay. I think I -- so I'm not
going to talk much about anything else. So this is my piece here.

    All right. And if I go through the list, the strategies, I think they all pretty much make good sense. I wouldn't -- you know, I'll make one last comment on VMT is that the one big opportunity for reducing VMT, probably the only one, is when we get to automated vehicles and make sure that they're -- they're used for pooling services for multiple riders, as opposed to personally owned vehicles. So if there's anything we do in the VMT area, it's setting -- setting the stage to make sure that these vehicles are not personally owned. If they're personal owned, VMT is going double. You know, forget 22 percent reduction, it's going to be a massive increase, you know, because people they sleep, eat, work in their cars, if it's automated, and that's what will happen. We've done a lot of research. There's lot of data to support that.

    Okay. That was both the hard and -- part and the longest part, because I think the vehicles and fuels part is really well done here. The -- actually, I think on the vehicle side, I -- I mean, we're doing it all. I don't even know if there's much to say on vehicles. We're putting in place the ACC II, you know, okay, maybe someone is, you know, there might be some minor tweaking, but I
think it's pretty clear the staff proposal is about what we're going to do and I think that's what -- it is what we should do, if only because we don't -- as we talked at length, we don't want to scare off the other states. You know, because remember, what California does on climate in terms of in the state is almost trivial. It's -- but it's what we do as a leader and what we do that can be replicated.

And so the vehicle side is the one really good story here, because on vehicles this is not only good for climate, this saves the economy money, it saves consumers money our path towards electrification.

You know, almost every study that's being done now shows that within a few years, the cost of owning and operating electric cars and electric trucks, everything but the long haul Class 8's, all truck -- all the rest of the trucks, so all the cars, they're going to be cheaper, less expensive to own and operate than a gasoline or a diesel vehicle. And we actually ought to be promoting that part, because that's the one part of this whole plan that is unequivocally a great thing for California on climate, on economics, on pollution, on health.

All right. So I would say vehicles, you know, we're going to update the -- we're going to get the ACF in place. The fleets, that's going to be challenging and
we'll have to figure that out, but it's basically the
structure we know what we want to do. And then the ACT,
the next version, we're going to have to update, because
it only goes to 2035. I think through 2035 it's good, but
we do need to figure out how to get to, you know, a
hundred percent or close to it after that.

And so the only -- the last one is fuels. And
that again -- let me -- so I think again we've got --
we've got the framework in place. And the question is how
do we modify it. You know, one big change of everything
here in the transportation that I would strongly support
and promote is making the LCFS much stronger. If there's
anything we've learned is it's way too weak, in terms of
its target. The target is thousand 20 percent in 2030,
but now the companies are making -- meeting it, you know,
relatively easily. The price of the credits has gone way
down in the last year, and it's actually -- that credit
price and this program is in -- for what CARB does, other
than the vehicle electrification, is probably the most
important thing, because it is motivating companies to
invest massive amounts of money in renewable energy, as
well as electric vehicle and electric vehicle
infrastructure, massive amounts, billions -- many billions
of dollars.

And we heard a little bit of testimony yesterday
about it, the World Energy facility in Southern California, facilities for renewable diesel, for sustainable aviation. So this LCFS we need to really highlight it and we need to make it much stronger. So I've spent a lot of time. I've been talking to investor -- investment groups and a lot of others, and it's clear we can do much, much better. So, you know, right now it's 20 percent. I think we should immediate -- as soon as this -- I think we have to wait till the Scoping Plan to actually take action, but we should be bumping that up at least five points, you know, to 25 percent reduction and probably more than that. So from the initial -- we need to do more modeling and analysis. And Rajinder's group is going to be doing that. And some of, you know, my group at UC Davis has been doing it.

So at least -- you know, I'll state that very clearly, at least -- a target of at least 25 percent reduction by 2030 and probably much more than that. And I think we need to go back and start our rulemaking on that as soon as possible. And I understand there's a workshop in July to kick it off.

I think that's about it for -- because everything else I think is right on. It's -- oh, one more thing.

(Laughter)

BOARD MEMBER SPERLING: There's always one more
thing. This is an important one and it is a little bit controversial, and that is we're seeing like massive investments going into renewable diesel. So two of the oil refineries in the Bay Area are switching from oil to biofuels, renewable diesel. And if they were using waste oils as they had said they were going to do, it would be fabulous. But in fact, there's not enough of the waste oils and waste materials around, so they're going to be go -- shifting to soy oil. That's a food crop. So I think one of the things we have to look at is, and I'm not advocating for this, but I think we need to think seriously about it, about whether we want -- how we're going to incorporate sustainability concerns into our fuels. And in this case, a simple one might be putting a cap on the amount of food crops that we use for fuels.

CHAIR RANDOLPH: Okay. Thank you, Dr. Sperling. And I think your last point is a really important one and I would advocate for, you know, looking deeply at the -- at the feedstock as part of our LCFS going forward.

BOARD MEMBER BALMES: Yeah, and I second that too.

CHAIR RANDOLPH: Okay. Before I turn it over to Board Member Hurt, I just wanted to note really briefly the topics we're going to cover, because if people are thinking about how they want to orient their comments,
we're going to do transportation, we're going to do energy, we're going to do industry, which will include a discussion of CCS, we're going to do natural and working lands, we're going to do carbon dioxide removal, independent of facilities, and we're going to do short-lived climate pollutants, and then we'll figure out where to put health -- public health probably at the -- maybe right after that one or at -- yeah, probably right after that one. So we'll do public health after.

VICE CHAIR BERG: Infrastructure goes in energy.

CHAIR RANDOLPH: Infrastructure I think probably goes in the energy bucket, if you're thinking about infrastructure questions.

And then the other thing I would say is kind of in response to Dr. Sperling, I -- I -- I think we need to be clear about what the "we" is as we're talking, because I do -- I actually kind of disagree with you somewhat, Dr. Sperling, in the sense that I do think we still need to double down our efforts around transit, because that can integrate the more sustainable, you know, active mobility, and thinking of it in this systematic way. But we, at CARB, are not the ones who do the mass transit, sort of investments. And so I think one opportunity for the -- kind of the information Board Member Takvorian was talking about in the Scoping Plan is just to -- you know, there is
an opportunity to be very clear about, you know, what the
costs are, what the benefits are, and as a signal to the
larger "we", the Legislature, local governments, and the
larger "we" that are making these investments. I just
wanted to make that point.

BOARD MEMBER SPERLING: For the record, you're
not disagreeing with me. You know, I think VMT reduction
is an admirable, desirable goal. And for transit, the key
is just what you said is getting transit to -- integrated
with, you know, the micromobility, the TN -- pooled TNCs,
other kinds of -- you know, other kinds of modes, but on
its own, it's in deep trouble.

CHAIR RANDOLPH: Got it. That makes sense.
Okay. Board Member Hurt.

BOARD MEMBER TAKVORIAN: So can I -- I thought
you said transit was in deep trouble, right, that's what
your point --

CHAIR RANDOLPH: He said transit on its own.

BOARD MEMBER TAKVORIAN: Transit on its own.
Agreed. But micromobility on its own is not going to get
a family --

CHAIR RANDOLPH: Right.

BOARD MEMBER TAKVORIAN: -- to the grocery story
or kids to -- or school, that kind of stuff. So I just
want to -- not arguing it at this point. I'd be happy
too, but I think I hear you saying, Chair, that's what needs to get modeled in terms of -- or discussed in terms of what -- how that will look, right?

CHAIR RANDOLPH: Right. Because I --

BOARD MEMBER TAKVORIAN: But we're not taking that off the table even though -- because we don't have authority for lots of stuff that's in this plan.

CHAIR RANDOLPH: Right.

BOARD MEMBER TAKVORIAN: Okay.

CHAIR RANDOLPH: Right.

BOARD MEMBER TAKVORIAN: Thank you.

CHAIR RANDOLPH: And I do think it's more of a discussion rather than a modeling exercise, but...

BOARD MEMBER TAKVORIAN: Discussing it ends up in the plan.


BOARD MEMBER HURT: Well, thank you, Chair. I think you actually started some of the thoughts that I was having as I was listening to our colleagues here. And as someone who sits on a government agency board whose main mission is to reduce the number vehicle miles traveled. Dr. Sperling, you have to give me greater hope for the work and all the time that I'm spending.

(Laughter)
BOARD MEMBER HURT: But I haven't given up yet and I don't think any of us should. I think we need to continue pushing vehicle miles traveled reduction and couple it with seamless mass transit, and the last mile considerations with active transportation. I mean, this is a behavioral change that we just have to keep repeating over and over has to happen.

I do want to uplift that funding is critical. And I may differ slightly from some folks, but I feel like if there's a place for public investment, it needs to be here. This is directly helping the people, we the people. And so subsidizing mass transit directly for the people will go a long way.

I really did appreciate the strategies for achieving success that's in the document, which brings me to my thinking around the rural parts of the state and wondering what contrasting strategies we should expressly discuss in this plan, because they're different than cities. And maybe I'll pause here to say are there any pieces that you'd like to add. And let folks know when it comes to around rural areas how vehicle miles traveled is look at and what is the gold standard, because what I hope we can do in this document is create the gold standard and as Secretary Blumenfeld said, the roadmap.

DEPUTY EXECUTIVE OFFICER SEGALL: Let me speak a
bit to the rural areas point. So I think there's this --
sort of this common misnomer that somehow we just can't
make other electrification or transit work in smaller
cities and places, and that's not the case.

One example that we funded that I mentioned
earlier was the Green Raiteros Project, which is a good
model. So that's a green EV rideshare project that's
helping folks get around in the rural San Joaquin Valley.
There's similar efforts that we've worked with, you know,
in Imperial and many other areas where we really want to
see, you know, electrified mobility.

In addition, in a lot of those cities and towns,
they're actually quite effective in terms of putting down
chargers for smaller rights, electrification, and so on.
So I think we see a mix as we partner with the rural
areas. We see charging availability in even the smallest
towns and along corridors. We see increasing
zero-electric vehicle penetrations, but we also see
innovative transit solutions, whether it's funding local
transit agencies or funding things like green rideshare,
as Board Member Sperling was talking about. I think it's
going to be a range of solutions and I really think it's
important that we have the imagination just as we imagined
electrification, to imagine buses and transit.

BOARD MEMBER HURT: Yeah. I mean, I think we
have to continue with this creative solutions idea, but I will tell you local jurisdictions, and I'm thinking of my own city right now, the City of Belmont, we don't have the expertise. We don't have the time to dig in. While we have climate action plans, we definitely don't have the latest knowledge that you do. And so I'm wondering is there a way we can incorporate that into the Scoping Plan as one locale, one place where these cities can go and -- no one has time to research all the things that you have.

       DEPUTY EXECUTIVE OFFICER SEGALL: One thing we've tried to do in the local action appendix is really concretely identify both tools and resources to get it done for folks on all these fronts. And that's both information sharing and it's also about a resource management point. It's exactly your point, you know, when your entire transportation department has a name, you know, and it's like Betty, and she's doing her best and she's holding it together, it's really important that the State not to sort of say good luck, but instead provide direct resources and information in time. And part of that has also been streamlining, so you don't necessarily need, for instance, you know, a whole inventory before you can do climate action at the local level. So here are the things you can do, so we can help make clear are definitely environmentally consistent, don't require a
huge CEQA process, and can get going. So we're really trying to provide those tools and we're actively talking to a lot of local governments on this and would love to talk to more.

BOARD MEMBER HURT: So one last thing that I'll talk about is this piece of equity. And in the Scoping Plan, and this may be like an overarching discussion or point, I feel like we need more markers around income and race to really see who's most impacted. I know we have generalities. I know we use the census tract. There are studies out there that say that it's not the best way to find those who are falling through the cracks. So is there a way in our modeling we can pull out income markers and race, because we know brown -- or people of color are most impacted.

DEPUTY EXECUTIVE OFFICER SAHOTA: So in the economic modeling, you're right, we had a general this was the impact to the economy, impact to households. Not all households are the same. There's very different income brackets there. And so what we can do as part of an addition to the Scoping plan is go back to the model and try and tease out by income brackets what the actual impact would be to that level of household for income.

So we can try and do that. We can then try and map it potentially to other statistics about who is
generally in those income brackets when it comes to some of the census data that's collected as part of the normal census process. So we can go back and look at that and see if we can add in that additional detail.

BOARD MEMBER HURT: Thank you. I would like to see that and I think it will be beneficial, not only in this area, but many other areas throughout the Scoping Plan. And I just want to also agree with Dr. Sperling when it comes to alternative fuels and being very thoughtful about what we allow or what we suggest is okay, and not okay, and focusing on those that are based in renewable sources and not food originated.

So I'll stop there and let others speak. Thank you.

BOARD MEMBER BALMES: Could I just quickly say that census tracts are not a bad way. Census tract data are not that bad with regard to race, ethnicities, and income. And, you know, EnviroScreen is all based on census tract data. So it's hard to get more -- get finer information on income, race, ethnicity than census tract if you want to look at the whole state.

BOARD MEMBER HURT: Well, I just heard that she could do that, so I'm looking forward to that. And I also know at the local air district, we do that when we have rule creation. And so I think there are more details we
can point out or pull out --

BOARD MEMBER Balmes: You can get down to the census --

BOARD MEMBER Hurt: -- to understand that impacts.

BOARD MEMBER Balmes: -- census block, which is better, but --

DEPUTY EXECUTIVE OFFICER SAHOTA: Right. Right. No, I think both of those statements that you were saying are absolutely on point. It's probably just the different words that are being used. In the modeling, we can pull out by income level. We can then look at census tract census block data to see what ethnicities or race are in those income levels and map them back together.

CHAIR RANDOLPH: Okay. Excellent. Thank you.

BOARD MEMBER SPERLING: Let me just add to that. I think you want to be careful. I mean, you can do all kinds of Analyses. So the question would be why are you doing this?

And so one reason would be probably the most potent weapon are using incentives, and disincentives, and pricing and use -- you know, so any analysis you do -- and there's been a lot done already and there's lots of academic work tie to that. But, you know, let's not just do a sprawl, you know, analysis of everyone on everything.
Let's be strategic about it and use our resources well.

CHAIR RANDOLPH: Yeah, I think -- I think that's a -- that's a great point. And that kind of data provides the opportunity to think about the incentives, disincentives conversation.

Okay. So for fuels, I think we're hearing we need -- I'm sorry, for transportation, I think we're hearing we need some more discussion in the plan about transit investments and how they can provide VMT reductions and GHG benefits. And to the extent we can -- we can, you know, compare -- sort of compare vehicle incentives and -- versus that strategy, we can identify that, but recognize we can't do that at a granular level. It will be more of a discussion and -- and sending signals to the larger "we" through, you know, continuing -- I mean, we do this in the -- in the plan and the appendix, but, you know, uplifting things like CAPTI and sort of rethinking how we are funding our transportation infrastructure.

And then there's a lot of interest in increasing the stringency of the Low Carbon Fuel Standard, but also recognizing that we need to be careful about our feedstock strategy. And so when we -- when we look in -- when we unpack the LCFS that will be part of the discussion, I
Okay. Are we good with transit? Okay.

VICE CHAIR BERG: Can I just make one comment.

CHAIR RANDOLPH: I'm sorry, transportation. They both start with T.

Vice Chair Berg.

VICE CHAIR BERG: Thank you. And I'll be very quick. You know I don't want to lose Diane's thought of we don't know how to change the culture to think about transportation alternatives and mobility. And I heard someone just say, yes, we do know how to change it, but it's not politically possible. So, you know, we could price things out, we could mandate, we could also have, you know, a different -- any way, so it's difficult to try to send the signals. I think it's just worth a conversation in the future, as we're looking at the Scoping Plan really kind of changing and framing up how we're going to live differently. And I think that's what I heard from EJAC is how do we use the Scoping Plan so at the end of the day, we have communities -- all communities that are healthier. So I just want to lift up this has to be part of the conversation.

Thank you.

BOARD MEMBER TAKVORIAN: No, I appreciate that, Vice Chair Berg, and I hope that it's not -- it's part of
the conversation, but that we're exploring alternative ways to actually do what Craig said, which is what's the way that we increase funding here? And, I mean, we -- that's what we're about. And just because we haven't done it before doesn't mean we can't do it again. And I just -- I have to say equity, which I know is where we all are, but EJAC especially has focused on, so I appreciate you lifting that up, that's not in autonomous vehicles, I'm sorry, and single -- it's -- and it's not on bike. I love bikes. I think we should have bikes, but we need transit, because that's the culture our communities are in now. And if transit doesn't come for an hour, then they're late to work and they never get the better job. So -- so a big part of our culture is already there, but they're just not getting served. So thank you.

VICE CHAIR BERG: And I -- I just want to put the caveat. I agree -- I do absolutely agree from accessibility, but we also need to be real -- we have to be knowledgeable. I won't say realistic. We have to be knowledgeable where the legacy transit is and how vulnerable it is financially because we haven't been financially supporting it. So I don't want to go after something in a bubble that is -- we didn't address what was happening on the ground. So that's part of that greater discussion, where we realistically we are now
today in a legacy perspective and where do we want to be. And I just want to lift that up as -- I love that statement I've highlighted it that you said.

Thank you.

BOARD MEMBER SPERLING: And I have to add one more sentence --

(Laughter)

BOARD MEMBER SPERLING: -- and that is the best strat -- equity strategy for low income and EJ people is shared automated services. It's the only way we're going to be able to reduce cost of transportation enough so that we can provide it to a large number of people. We are serving a tiny percentage of the disadvantaged population, the physically disadvantage, the economically. And until we figure out a way to provide mobility at a lower cost, all those people are not going to benefit. And the only strategy I've ever seen or heard of that provides promise for that is a shared mobility service. So I disagree with my fellow Board member on that one.

BOARD MEMBER TAKVORIAN: I'm not turning my mic on. The whole country operates on a transit system that --

BOARD MEMBER SPERLING: It's not on.

BOARD MEMBER TAKVORIAN: I know I'm not turing it on, because I'm not really speaking --
(Laughter)

CHAIR RANDOLPH: No. No. It's fine. It's fun, because you -- you raise a fair point that there are many countries that have a lot more mass transit than we do, and somehow they manage to do it.

Okay. So did you -- oh, sorry.

BOARD MEMBER DE LA TORRE: Thank you. I'm going to be very brief. Three points. One, we're about to see a market transformation, the likes of which we haven't seen since the early 1900s, in terms of vehicle. It's to Dan's point that these vehicles -- we're going to have price parity during the time of this Scoping Plan. And so I'm not talking about just cars for middle and upper class folks. On ACC II, I was complaining about the need to get those vehicles into lower income working class people's hands, but that includes car sharing.

When I'm in Sacramento I use GIG cars. It's cheaper than the others and zero emission. It's great. I was just at a ribbon cutting that we funded for South LA to get car sharing in South LA. And that was driven by the community. They asked for that. So, Clean Cars 4 All, and car sharing, as part of that, to get these vehicles into the hands of -- of the communities we're talking about.

And then the big one for goods movement is useful
life. And the suite of issues that Craig and I have talked about, that has to be front and center in this package, the whole suite of things, not just useful life. So that's -- those are the things that I'm flagging on for transportation. It's transit for -- or transportation for individuals and the goods movement sector.

Thank you.

CHAIR RANDOLPH: Perfect. Thank you.
Okay. Energy.

BOARD MEMBER HURT: Can I ask one more question.

It's really quick.

CHAIR RANDOLPH: Yes.

(Laughter)

BOARD MEMBER HURT: Teeny tiny.

I'm wondering if staff has done research around what is it that low-income individuals and disadvantaged communities are asking that they need in transportation. Because I hear car share and I'm thinking my family is not doing car share. And then I hear autonomous vehicles and I'm just thinking about some of the communities I know and that's not going to be an option right now.

DEPUTY EXECUTIVE OFFICER SEGALL: Yes. There's a lot of --

CHAIR RANDOLPH: Doesn't it vary wildly by community?
DEPUTY EXECUTIVE OFFICER SEGALL: This is pretty much where I'm going to go in a teeny-tiny response, which is it's really variable. And what people need more than anything else are, one, affordable cars, and two, lots of transit and transportation options. It varies by person. And the problem now is we lock people into depreciating assets, in the sense that the car is their only option, and that's a huge problem.

BOARD MEMBER HURT: And I knew that answer. I just wanted to get that out. I just --

(Laughter)

BOARD MEMBER HURT: I just wanted that publicly said.

CHAIR RANDOLPH: All right. Okay.
Our next topic, which I hope will not take an hour and 15 minutes --

(Laughter)

CHAIR RANDOLPH: -- is -- is, I will admit, my -- oh, I'm sorry.

BOARD MEMBER FLOREZ: I just have a per -- a question on this. So to the modelers, I'm looking at Alternative 1, Alternative 3 and then the EJ presentation yesterday. Is it fair to say, Madam Chair, maybe through staff, is this of the categories that you're going through today, we're kind of the closest on this. In other words,
it seems the time frame here is a 30, a 35, and a 45. The ultimately goal, I assume, is the Governor's Executive Order driving this.

But as you looked at you models, is this -- as we go through the categories, is this kind of the closest category that we're going to be going through today in terms of somewhat being in agreement, I guess I would say? I guess that's my question, because we spent an hour and a half then on things we really kind of agree on. I'm just trying to --

(Laughter)

BOARD MEMBER FLOREZ: I'm trying to time this. So maybe just how do you look at these Alternative 1, 3, and then, of course, this category. I'm just going to stay in this category. That's all. That's my only question.

DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. So there were -- there were different outcomes that were being asked for in the EJAC recommendations. One of those was a phaseout of combustion by 2035, which would mean accelerating the Governor's ZEV Executive Order and getting those vehicles out of the state.

Another ask was to phase out oil and gas extraction and refining by 2035. Alternative 3, we still have legacy vehicles that need petroleum, which means we
still have some reduced need for activities on oil and gas
extraction and refining. So those are probably the
biggest places where they differ, the time frame, and then
the fact that we will still have some combustion on our
transportation sector, which means some production of fuel
to support that demand in-state.

CHAIR RANDOLPH: Okay. So now we're moving on to
my personal favorite in my sectors. I love all the
sectors, but energy is my favorite.

(Laughter)

CHAIR RANDOLPH: Okay. So this is a really --
this is fundamental, because we need to provide a clean,
reliable, affordable energy system to meet the demands of
the transition. We're transitioning away from fossil
fuels. We need to transition towards something. And in a
lot of instances, we are transitioning towards our
electric grid.

So we need to be thinking about some key issues
in this area. And I know there's a lot of conversation
about accelerating targets and also how we address
reliability. Reliability is not -- it's not some kind of
luxury. It is fundamental to the operation of the system
and it's fundamental to the public confidence in making
the transition towards electric vehicles and electric
appliances.
So can you -- I would love for staff to talk a little bit about -- you hit on this in your presentation. The modeling does show that there is a continued need for gas on the system, which was also consistent with a lot of the analysis that was done in the SB 100 report, even before we identified all these strategies that will increase reliance on the electricity grid.

And so I just wanted to note -- I guess I wanted to kick off a couple things, how one -- one piece of infor -- one -- one point I've heard people make is that somehow that gas is showing up in the system, because we are using the statutory definition of retail sales, which is again in the statute. But my understanding is that it really is much more about what the kind of demand we're seeing on the system is and what happens at the net peak, and what happens when solar goes off, and there's -- there's not other resources at the net peak towards the end of the day, and at other times of the day maybe in, you know, lengthy, cloudy hot days like we had here the other day.

So I just wanted -- can you just talk a little bit about why -- the overall trajectory of gas demand on the system, why you -- the modeling shows gas -- new gas in 2045, and what are the alternatives to them?

DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. And the
electricity sector is quickly becoming one of my favorite sectors as well, because it is where we need to go. And if we are successful in getting that sector to where we need it to be, we turn off fossil energy in the system. And so for electricity in our modeling, it's the most we've ever pushed in terms of electrification in buildings, in industry, and in transportation.

Even the SB 100 report that was a joint agency report between ARB, the PUC, and CEC didn't have this kind of load growth in it. We are asking far more ambition in terms of electrification of end uses, which means a tremendous amount of load growth on the system, which means more power has to be available. We have to have more transmission available.

We also want to make sure that as we're growing that energy supply, it continues to get cleaner. And today, we do have natural gas plants that supply baseload power, and that is power that you count on and you plan for every single day. There are also gas plants that are turned on and off, depending on whether you need to balance load across the state at any given point. So you have a hot day, once something goes down outside the state of California, a transmission line goes down, you have to augment that power in the state that needs. So you turn on one of those peaker plants, which is usually gas. You
can turn them on and off quickly. It's gas.

The plan modeling shows that we are going to continue to get away from that baseload natural gas generation. It also shows that we are going to continue to grow things like solar -- utility scale solar, wind, offshore wind, all of those pieces. We are also going to grow storage over time. The issue is that because we're pushing so hard on this sector in terms of all the different end uses, and you all get to see this, because every one of my colleagues comes to you with a regulation and it's all about electrification.

In the Scoping Plan, we get to take a step back with our energy agencies and say, oh, let's add it all up together. What does that mean for the power supply and the power sector? Well, because of the transportation demand, all of the things that need to happen, the expected increase and need for air conditioning, refrigeration, especially in the middle of the day -- middle of the afternoon to late evening when everybody is home. It's the hottest part of the day. There's a huge demand that peaks in California in that afternoon. So you're going to need more load. And we need to make sure that that load is balanced again, that it's reliable and affordable.

That means we're going to need more natural gas
capacity sitting on the side. That's what the model is showing. What it really is is indicative of the need for more dispatchable power or more storage so that anything that we didn't use earlier in the day is available later in the day when that peak happens.

And so the way that the models are set up is we know the load growth and then we have to go through and say, well, what's going to grow? And because there are statutes about having affordable power, there's also requirements that we look at economics of how that power comes online and what power is used to meet that load. Right now, in the model, which is called RESOLVE, it is saying the reliable power is going to be natural gas. But that doesn't mean that the utilities are going to start procuring natural gas today or building natural gas plants tomorrow.

Ultimately, what they procure and what is built is part of implementation under existing statute at the PUC and some of the work at the Energy Commission. So the 10 gigawatts that's showing up that people think we're building all these power plants in the State of California, that's not what we're saying. What we're saying is we're going to move the economy to electrification. We're going to need to have reliability. That reliability has to be about 10 gigawatts. From
affordability, based on the data we have today, that model that the eight energy agencies use, it's looking like natural gas.

The way to reduce that is to, one, have more energy efficiency in the system, so you don't have that load growth that's sitting out there. That's why the VMT piece is really helpful, because it's not deploying cars faster, which adds to the load. It's all -- it's saying we'll use less load so you're not adding to the system.

The other pieces are other storage. Can we deploy storage faster? We know that storage has started to come down in cost. We've seen it starting to accelerate in terms of deployment. The more we can push out some of these other alternatives to help make sure that there's reliable power in those peak times of the day, the less over time that we're -- the model is going to start to pick or need to pick natural gas. But ultimately, we're not saying that we have to build it. It's not a foregone conclusion that we're building that ten gigawatts of natural gas. What we're saying is we need to figure out a way to make sure that we don't have the need for that natural gas or other things like storage, and that we also have a chance through the procurement process, the update to SB 100 report every four years, and all of the work that we do at ARB on the
Scoping Plan to look at alternatives as we move forward.

CHAIR RANDOLPH: So I would like to see more

clear -- a more clear goal articulated in the Scoping Plan

that basically says, you know, we recognize this is where

we are, but this is not where we need to be, and, you

know, sort of more direct language to our sister agencies

and to the publicly owned utilities that, you know,

this -- this is -- we need to meet this need with clean

generation and that we will be working with them to do

that and that, you know, we need to improve the suite of

our options to address what -- the way we see the system

behaving as we continue to grow our electricity growth.

Dr. Balmes.

BOARD MEMBER BALMES: I think Ms. Riordan had her

mic on.

CHAIR RANDOLPH: Oh, sorry.

BOARD MEMBER RIORDAN: You're so nice, Dr. Balmes. Yesterday, I was very concerned about the

testimony of the power providers. And they were all very

supportive. And I think it's so important, and I don't

know if it has to be spelled out, but just remember this

when you're looking towards these goals, that we need

their support and their willingness to work with us,
because if we are not working together, we're never going
to achieve the goals that are set forth in our Scoping
Plan. So that testimony of support on their part was very good, but they are partners with us. We can regulate all we want. But unless the industry is moving right along with us, we've got some serious problems. So that, Madam Chair, is my $0.02 worth.

CHAIR RANDOLPH: Thank you.

Dr. Balmes.

BOARD MEMBER BALMES: Thank you and thank you for kicking off this discussion, since not only is it your favorite sector, but I think you're well positioned to lead on this and I appreciate that.

And, you know, one thing I've learned about multiple scoping plans since I've been on the Board is that we send signals to the other agencies and the Legislature. And so I appreciate, Chair Randolph, you're asking for a more clear delineation of the goals that we would -- in which the EJAC uplifted yesterday, that -- and that Rajinder I think responded well to. We don't have to build all these 10 gigawatt natural gas facilities, if we can do better at alternative power generation and storage. In terms of storage prices going down, I still paid a lot for the storage battery I'm installing in my home.

While I'm on uplifting EJAC, which I just would say in general I really appreciated all the work -- your presentation of all the work that you've been doing
yesterday. And --

(Voice off record)

BOARD MEMBER BALMES: Yeah, I know, but there was a lot there. The natural gas facilities that we may need, if they go into low-income communities of color, that's exactly the wrong place for them to go. And, you know, EJAC pointed that out and I'm a hundred percent supportive of that. You know, I often give talks about environmental justice and I always say, because I'm from the Bay Area, they don't put power plants in Piedmont. So I'm really concerned about where those plants go. And I realize that we don't have -- you know, that's not our area of authority, but the -- I think the CEC does siting for power plants, so we really have to be clear about that in terms of our sister agency.

And then I'm going to end with something that is controversial, I think that we ought to consider nuclear here, not -- I'm not asking you to put that in the -- in the Scoping Plan, but I do think -- I have an open mind. I used to be a total no nukes person, but somebody on the CEC that I know for, you know, decades ago actually, before I was even on the Board -- well, I guess I just had gotten on the Board, told me that he thought that we were going to need nuclear power if we're going to deal with climate change effectively. And I think we should have
open mind about keeping Diablo Canyon open. I mean, we'd have to do a lot of work to make that realistic. And I'm not saying we should go there. I'm not saying it should be in the Scoping Plan, but I think we really need to consider that.

CHAIR RANDOLPH: Thank you.

One of the -- one of the benefits of being the parent of a college student is that he's -- he talks to me about things he -- classes he took. He took a power generation system class and they learned all about this, like small modular nuclear units, which was very, very interesting.

DEPUTY EXECUTIVE OFFICER SAHOTA: Um-hmm.

CHAIR RANDOLPH: And I think maybe probably a better way to go than many years of Diablo Canyon, but...

Okay. The other thing I would note with this sector, and I think this is something that we need to be talking about with regard to the entire Scoping Plan is we clearly need to do a better job of tracking progress and articulating progress. And this is a sector where it's -- we can do that with -- because I know our sister agencies are carefully tracking the progress. One of the things that we realized at the -- at the PUC is we were ordering procurement, but we weren't closely tracking the contracts that were resulting from the procurement and that has
changed.

And so I think this is a really great opportunity as we think about building out ways to communicate better how we're getting to our short-term goals and our carbon neutrality goal is tracking progress and this sector is a good example of how we can do that. So I just wanted to raise that issue. Any other comments on energy?

BOARD MEMBER KRACOV: Were you thinking of like some sort of -- and again, I'm a newer Board member, got a lot to learn and I've got some things that I do want to talk about substantively later. How do we track progress with the Scoping Plan? Do we have yearly updates? Do we just do it every five years as we plan for the next plan? Is there going to be some sort of dashboard we're working on? What's your vision there, Chair?

DEPUTY EXECUTIVE OFFICER SAHOTA: Supervisor -- or I'm sorry, Board Member Kracov, thank you for that question. And one of the things that we designed into this Scoping Plan is to make sure that there are benchmarks on the types of energy we need, and how that needs to grow -- the rate it needs to grow. So you benchmark for all of the different energies we're trying to bring online. We also have very specific ramp-ups and benchmarks for the deployment of technology. So how many ZEVs should be on the road by this point, how many
heavy-duty, medium-duty vehicles, appliances. So we have a lot of that built into the Scoping Plan. What we haven't done in the past is try and have something like a dashboard, where you say here's where we should be by this time based on the last Scoping Plan and here is based on the data we've collected either from incentive programs or through regulations and reporting that shows where we are against that benchmark.

And so the goal moving forward is to not just put within the Scoping Plan as the trajectory, but then also work with our sister agencies and within ARB to try and pull those statistics together for how much we've deployed along the way to that final -- on that tracking trajectory. This would be a new effort at ARB, but there is also a more larger effort at the CalEPA to do a -- almost a sector type tracking, like what a -- how are we doing in every sector, but I think for regulatory purposes and incentive purposes, we want to go a level deeper and think about if we're saying 4.9 million ZEVs on the road in 2030, how close are we to that? Can we go to one place and just have all that information in one place for everyone, not just for us where we can look at the different programs, but for everyone?

The other thing is we do an annual update to the Board on the Scoping Plan. And so that is something there
where we come back to you. We can have a touch-in on that. And we publish an annual GHG inventory. Traditionally, we've used the inventory as a way to track progress. The problem with the inventory is that it doesn't pick off the nuances on what's maybe happening in terms of where to focus incentives, where to focus regulation, because you're not able to see that deployment of technology of growth in fuels. You're just seeing the emissions numbers. These would need to come together.

I think that the benefit of the dashboard moving forward, especially in this decade is, the pace is so tremendous in terms of the deployment in growth of all the things we need to do that if we don't see ourselves on that trajectory in the next couple of years, it's going to be clear we are going to miss the mark in mid-century for carbon neutrality.

And so we need to actually have some way to be accountable for what the science says we need to do to get to that carbon neutral target.

BOARD MEMBER KRACOV: Thank you, Ms. Sahota. And then -- and so, Chair, also I know the Chair is committed to keeping the EJAC on a moving forward basis. So I don't know if there -- we should think about, you know, the role for the EJAC with regard to the things that were just mentioned perhaps.
CHAIR RANDOLPH: That's a very good point. Yeah, I think that's a good suggestion.
Okay. Any other comments?

BOARD MEMBER HURT: Yeah, I just -- I didn't want to fly over the risk to community that these additional gas plants are thinking -- either that we're articulating may be the future that we need. And I really hope that we express this risk strongly in the Scoping Plan. I mean, that's everything that EJAC has been talking about, the impact to its communities and that, you know, can we contrast bolstering more renewables? Like what does that look like in solar, and wind, and I just read an article this morning about -- well, maybe I shouldn't talking about it, but China and their goals in solar. Just wondering, can we move in that space?

CHAIR RANDOLPH: Can I -- could I address that, because I do think it's important to articulate, you know, the clear risk to communities and what we want to avoid. But the gap we're seeing here is not about renewables. It's about that -- the firm dispatchable power that supports renewables and smooths it all out. That's the challenge, which is why we're talking about things like storage, but other opportunities for other types of generation, because the challenge with storage is, you know, you need -- you need the generation to support the
storage. And I -- there's -- there's huge opportunities to have more renewable generation during the day to support storage. But at some point, we're going to start -- we're going to start, you know, capping out, right, because we need -- we need to create green hydrogen and we need to fuel our vehicles, and we need to fuel our buildings. So there's a lot of -- even though right now, we're curtailing during the day, we're going to start using that up at some point. And so we need -- that's why we need to send the signal that we're looking for opportunities for clean dispatchable power.

BOARD MEMBER HURT: And I agree with you.
CHAIR RANDOLPH: Yeah.
BOARD MEMBER HURT: And I understand that backup role that these gas plants would play. I just want to thread the needle a little bit more and see what other areas we could bolster, but reminding folks, you know, there's a give and take in tradeoffs. And in those tradeoffs, you know, is that kind of you deal with the Alternative 2 or 1 versus 3, if we were to signal something else.

DEPUTY EXECUTIVE OFFICER SAHOTA: So -- so on this point, I think it's important to lay out what we're really talking about here in the electricity sector, because it's a huge growth. I think the statistic was 7
gigawatts of new power year over year for the next 22 years. One gigawatt is one nuclear reactor. One gigawatt is two average natural gas plants. That's the pace and scale that we're asking for renewables to be built. And it is prob -- and historically the max has been 2.7 gigawatts in a Single year, so it's more than double that.

We are running into challenges in multiple fronts on this sector and I think they need to be addressed, because unless we build out the clean electricity sector, we can't turn off the bad things that we're using today, like petroleum or fossil gas. And there are challenges that are happening on siting, where are we protecting lands, where are we okay to build, where are we not okay to build solar panel farms, or wind farms, or any of these other utility scale renewable features.

You've got local ordinances -- ordinances like in San Bernardino County where they're saying you can't build utility scale solar. You've got folks who are like I don't want to see a wind farm when I look out my window. That's not why I bought this -- this home. I want to see a nice view. We're going to run into those same kinds of things when we think about offshore wind, in terms of what does my view look like. And this is -- and these are not things that are being talked about to be sited in environmental justice frontline communities. These are
things that can be sited -- that need to be sited in other places where the sun is there, the wind is there, and an offshore wind farm.

So there's a huge thing in terms of people wanting renewable power and people wanting to live and look at renewable power at the scale that we need it to be available.

There's also, you know, all of the -- the permitting, CEQA, all of those pieces that actually slow down the process to build any of -- any of the things we need, not just even in the energy sector, but things like compost facilities that we need for short-lived climate pollutants.

And then you've got increased time in just processing to connect or have connection to the larger grid. So once these things are ready, are they ready to be connected, is there transmission to these utility scale energy sources, to then be able to get on the grid to provide power in the State of California somewhere. And so there's a huge -- a huge discussion that really needs to happen in earnest about if we want to get off of fossil fuels, the 91 percent petroleum, the 91 percent in gas in buildings, we need to make sure that there is something to go to, and that is this electricity -- clean electricity, affordable, reliable sector and there are real challenges
there. And I think --

BOARD MEMBER HURT: Thank you. Those are hard truths I think we all have to start talking about over and over. Sorry to say.

CHAIR RANDOLPH: Yeah. No, I completely agree with you, because I think you're tying these -- these points together, right, which is we know we need to make the transition. We know the risks of not making the transition, but we know we need some time to get this all out and -- and -- and have the right choices made.

Okay. So we have -- we are all --

VICE CHAIR BERG: And can I just say, we -- and we haven't even talked about the legacy infrastructure, the trunk lines, the --

CHAIR RANDOLPH: Yes.

VICE CHAIR BERG: -- things that were built in the 50s and are getting tapped out. So there's a null -- another whole layer of infrastructure just upgrading and we've got to make sure not to leave our vulnerable communities behind, which are behind now. So it's complicated.

CHAIR RANDOLPH: Yes. So we have just covered two sections -- okay.

(Laughter)

BOARD MEMBER TAKVORIAN: Two things that
really -- quickly. I'm sorry, yes, very quickly. So I just wanted to lift up Board Member Hurt's comment about not only impact -- equity and impacted communities, but yesterday we definitely heard, and I heard it in the EJAC recommendations, we're looking at massive warehouses that have been built all over the valley that don't have any solar on them. So when we talk about solar farms, we've already impacted these communities with all of these warehouses and all of the accompanying diesel trucks. So what about how we might connect that to ISR or other mechanisms that would say, well, there's a whole landscape that's been destroyed already, so let's put another floor on there with solar. How much would we get from that? And if there was a way to take a look at that, that would be awesome.

And my second question is we're -- and maybe this was responded to in Board Member Kracov's and Hurt's discussion of the dashboard, how does the dashboard inform permitting. So when do we know that we need additional gas plants? Because what I read in the Scoping plan is that's our prediction. So are we starting that now, or are we starting that in two years, are we starting that in five years? I think we need more clarity on that, because all of us are saying we don't want to do that, but are -- you know, I just think there ought to be a time limit on
when we would start that. So that's -- that's an additional question.

And the other is, you know, peaker plants are already in EJ communities, so if we're talking about more peakers and more gas plants -- or gas plants that are -- peakers that are associated with gas plants, you know where they're going. So let's be real about that and not say they're going to go somewhere else, because they're not. So I think that's a whole other layer that needs to be discussed in the Scoping Plan.

CHAIR RANDOLPH: Yeah. I mean, I think that's -- I think the tracking of sort of, you know, the progress we're making towards are we getting the generation that we need in a clean way is -- yeah, it's -- we have to see that trajectory, so we know that we're moving away from.

Okay really quick.

BOARD MEMBER DE LA TORRE: Yes, I have three things.

CHAIR RANDOLPH Oh, my gosh.

(Laughter)

BOARD MEMBER DE LA TORRE: But they're so -- they're all short.

CHAIR RANDOLPH: This is -- this is a sector we are all in --

BOARD MEMBER DE LA TORRE: Yes.
CHAIR RANDOLPH: -- agreement on and we're about

to hit a sector --

BOARD MEMBER DE LA TORRE: But --

CHAIR RANDOLPH: -- where we're not in agreement,

so I think we need to make some time for that, but go.

BOARD MEMBER DE LA TORRE: Okay. One,

piggybacking backing on the peaker issue, we need to

mandate hybrid peakers in California. What are we -- the

technology is there. Every peaker in the state of

California should be hybrid. It dramatically reduces the

emissions, the efficiency. What are we doing? The fact

that we have these old diesel peakers or whatever fuel

they use is ridiculous in 2022. We know that they're bad.

Let's make them less bad, if we're going to have to have

them around.

Two, hydrogen. Let's get away from this stupid

color system --

(Laughter)

BOARD MEMBER DE LA TORRE: -- because everybody

means something different when they say these dumb colors.

Let's go to a CI index well-to-wheel of hydrogen,

non-fossil fuel hydrogen. That's -- that's got to -- when

we talk about hydrogen -- green hydrogen -- I just used

the dumb color -- that it -- that we are saying low CI

non-fossil fuel hydrogen. That -- that should be our
definition. That should permeate everything we're doing in this plan.

Three, oil. We didn't talk about oil enough.

CHAIR RANDOLPH: We're going to.

BOARD MEMBER DE LA TORRE: Oh, that's next?

CHAIR RANDOLPH: Yes.

BOARD MEMBER DE LA TORRE: All right. Then I will hold my third one for the next one.

CHAIR RANDOLPH: All right. Okay. Well, you know, it's -- there's a lot of overlap.

Okay. Yes. All right. Let's talk about industry and the role of CCS. You know, we heard a lot of concern about -- about CCS. And in the Scoping Plan, we do identify that there needs to be a process around community engagement, so that we understand what exactly we're talking about, what are the potential impacts, and how do we deal with them.

I kind of have an additional concern, because my understanding is that we modeled -- for CCS, we modeled it in the cement sector and in the refinery sector. And I'm just concerned that even in the refinery sector, are we being too optimistic in the deployment. And even if we push out the deployment to 2028, are we -- given the complexity of those facilities, given the age of those facilities, it's -- it's unclear to me exactly kind of
what the options are and how effective they will be.

And I'm not saying -- I absolutely don't think we should take it off the table. I think it's -- it's an important conversation we need to consider, but I think we need to understand how we're going to get to ground about some of these questions, so that we understand what we're really talking about here.

And so to me it's kind of two pieces, is the -- is the -- is the modeling overstating the potential and from an implementation standpoint, what are the logical next steps to figure out is there a way we can safely and sustainably deploy this technology.

So I will kick it to my colleagues.

BOARD MEMBER DE LA TORRE: Well, since I said I was going to do oil, I'll do it.

CHAIR RANDOLPH: Yes, because this is industry generally.

BOARD MEMBER DE LA TORRE: Yes. Okay.

CHAIR RANDOLPH: And so it includes oil and gas extraction and refining.

BOARD MEMBER DE LA TORRE: Okay. I'll start with CCS.

CHAIR RANDOLPH: Okay.

BOARD MEMBER DE LA TORRE: A couple things. The placeholder numbers, four million metric tons, which is
tiny. If it is so tiny, why is it there? Is that because of the technology? I mean, help me to understand what this is. And I will say -- I will make my own personal comment. Number one, in the next few months, I want to get more into the geology of California and how it works. I know it would work in Upstate New York where you've got granite everywhere. We've got fault line running all over this place, and so I'm a little skeptical on that. I'm a little skeptical on the oil refining and the smoke stack applications of this. So a little clarity on -- on CCS and why that.

But I will say this, in terms of the technology, we heard yesterday over, and over, and over again, the technology is not there, coming from a lot of the same people who are always pushing us to jump into technology that's not there to do great clean things, right? The technology is not there. They are 110 percent for moving ahead on technologies that are clean, but then there's this technology they don't like and are telling us the technology is not there, so we shouldn't do it. That's what we do here. We are constantly jumping into the breach. And so that's not a -- to me, a convincing argument.

And then oil, I think we need a multi-agency process to discuss how we're phasing out oil in the state
of California. I think it's time for us to have that discussion. It has to be completely inclusive of all of our agency partners. It's not something we can do ourselves. I'm not talking about a date. I'm talking about the process to figure out how you do this. No one has. We should figure out and talk amongst ourselves about how we, California, would do something like that.

Thank you.

CHAIR RANDOLPH: Okay. Dr. Balmes. I think you're next. Nobody else has raised their hand.

BOARD MEMBER BALMES: So because Mr. De La Torre brought up the geology of California, I am concerned, in terms of talking to San Joaquin Valley folks, and, you know, I do research; in Fresno and, you know, was nominated by CVAQ, you know, in 2007. And so I listen to my San Joaquin Valley friends and they're very concerned about the fact that where we're talking about carbon storage -- and I guess is that okay if I talk about carbon storage as opposed --

CHAIR RANDOLPH: Yes. Yes.

BOARD MEMBER BALMES: Okay -- is, you know, there's a lot that's -- you know, people are looking at the San Joaquin Valley, which, as we know and we heard from many witnesses yesterday, is, you know, a heavily impacted area with -- both in terms of air pollution and
heat, and where there's a great -- the greatest
centration of, you know, poverty among people of color
in the state. And I just -- it seems wrong to me to be
talking about carbon storage concentrated in the San
Joaquin Valley.

I even heard a story, which may be apocryphal,
that CCS on the cement plant in Cupertino, which I would
be supportive of, to keep that cement plant going, that
there was some Stanford report that suggested piping the
CO2 into the valley. And, you know, not only is the
optics of that terrible it's just wrong in my view. So
I'm not a carbon capture sequestration and storage expert,
and -- but I just really think that there are equity
issues here.

And as Hector brought up, you know, we have fault
lines again all over California too. So I think targeted
CCS on cement plants, and maybe other, you know, point
sources, greenhouse gas emissions, industrial sources, I
can -- I can see. And I agree that we should be pushing
that technology, but I really have problems in terms of
both oil and gas extraction, CCS, refinery CCS, and for
that matter, biomass power generation CCS, in terms of the
equity issues in particular.

CHAIR RANDOLPH: Board Member Hurt is next.

Anybody on this end of the -- okay.
BOARD MEMBER HURT: So there's great reliance that I'm concerned about on -- and want to understand better. I think we have to tip the balance to more direct emission reductions. Leakage is real issue. There's major capital involved and I'm concerned that we're unwittingly extending the life, and production, and consumption of fossil fuels. Very curious who does this benefit? And while I understand there's a role to play with CCS, I don't think I support the degree that it's modeled. It does not appear to be equitable, as Dr. Balmes said. And some of the projects you spoke about, I, too, have heard about them and have great concern. And I don't think it furthers the trust that the community is looking for to believe that we're really working for all right now.

And so I'd like to see more details around the entire life cycle of CCS and CDR and what and where these impacts are occurring in the community and what communities will be most impacted.

CHAIR RANDOLPH: I'm going to go to my colleagues on the this side of me in just a moment. But, you know, one of the questions -- one of the ways that I would think about this is is there an opportunity in the Scoping Plan to be more specific about, you know, here are the specific concerns we have. Here are the things that we are trying
to avoid as guidance for, because, you know, I hear a lot of interest in, you know, this is a technology we need to explore, but could we just be more specific about -- about concerns and pitfalls? And then that would guide the work going forward of this group -- interagency group that has been -- that has been articulated in the Scoping Plan so far that needs to have conversations and get more information about the deployment of CCS. So that might be one way to kind of tackle this.

Okay. Board Member Kracov and then Senator Florez.

BOARD MEMBER KRACOV: Okay. All right. So our framework for this is the Governor's direction. In April and July of last year, he said he wanted us to quote, "Study strategies to reduce fossil fuel demand and supply by 2045 and, 'phase out all oil extraction focusing on benefits in disadvantaged communities and economic growth'", end quote.

And the plan, I've spent a lot of time with it. It shows how difficult it's going to be to reach that destination. So it proposes, you know, in-state demand-side reductions and Cap-and-Trade, concluding that there is going to be an 80 to 90 percent reduction in state. And this is theoretical, you know, aspirational. But in the end, the plan insists that it is not feasible
to reach the Governor's goals, mostly because of transportation. And the plan gets it right. I've spoken with Ms. Sahota so much. There are so many technical complexities, the role of oil imports, how to fuel aviation, rail, marine equipment. I mean, that's what's going to be remaining in 2045. The differences in gravity and sulfur content of the blends. I mean this is reality.

And even with that though, Chair, you know, the plan does not send strong signals, from what I can see, on several fundamental matters that are needed to get us where the Governor says. One, the role of out-of-state demand. Two, you know, the potential moral hazard of allowing these technologies and advanced oil recovery to extend the life of oil and gas extraction, especially if it's funded by our Low Carbon Fuel Standard. And three, there are regulatory limits imposed by SB 398 that precludes supply-side restraints, I think, other than Cap-and-Trade. And a lot of this applies to refining too, especially with the emergence of biofuel and biodiesel.

Now, I can be mistaken on this, but I think our state in our Scoping Plan have to have a conversation about these matters. And, you know, this is not a modeling exercise. Look at what's happening in the real world when we drive to the gas pump today. This week, President Biden urged oil refining companies to drill and
refine more, not less. The President requesting lifting federal gas taxes and State ones too. In Germany, they're switching the coal plants back on.

So we do need to be reasonable and knowledgeable about our measures, understanding how our work affects the status quo for all Californians, rural businesses, and our labor force. But the EJAC and the environmental advocates are correct, the status quo is not working, and that's why we're even up here on this dais today.

I've just got a little more, Chair. You know, President Biden put it well two days ago. He said quote, "Let's make sure we're never again forced to pay the price of a menacing dictator half way around the world. We can deal with this immediate crisis of high gas prices and still seize the clean energy future. We're Americans and we can do both. We are the most qualified people in the world", end quote. And we can. You know, in the South Coast, we just passed last year, the most aggressive refinery NOx rule for retrofits for smog in the world, Rule 1109. And it was unanimous, it was bipartisan, and it was supported by the environmental justice community, WSPA, and labor. We can do it.

So, you know, where do we go from here? I agree, the plan candidly shows you where in-state demand-side measures get us on our journey, if our very optimistic
projections come to pass. And it presents an honest assessment of the technological constraints.

And I'd like to propose, Chair, that to get to where the Governor has told us to go, the destination, this Board, the Scoping Plan, needs to send a strong signal. Language to signal the need for candid ongoing deliberation, perhaps multi-agency – I think Board Member De La Torre mentioned this – perhaps in the Legislature now. But it's definitely going to happen when we as a Board take up next year LCFS protocol pathways to revisit the role of CCS in the oil and gas sector in LCFS and it needs to happen in Cap-and-Trade.

Now, it seems to me actually all stakeholders are advocating for this. We found something that EJAC and WSPA agree on, even though they come from different perspectives and desire different outcomes, the way to send a strong signal with regulations and policies for western U.S. demand and supply. What technology, what guardrails for our 617 communities would get us to where the Governor wants us to go?

And I envision, I see, our Scoping Plan clearly sending this signal. And, of course, each step taking into account what these policies will mean for all Californians with empathy. And as the Governor said again quote, "Focusing on benefits in disadvantaged communities
and economic growth", end quote. So that's my little spiel on this, Chair.

Thank you.

CHAIR RANDOLPH: Thank you.

Senator Florez.

BOARD MEMBER FLOREZ: Thank you.

I'm not as -- not as impassioned as my seatmate here, but I would like to just say a couple things to the staff and the modelers again. You know, coming into the hearing, I'm sure a lot of us had a lot of briefings with a lot of folks. And CCS obviously a major topic, trying to distinguish between, you know, what carbon capture is direct, DAC plus storage, as opposed to, you know, the standard CCS.

I think just a little bit I disagree with my -- my past colleague, Mr. De La Torre, on this. We do and are asked to look out, and try to create, and think about new standards, but CCS is still something that is not quite there -- there -- there in my view. And I want to ask the modelers let's -- just tell me the facts that we hear -- we hear so much from up here. You know, how much of this plan is really CCS as a percentage of the overall plan? And when you thought about carbon capture, how much of that was distinguished between direct air capture and what we -- we'd call, you know, bolt on traditional CCS.
I always say it's kind of like a -- when I think of -- I probably think about it wrong, Dr. Sperling will correct me. But it feels like CCS is kind of like an early version of catalytic converter for oil companies. You know, it allows the engine to continue to run combustion-wise, and at the same time it's kind of cleaning or giving us and excuse that it's giving us some better emission outcome, but it still allows the machinery to continue.

And I think we're making these jumps to electrification, and I'm wondering if CCS doesn't fall, at some point, by the wayside like, I assume a catalytic converter will at some point. And how -- but the catalytic converter, in some sense, was a proven thing. CCS I just -- again, my question pretty simple, how much of this plan is that? I've read small. I've read large. That's my only question I think I have.

Thank you, Madam Chair.

Oh, and I do want to say one last thing, because I'm not going to ask again. You know, utility-scale solar, wind, geothermal, distributed energy, the Governor, to your point, Madam Chair earlier, loaded the budget up with things like long duration batteries trying to explore, you know, other ways to get to storage that are, you know, gravity based, other types of things that are
renewable in nature, and also in that state being proven. But it seems like the Governor and others are trying to get there. I -- and it's -- and I -- and I think even what's being debated -- you know, Eduardo Garcia is going to be a big part of that on Monday and Tuesday when the budget trailer bills come out on what the energy mix should be and how we should look at it from a renewable perspective.

But it does feel like those to me seem more in a -- in a proven manner and almost being funded in some sense by the Governor. I've never -- I've seen two budgets now with long duration storage as kind of a headline. And it feels like a lot of this is kind of getting to where we need to get. I just don't want to mix. I just think CCS is a little -- I'd like to hear from staff on how they thought about it.

CHAIR RANDOLPH: Go ahead.

DEPUTY EXECUTIVE OFFICER SAHOTA: Okay. There was a lot there. So no, no. No. It's a good conversation, because there's been a lot of discussion outside of an official Board meeting on this again with stakeholders and just even over at the Legislature with some hearings. And so I want to make the distinction first between CCS and other direct air capture. CCS is focused on being attached to a smoke stack. So just like
you may have a NOx filter or a PM filter, CCS is a technology that you attach to a smoke stack and it captures and pulls out of that gas stream whatever you're targeting towards, in this case, CO2.

CDR, carbon dioxide removal, that is direct air capture, is something that is independent of any sorts emissions. It's something you can put in the middle of nowhere. Air is blown through a medium. The CO2 collects on the medium and then it is permanently stored elsewhere. So those are two very distinct technologies.

For CCS, it has been deployed for almost 30 to 40 years internationally. We have had a effort since 2003 to 2013 called WESTCARB here in California with multiple states along the west coast, going all the way up to British Columbia and Alaska. That collaborative was funded by the Department of Energy and it was run by CEC, the Energy Commission. It consisted of a hundred public agencies, private sector, universities, non-profits, research labs. And their findings were that CCS is a viable technology. Their findings were that the Geology in California is well suited. And the reason they think it's well suited is because that geology is depleted oil fields, they have held oil for really long periods of time, and it's taking a lot of energy to pull that oil out.
And so they are very well situated, as depleted oil fields, to actually capture and retain CO2. They have proven to be hard to pull oil out. They are going to be just as hard to have leakage of CO2 once it's injected and safely put in there.

The other thing that is important on CO2 -- or, I'm sorry, CCS in the Scoping Plan is we first started out by pushing direct emission opportunities everywhere and anywhere we could. So we have industries like food processors, Simple boiler operations where we said we're not going to put CCS there. We're going to say, at some point, we would like you to move to electrification. You have a simple operation. Instead of doing natural gas combustion, we want you to move to electrification. Many of those industries have submitted comments. They don't think it's feasible or cost effect for them to move from natural gas to all electrification.

We do have some industry in the state where electrification isn't going to work, cement, glass, clay, stone, refineries. They have a high heat content that they need for their processing, for their manufacturing activities, so electrification just isn't technologically feasible today. It's not -- it's not there today. And so for those industries, we then said, well, we're going to put CCS on these -- these remaining sectors in the
industrial sector.

Overall, in the plan, it's less than three percent from 20 -- through 2045. We've had CCS modeling starting in this decade -- early in the middle of this decade for the rates that I just said, the less than three percent. The problem is permitting is going to be a much longer thing. So as part of an update to the modeling, we're going to push out CCS even beginning in California towards the end of this decade. And so that is something that staff is going to do, because now we understand that the permitting is going to take much longer than we anticipated when we started the modeling.

The other piece on CCS I think that's important is, is that we're putting it on things like cement. We're going to need that product. If we don't have that industry, they don't have an option to electrify, we're going to end up importing cement into the state for the needs that we have. There's no viable option to cement right now as a building product in the economy.

For refineries, we said that we would need to keep some amount of refining activity in the state to meet the ongoing demand for that fuel in the State of California. If we shut off the refineries, we're building a different type of infrastructure. We're going to have more finished product, more finished fuel coming in at the
ports, more storage for that product at the ports, and then more pipelines of finished oil going throughout the state to meet that demand.

And what CCS does is it captures at the refinery endpoint with a reduced activity there and then would inject it into the ground for a hundred year permanence, which is what's in the protocol and what's been our standard for permanence.

Those refineries can be repurposed. The ZEV Executive Order speaks to not just Building out the new infrastructure, the new energy sources, but it explicitly talks about the repurposing of existing refineries and the repurposing of existing energy infrastructure to then also produce clean energy in the state of California.

We have two refineries in the Bay Area that are trying to do this right now. They're trying to do renewable diesel. They're not going to be producing petroleum based products for the state of California and renewable diesel will bring air quality benefits, without getting into the stranded assets issue that Dr. Balmes was talking about on CNG natural gas trucks deployment of those vehicles.

So again, it's a very small amount. And to your question, Mayor Hurt, it's about two percent from today through 2045 in the plan. It's going to be reduced,
because we're going to push out the start date till later. The key here is that all of this hinges on the fact that we are successful in moving away from all of this fuel, right? And that means we are building the clean stuff. And so as we think about what are we really talking about? We're talking about ending fossil fuel combustion. Where is that fuel being produced? Well, it's used to produce energy. Where is that energy going? It's going into transportation and buildings. And we want to switch all those to a different energy source, we need to build that different energy source, transition them over, and then turn off the ones that are existing.

And so that's the way that we methodically thought it through. I think that the questions about the safety and reliability that are coming up from the environmental justice advocates, they're good questions. There's a lot of technical information, and literature, and research that's been done here.

One of the questions we keep hearing about is the 90 percent capture rate versus, you know, what is really theoretically possible at a refinery. So 90 percent is the proven capture efficiency at a smoke stack. And, in fact there's DOE reports that say that some projects have exceeded that to be about 92.4 percent.

When we put it on the refineries, we know you
can't put a CCS bubble around everything and you're going
to have things coming out of pipelines, smaller units, et
cetera. And what we say is that it's going to be attached
to things like catalytic cracker, CHP units, combined heat
and power units, or steam methane reformation units for
hydrogen production.

So the overall capture at a refinery is about 70
percent in the modeling. It's not 90 percent. That 90
percent really speaks to the efficiency of the technology
on the stack. And so there's been a bit of confusion
about that 90 and what it looks like on a refinery. But
we talked through it and walked through it in the plan
itself and we know that there is technology available
today that can be fit into tight spaces, because
refineries are old. They're -- some are a hundred years
old. They've been compact. Things have been added
haphazardly over time, and so there are units that can be
attached in a modular way on some of the larger pieces of
emissions, and that's where you get a 70 percent overall
capture.

BOARD MEMBER FLOREZ: Thank you. And just my
last follow-up is that it's -- so is there any research on
air quality impacts, given CCS?

DEPUTY EXECUTIVE OFFICER SAHOTA: So there is
research sitting out there. And some of it's at Stanford
and there's going to be a forthcoming report, I believe, that was mentioned at the Legislative oversight hearing, that as you're attaching CCS units -- units, there are some treatments that can be added into that process that also pull off some of the other gases in the stream, to help reduce the harmful air pollution, along with capturing the CO2.

BOARD MEMBER SPERLING: Madam Chair, could I just say one thing?

CHAIR RANDOLPH: Um-hmm.

BOARD MEMBER SPERLING: Just to elaborate on this CCS issue, which is an important one. I think one thing that the report makes clear is that CCS is a tiny part of this Scoping Plan, you know, in terms of how much reduction. And, you know, the air capture is kind of this placeholder for much larger reductions. But CCS is really tiny. And I wonder with CCS, you know, for California, you know, you can talk about the oil CCS at the refinery, but then there's the pipelines, and then there's the sequestration. And I think it's been mixed up all that it's just, you know, the -- it's almost been demonized without pulling it apart and looking at, okay, if you're in the Central Valley and all you're having is a pipeline there and it sequesters it, is there much impact there? I don't know, but I suspect it's pretty trivial. I mean, we
have pipelines for everything all over the place.

So anyway, maybe that would be a useful path to pursue is being a little more clear on that.

DEPUTY EXECUTIVE OFFICER SAHOTA: And that's a really good point, because a lot of this is being considered as injection points in the Central Valley where the depleted oil fields sit today. And in conversations with some of the local officials, they have been clear with us that they don't think storage should happen under people's homes. They don't think pipelines should run near people's homes. What they're talking about is out away from -- away from people's homes, away from where children would be at school, so that you have minimal impact, not just from a location, but also minimal impact from what it actually looks like at that site. And so that has also been a point of discussion with some of the local officials in the valley.

BOARD MEMBER SPERLING: And Senator Florez --

CHAIR RANDOLPH: So I --

BOARD MEMBER SPERLING: Senator Florez's catalytic converter analogy is clever and right on. I like it.

CHAIR RANDOLPH: So I think this goes back to the -- to the suggestion I made earlier that in the -- in the section we already have where we talk about the
process that we have been in conversation with CalEPA and the Natural Resources Agency for how do we get to ground on some of these questions, I -- it -- I think it would be useful to be very specific about the concerns, because to me this question of, you know, pipelines is not -- it's not insignificant, right? I mean, you know, pipelines can leak. Pipelines can have, you know, very damaging issues. And so I don't want to trivialize that and I want to make sure that we are considering that as part of the conversation, you know, what are the safety standards, how would they be deployed. And so if we could be specific about that.

And then the -- I think it is -- I completely agree CCS is a relatively -- it's a very small part of the overall strategy. When we get to the point of talking about carbon dioxide removal though, some of those issues are going to pop up again in terms of what are you doing with the carbon once you've removed it, right? Are you sequestering it into an underground reservoir or are you making something else out of it, are you making it into, you know, this one technology where you're creating something that's not -- you know, not a gas, but a thing that you sequester, but it doesn't have as much possibility of being released.

So there's a lot of different options and
technologies that out there. And so I think in the carbon
removal place, we should also be thinking about making
sure we're addressing any safety concerns that have
overlap with CCS.

Board Member Takvorian.

No, I was -- I was done.

BOARD MEMBER TAKVORIAN: Okay. Yeah. Thank you,
Chair. I guess the overarching -- one overarching comment
I want to make is I'm concerned about what I feel like is
a little bit of a theme here, particularly related to CCS
about repurposing, to your point about pipelines, to the
point about refineries. We talked about it a little bit
with peaker plants.

You know, polluting industries are in impacted
communities. And if we're working to try to repurpose
them, they're never going to go away. And I -- I'm not
confident that they are somehow going to be safer. So
I'm -- I'm worried about that and I'd like to see that
discussion in the -- in the Scoping Plan.

I guess to your point, Chair, about -- about CCS,
I -- I'm concerned about what the status of the projects
are in California, and what the regulations are, and
what's the status of those regulations. I mean, all of
the things that you just named, those are pretty baseline
issues, that if we don't have the answers to, I'm not sure
how we can be putting this in at any percent. If it's for a specific industry like cement, or glass, then that's a different matter than thinking about it as -- as a more overarching technology.

And then my last question is if this is kind of a bridge -- if it's not a bridge, if it's always going to be on gas and cement -- I'm sorry, glass and cement, and that's -- there's just no other way around it, then it seems like it should be isolated to those industries. If we're thinking about it in addition to those industries, then how are we not creating stranded assets. If, in fact, we're working for direct emission reductions, then -- and these permits take 10 years to develop, then I'm hoping that they won't be needed in that -- in 10 years.

So I want to -- that's again the dashboard timeline that we need to be looking at, because it seems like we're investing in technologies that are going to take a long time to get online, while we're in theory working for direct emission reductions. So it seems to me that those are conflicting statements.

CHAIR RANDOLPH: So I think you hit on a key point with regard to industries -- polluting industries going away. And I think our goal, as a state, and I think it's reflected in the original legislation, is we want
clean industries. I don't know that we are a society that's going to not have industry. And so, I mean, I -- so I guess you agree though that like the goal is to have clean industry.

BOARD MEMBER TAKVORIAN: Yeah. That's why I was saying about glass and cement --

CHAIR RANDOLPH: Um-hmm.

BOARD MEMBER TAKVORIAN: -- you know, we need glass and cement. So if we're working to get it as clean as it can be, and CCS is a part of that strategy, then let's talk about it for those industries. Let's have that conversation as opposed to an overarching conversation about it being a strategy that's incorporated in the Scoping Plan for many others emission.

BOARD MEMBER FLOREZ: Yeah. And I think Rajinder hit right in terms off the tradeoff between imports and the whole host, I mean, leakage, and jobs. But I -- But I would say we should push the envelope to think about cement plants from a perspective of what is the need that requires them to always have maybe a CCS component to it, as opposed to some sort of electrification that has battery storage that could be something completely different and it could actually provide maybe something that isn't necessarily dependent on what we're depending on right now from a renewable perspective.
I mean, I think the renewable is coming. And I don't we should always think of the cement plant as always having to be that. In 10 years, it could be a completely different conversation. So I think we should just hold out hope that there are going to be some industries that if indeed we have to utilize CCS, may even transition from that to something on the renewables side that might allow for that. I don't know if that -- it matches.

CHAIR RANDOLPH: But my understanding is that one of the reasons why cement is frequently the example is because it has process emissions that will -- you know, that there is not an option for, in addition to the heat and energy that's needed to operate it.

But I do think we -- this gets to the stranded assets conversation right? We know we're going to need -- you know, we need fuels. We know we're going to -- you know, it's going to take some time to transition fully away from fossil. And we do -- we are going to need to be thinking about how do we make that transition cleaner. And I don't know if staff wants to add anything on that kind of fundamental point about sort of the mid -- middle term period of time sort of the 15-year period of time.

DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. So this just goes right back to the thing -- and I sound like a broken record. I've said this to myself many times. We
can shut down the bad things like the fossil fuel production and distribution, only if we're successful in moving away from it. And so to the extent that we are able to build out clean electricity at the rate that we're talking about and have it be available, then we can move over to that and have deployment of that technology.

Unless we can move the world's fifth largest economy, 40 million residents over to that, it's unlikely that we are going to start turning off the energy that we're using today. And so this all begins and ends with what we need to build out for. And so it's unclear, sitting here today - we have it in the modeling. We have it in the draft report how to get - there, if we can actually do it.

If we are off track, what that means is that -- that energy the petroleum energy, the cement that we need, the glass, all of those pieces, they're going to continue to be produced, because that demand is not going away any time soon that we can see that it's going away. It's going to continue the be produced and those emissions are going to continue to be into the atmosphere.

Pursuing CCS is not a -- is not a light on capital investment. You're talking about having companies go in, go through permitting, looking at the economics, thinking about what their future plans are going to be,
looking at any tax breaks on this, because it is supported through tax breaks -- the technology is supported through tax breaks at the federal level, and then dock -- deciding does this make financial sense -- sense for us to even embark on this, knowing that they're going to be questioned about what the impacts are, how they're engaging with communities, what their presence means, and every aspect when they do these projects.

And so it's not as though they're going to built overnight here, but I also don't see us building overnight all the electricity that we're asking for in the plan. And so I think for now in the document with the technology that we know of today, we are seeing a need for CCS. We are also seeing a need to make sure that there's direct air capture, because at some point, we have 200 years of legacy emissions sitting out there that must also be addressed and -- from the industrial revolution.

So there -- there has to be a way for us to put the signal out there so that the companies we have that are producing the things that we need and will need for the next 15 to 20 years have a way to move forward and clean up those industries today.

Those industries have a way to think about repurposing themselves and also how that may be able to benefit and use some of that CCS technology. It's not
clear if we putting it in the plan means they're going to pursue it. It's not clear if that is something that they are going to say is economically feasible. But from an environmental perspective, from a climate change perspective, those are -- those are the technologically feasible cost-effective things that we have right now for those sectors that we modeled.

CHAIR RANDOLPH: Okay. Board Member Hurt.

BOARD MEMBER HURT: So with all that being said, what needs to be stated about protecting the communities? I get the idea of the stranded assets and make sure that industry produces what we need. But the communities are still struggling and drowning in the pollutants, and -- I'll stop there.

DEPUTY EXECUTIVE OFFICER SAHOTA: No. And that -- that is some of the questions -- those are some of the things that we were talking about internally with that multi-agency plan -- coordination meeting that is being established between Natural Resources Agency and CalEPA, which is to pull the different State agencies together, because it's not just CARB in this role. You've got the Water Board, you've got Natural Resources, you've got local permitting, you've got, you know, some of the federal agencies involved.

So the goal is to pull us all together and have
engagement with communities to hear their concerns, bring an expert that can speak to those concerns, work through the issues and specifics that a community may have, and then figure out what is needed to provide the assurance -- the necessary guardrails - I'm going to use the word guardrails - for that community to feel like they have the information and that they have an ability to weigh in on potential design or potential siting of where that CCS would ultimately go.

And so those are he kinds of discussions that need to happen. We're going to have time for that, because we're not going to be able to permit thinking for CCS for many years. And so that discussion is supposed to start this summer, and that's what we put in the plan.

BOARD MEMBER HURT: So I spoke to one stakeholder that said there's 17 projects in the queue in their region. And I'm just wondering, you know, when folks hear that, is that something you've heard? But I know that that's scares the community like what's to come.

DEPUTY EXECUTIVE OFFICER SAHOTA: I have not heard that there's 17 projects. I will say that there was one that was proposed. It was Mendota. It was supposed to be a non-combustion biomass energy plant. So it was not about a traditional -- it was not a traditional biomass plant that would be using incineration to produce
energy. It was non-combustion. It was not going to have any criteria pollutants associated with it. And they are going to add CCS to it. They put in an application in February of 2020 I believe. They thought they were going to be able to be operational by 2026. They have decided to work through some additional issues with U.S. EPA, because U.S. EPA is part of the permitting process.

The earliest that they will be in operation is 2028 now. The -- the reason that plant was being thought of and was being moved forward is, one, it was non-combustion and it was an alternative to ag waste burning and it would have produced energy using a sustainable resource.

Instead of having to move that material, the ag waste, hundreds of mile away, it would have been located without any combustion technologies in -- near that region where those sources -- source of biomass would be, and it was going to make use of CCS to produce clean energy.

But even that project is not going to be moving forward on this -- on the timeframe they thought they were going to. I'm not aware of other projects that are even close to that -- that rate or process in the permitting here.

BOARD MEMBER HURT: Okay. Thank you.

CHAIR RANDOLPH: I think -- I think that is the
question of proposed projects is a lack of clarity, because I've heard different reports from different sources. And so I think that is another example where the interagency process can kind of try to run that to ground and sort of see whether it's proposed.

    I've actually -- I just have a quick follow-up question about that project, because if it's non-combustion, then what is this -- what is the role of CCS? I'm just trying to understand.

    DEPUTY EXECUTIVE OFFICER SAHOTA: So there would still be some kind of minimal amount of gasification that is used to run the facility and so there would still be some of that being produced. If you put it -- but it would be from biological -- it would be the ag waste that's producing it. But it would then be used to take care of that minimal amount and sequester it. The facility itself is not a traditional biomass burning plant though.

    CHAIR RANDOLPH: Okay. Got it. And then I'll also note this is an area where, you know, to the extent that there are projects that propose in underground injection Region 9 of the U.S. EPA will be involved and they are working on convening conversations around this as well.

    So it is -- we are definitely not the only ones
working on this issue. There are -- there's a lot of work at Department of Energy, other federal agencies, and other State agencies. And that's kind of one of the -- one of the goals of having a more coordinated conversation to share information and try to understand what's -- what's out there.

Board Member Takvorian.

BOARD MEMBER TAKVORIAN: Well, just last questions, I guess I -- maybe I missed it, but I didn't hear a response to Board Member Krakov's question about out-of-state demand. I mean, all of this is -- is projected related to what you're projecting for in-state demand. Are these facilities allowed to produce unlimited amounts in order to meet out-of-state demand, assuming they don't have the same kinds of regulations that we do?

DEPUTY EXECUTIVE OFFICER SAHOTA: Well, I think Board Member Krakov was exactly precise when he said we need to look at a western plan about how to handle this, because that's the -- that exporting issue is one that is sitting out there.

What we looked at was what does it take to get to the California need, because this is the California Scoping Plan. And the next steps would be to then think about, well, what are the policies to try and align reducing actions with California's in-state need for that
fuel. But looking at the western coast or the western region, as more of a holistic approach and working with those states is probably the better place to try and figure out how to bring it down, not just regionally but also how to think about addressing that export issues, because we don't have the authority -- we, as a state, do not have the authority to stop exports of goods out of California.

BOARD MEMBER TAKVORIAN: But we do have the authority to restrict the emissions that come from the production of those fuels. So that's where we would intervene, right?

DEPUTY EXECUTIVE OFFICER SAHOTA: So we, as the State, can use the Cap-and-Trade Program for the GHG emissions. That does not preclude the districts from pursuing action on refineries in oil and gas for criteria and toxic emissions. And one of the things that I should mention is that to the extent that there is still ongoing activity in the oil and gas sector, the Governor did issue direction to one of our sister agencies to prevent new oil and gas drilling near communities and expand health protections. And so they are working towards a public health rule, specifically on the oil and gas sector. And that was the same time he directed us to look at fade out -- look out -- lack at a phaseout of oil and gas
extraction in the State of California as part of the Scoping Plan.

And so that's why we modeled it that way just to see what does that mean. And then realizing, well, there's still demand that persists. What if we do phase it out and the demand persists? That means we're importing in crude to meet that demand, which means more activity at the ports, more storage, more infrastructure.

And so then we ran into a whole other set of issues when we try to think about what if we did try and shut it out, even if demand persisted.

CHAIR RANDOLPH: Vice Chair Berg.

VICE CHAIR BERG: I want to make sure -- I just want to under industry mention small business. We heard a lot from small business. I don't know that there's anything we specifically need to do in the Scoping Plan, although I'd really appreciate it, Rajinder, if we could just look. I think the impacts are downstream, but we're going to hear a lot. We have a lot of regulation coming and it is very, very scary when you have no context how to think about this as a small business.

And just as we had other references -- oh, on small cities, I really appreciated that, Davina, when you said we don't have the expertise. Well, small businesses have even less expertise within -- wherever they're
operating. And yet, they do have cumulative impacts on our community.

And so we do need to look at small businesses in a different type of framework. And I just want to -- I just wanted to call that out and -- a different type of framework, meaning communicating with them, having them understand their impacts, what can they do to become cleaner, what is the road for them. And -- and so I didn't want to leave that out of the conversation.

Thank you.

CHAIR RANDOLPH: Okay. So summarizing what I heard that we need to be more specific about the concerns around CCS and its impacts on communities and work through what the options are, that would identify specific guardrails to deal with those impacts, what the -- what kind of regula -- regulatory framework there needs to be a discussion about amongst the agencies about potential deployment of that strategy.

I heard a couple of folks endorse the EJAC recommendation around a sort of multi-agency discussion about oil and gas phaseout. Is that -- I see some nodding on the dais here. I see a lot of nodding on the dais here on that. So we should identify that.

And we will -- as part of that interagency discussion around CCS, we need to identify sort of, you
know, where we are, what projects are anticipated, you
know, trying to get information to the public. And I'm --
I don't know if that may be a -- going forward, the
working group can talk about things like public disclosure
dashboards, whatever might help us run to ground some of
these questions.

Anything else on this topic?

BOARD MEMBER HURT: I'm still curious about --
I'm still curious about life-cycle point. I think it goes
a little bit to Gideon's question about in-state and
out-of-state, and just being expressly clear about what is
the life cycle of the storage and all the different points
that it could affect.

CHAIR RANDOLPH: Okay. We can add that.
All right. Do folks need to take like a
10-minute break?

Okay. Ten minute break and then we will
reconvene.

(Off record: 11:08 a.m.)
(Thereupon a recess was taken.)
(On record: 11:21 a.m.)

CHAIR RANDOLPH: All right. We are online. We
are back in session. I just want to note I did a -- got
a -- got a little information when we were on the -- on
our break. And there are some Classic -- the one, two,
three, four, five, six Classic applications at Region 9 for California, yeah. So there are -- there are projects out there. And that's why I think it's really important that we have these -- this conversation about how we're thinking about those projects and addressing potential impacts of those projects.

Okay. Our next topic is natural and working lands. This is the first time we've done this type of modeling and quantification, which is very important, very critical. I am going to kick off the first question on this topic, which is how are we thinking about biomass, and forests, and, you know, the existing growth that we have in forests, the continuing impact of the bark beetle infestation. Is that -- is that still -- oh, is that over now at this point, the actual infestation? I don't even know the answer to that questions.

BOARD MEMBER BALMES: I don't think so.

CHAIR RANDOLPH: I don't -- year, I don't know.

BOARD MEMBER RIORDAN: As long as there's weak trees, the beetle will be there.

CHAIR RANDOLPH: Okay. So the ongoing bark beetle issues that we have that are exacerbated by drought. And so I would love to hear from staff about what are the policy levers we need to be thinking about as we're trying to get forth to become a sink rather than a source.
INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: Hi.

Thanks. Matt Botill, Division Chief of ISD.

So as you mentioned, for this Scoping Plan, we did this first-of-its-kind analysis on natural and working lands. And what we were looking to do is understand how natural and working lands can support achieving carbon neutrality, but not putting blinders on and thinking about it just from a carbon storage perspective. We know that lands also emit greenhouse gases. We've seen the effects of wildfire in our state over the last decade. We know that they are a source of CO2 emissions and so we wanted to look at them comprehensively.

Disease is another instance, right? We know that because of die-off, we have decay in the state's forests, and that also results in greenhouse gas emissions, CO2 coming from the state's forests.

So when we did this analysis, we also asked ourselves what has the State done over the last couple of decades from a management perspective, and what could we do going forward by accelerating those management actions, and what would the greenhouse gas outcomes be? And this goes to your point, Chair Randolph, about the policy levers. We didn't want to model a bunch of actions that the State hasn't been able to do in the past or that we don't have experience doing, because we wanted to make
sure that if we were going to change the way we look at
natural and working lands, change the management actions
that we're doing on lands, that there's some precedent for
those actions having happened in the past, so that we can
expand those going forward.

So in this analysis, we looked at things like
fuels reduction treatments that could happen in forests.
We looked things like healthy soil practices that we could
do on croplands, you know, hedgerow plantings, compost
application, no tiller -- or low till, urban forestry,
wetlands restoration projects. And in doing that, we also
completed a first-of-its-kind modeling exercise that puts
forward what the carbon stock changes will be going
forward, what the greenhouse gas and sequestration and
emissions could be going forward from these land types.

And we also, to the extent that, you know, we had
the ability, also looked at the effect that climate change
will have changing temperature and precipitation patterns
on land. Because these are natural systems, they respond
to water availability. They respond to temperature
changes.

And so your kind of opening question about how do
we get lands to be a sink? That's going to be difficult.
You know, the analysis that we did showed that over a
20-year time frame, we expect them to be a source of
emissions as carbon stocks decline over time, as, you know, wildfires happen, they become more intense. As you know our agricultural soils release greenhouse gas emissions from management decisions. And the actions that we do around fuels reduction, around healthy soils, around wetlands restoration, around urban forestry, they can reduce the amount of emissions we have from those lands. And, you know, if we had some pretty significant scale-up on certain actions, like unprecedented scale-up way beyond anything the State has ever done, you could get closer to having lands be kind of carbon neutral, but it would take a huge amount of urban forestry, healthy soils practices, to the extent that the State's really kind of never seen.

So we wanted to be realistic and pragmatic about what the outcomes would be for lands. And we also wanted to recognize that because we haven't done this type of analysis before, we shouldn't overshoot for lands, because we're not, you know, at a place where we could say comprehensively here's all of the ecological impacts of really bending this curve on lands. We wanted to be, you know, cognizant of the fact that, you know, the solution to lands that are out of balance now isn't to further knock them out of balance in the other direction. We need to be careful about how we approach them.

We've been in lots of conversations with the
sister agencies that are responsible for land management. The California Natural Resources Agency, and Food and Ag, Secretary Ross and Deputy Secretary Hansen were here yesterday to give their remarks. We're looking to them on implementation and they have the mechanisms. I believe they have the mechanisms to move forward on some of the practices that we've identified, the management strategies identified in the Scoping Plan.

Historically, it's been through State funding activities. And those will need to scale up and then we'll also need to look for additional opportunities. The Legislature last year enacted SB 27. It's a registry for natural and working lands and other carbon dioxide removal related projects. And that will give an opportunity the private sector as they look at, you know, their environmental sustainability goals. For instance, they can look to make investments in projects to accelerate those actions as well.

So it's a space that's growing and -- but we will certainly need to see kind of an increase in action to meet the proposed scenario targets that we put in the Scoping Plan.

CHAIR RANDOLPH: All right. Thank you. Any other questions and comments? Dr. Balmes.
BOARD MEMBER BALMES: Thank you.

And first of all, I want to recognize Matt and colleagues for doing this first ever modeling with regard to natural and working lands for the Scoping Plan. I really appreciate it. And I know that you know that you don't have all the data inputs that you'd really like to have. And so there's a great uncertainty. Thank you for acknowledging that, but I -- I think it's a really important first step.

And I also thank you for pointing out that it would take unprecedented investment to deal with the threat of wildfires and the impact that that will have on greenhouse gas emissions and greenhouse aerosol emissions. You know, this is space I spent a lot of time in. I was actually interviewed yesterday by KCBS, because there are wildfires occurring in the Bay Area. And there was also a report of the San Francisco Chronicle about how we had the worst air quality ever from a University of Chicago report because of our wildfires in 2020.

There is a factoid I know from the Australian bush fire season 2019 to 2020. There was as much climate forcing emissions from that bush fire season as the entire year of man anthropometric generated greenhouse gas emissions. So it's a huge problem. You know, I believe it when I see it that wildfire -- you know, that we'll be
able to decrease wildfire risk to the point where forests
are a sink rather than a source, because it would take --
it will take billions of dollars and many years to manage
the forest that way we need to. I mean, we need to start
and I guess we have started, but it's like a baby step
compared to what's really needed. The legacy of fire
suppression is, you know -- decades of fire suppression is
a big one and climate change isn't getting any better in a
hurry.

So I applaud the fact that we're trying to get a
modeling done -- or we did a modeling that hopefully will
spur our sister State agencies, and the Legislature, and
the Governor to really invest at the level that we need to
invest. We can't burn our way out of the forest
management issues with prescribed burns. We can't
mechanically clear enough. We need to do both and at a
scale that we haven't. It's sort of like the VMT issue.
I don't -- you know, we -- we're not even close to getting
there.

So can I -- should I talk about agriculture for
now or do we want to...

CHAIR RANDOLPH: Yes.

BOARD MEMBER BALMES: Okay. So then as I've said
several other times, I really think that we need to
transform the agricultural sector in California -- or at
least start doing it the same way that we've transformed
the transportation and energy sectors. I think that, you
know, agriculture is incredibly important to the
California economy. The agriculture sector has a lot of
political power as Senator Florez knows, but we can't keep
doing things the way we've been doing them and I don't
think dairy digesters are the answer. You know, we need
to have them -- a more sustainable path to agricultural --
to agriculture in California.

We have to reduce livestock methane, not just
with dairy digesters. And I heard yesterday somebody from
the dairy industry say that, you know, we can't go back to
pasture grazed cows and dairy production. I'd like to
hear why not. I think it's all about economic decisions.
And I think the state could decide to support a different
approach to livestock husbandry that we currently have.
We actually incentivize concentration of herds with our
dairy digester program.

And, you know, I'm no agricultural expert, so I'm
the first one to say, but I'd like to hear specifically
how -- why we can't change livestock husbandry in
California. And we certainly can support organic farming.
You know, just like electric vehicles are becoming more
economically viable and maybe even be cheaper than an
internal combustion engine vehicles. I think organic
agriculture can -- is also becoming more economically viable. And if we could get rid of synthetic pesticides as a part of that -- that -- we hear time and time again from folks in the rural areas of the state where agriculture occurs about their concern about pesticides. And I'm totally supportive of an effort to get rid of synthetic pesticides.

I realize it's a small piece with regard to greenhouse gas emissions, but it's a piece of sustainable agriculture, which I think is something that would reduce greenhouse gas emissions in the state and it's better for public health. It's better for the environment. So I think, you know, doing agriculture business the way we've been doing it for decades is not -- and it's getting worse, not better, is to me the wrong way to go.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

Thank you for the question and the comment. So a couple of points here. On the -- on the dairy and livestock methane, I know, we've had a conversation on SLCPs, but it kind of all wraps up under the ag sector, so I'll just take it.

So on this particular sector, I think we all know that we have statutory targets to reduce methane emissions from the dairy and livestock sector. And in statute, we're directed to focus on incentives for reduction in
that sector. And we've been deploying as a state for the better part of 10 years now, a mix of strategies, and dairy digesters are one of those. And we've also been deploying these practices called alternative manure management practices. Some of that is -- involves conversion to pasture based.

What we've seen that is happening in the industry, and this is not a direct result from our programs, but it's happening in the trends in the industry that dairies are consolidating. They are getting larger. The overall -- the overall herd size in California is declining. It has declined over time, but we're seeing more consolidations. Some of the industry folks mentioned that. We've produced an analysis - we put one out in March - that talked about the overall trends in the industry.

We also have had many conversations. We held a workshop about a month or two ago on the status of the dairies in California. And one of the things that we heard, you know, presentations from USDA, CDFA about dairy product consumption. It's stayed pretty flat. It's pretty -- stayed pretty consistent on a per capita level over the last few decades. And that's driving the industry to produce milk. This is not unlike the conversation we have on the energy side. We have a demand
for a product that has these outcomes, in this case, methane emissions and dairy consolidation being driven by demand for the -- the dairy products.

So, you know, we have a -- we have the option right now to basically do a number of things. We can deploy digesters that will reduce methane, and, you know, our analysis showed that they are very effective at doing that relative to the other strategies. We can support the alternative manure management practices that are helping to reduce methane as well. Less effective, more costly, but it's an option. And there's always the option of there's the size of the dairies, that herds that are in California and, you know, reducing those in this state.

We did an analysis in the Scoping Plan to look at if there was an accelerated reduction in the herd size in California, what would that look like? And that's in one of the alternatives. We did this analysis to look at what would be the lost dairy revenue to California as a result of reducing the size of the dairy population in California. And it's roughly four times, so it's about $4 billion relative to what we have in the proposed scenario where we are looking to meet our statutory methane reduction targets through a mix of both those digesters, those alternative manure management product -- projects, and as well as, you know, you heard some discussion about
the feed additives that could be deployed to reduce dairy
and livestock methane emissions.

So what we're proposing in the Scoping Plan is a
mix of strategies that would reduce those methane
emissions, get us to your statutory target. We'll be
providing the -- a report out on the workshop that we
held, the information that came forward from both the --
the market trends on the dairy sector, as well as the
input we received from the environmental justice
community, the local permitting authorities. We talk
about the protections that the local permits provide with
respect to air and water quality. We'll be producing that
report to you all very shortly, so that's coming soon as
well.

On the organic ag piece, so this is -- this is
one of the areas within the work that we did for the
Scoping Plan, we know we could have more information. I
don't -- we haven't had in California a targeted organic
agricultural strategy that I'm aware of. And what we're
recommending in the Scoping Plan is an increase of acres,
you know, organic ag between now and 2045, essentially a
doubling of acreage under organic ag.

We've heard a lot of feedback about this. On one
side, the benefits that it will provide in terms of
pesticide reduction and, you know, increased -- or
decreased use of things like fumigants and others, but also a lot of concerns. Moving to organic ag is not an easy thing for many growers. There's a certification process. You have to change all of your practices to reduce your application of things like synthetic fertilizer and pesticide use. It requires looking at your nitrogen application and trying to understand where you're going to get your nitrogen, if not from synthetic fertilizers, so compost availability, water changes. Obviously cost impacts as you transition your production.

So what we wanted to do is reflect, you know, based on discussions we had with our stakeholders with the Department of Food Ag, transition to organic ag that was aggressive, but that reflected the fact that we don't know all of the transition that we need to have and all of the acres that we need to have in the implementation pathways. So we wanted to be measured in terms of the expectation of moving to increasing organic agriculture

This is one of those areas that the mechanisms also need to be developed. You know, CDFA has a program right now to deploy health soils practices, but it doesn't look at directly incentivizing kind of the transition to organic ag. So this will be something that we would need to work with the agencies on as well going forward.

BOARD MEMBER BALMES: So thank you, Matt. I mean
that was a very comprehensive answer. I appreciate it. And I understand that it would take investment on the part of the State to support that transition to organic agriculture. And I do think we should be pushing for that. I would actually even propose a more aspirational goal of 30 percent organic ag by whatever the year is I'm blanking, as opposed to the 20 percent. Not that I think it's going to be easy to get there. But just like we are aspirational about many other sectors, I think we need to be as aspirational as possible. You know, aim high and we'll see how far we get there -- or how close we get there, but thank you for your answer. I appreciate the work you've done, so...

CHAIR RANDOLPH: All right. Any other comments?

BOARD MEMBER FLOREZ: Yeah, just on the -- in the plan itself on dairy -- the entire -- well, let me -- let me start with the LCFS Program and consolidation of dairies. It's a big issue. Obviously, we have advocates here all the time, rightfully so. I mean, they live next to a dairy. I mean, I grew up next to dairies. I understand, you know, Bakersfield used to -- is diluted after Chino closed with a whole bunch of dairies and it's just a big issue bottom line.

I guess my question is in our plan, do dairies have to re-increase its -- their consolidation in order to
reach any of the goals in the plan? I just want to just ask that.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: No.

BOARD MEMBER FLOREZ: No. Okay. So the dairies have to get larger and consolidate in order to truly reach any of the aspects of our plan?

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: No, that's --

BOARD MEMBER FLOREZ: Okay. Mr. Boccadoro can yesterday and testified that dairies, in fact, are getting smaller and being less. Is that proven at this point in time?

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: No, the data that we have is showing that we're losing the total -- the total number of dairies in the state is declining.

BOARD MEMBER FLOREZ: Yeah.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: But of the dairies that are still in the state, their herd size is growing. So overall, that means that we're seeing a reduction in dairy cattle in California --

BOARD MEMBER FLOREZ: Um-hmm.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: -- of the dairies that do remain are consolidating.
BOARD MEMBER FLOREZ: Um-hmm. And the -- the last question is, in terms of the dairies that can participate in our current program, it does seem that you to have at least a thousand cows to make it pencil out. And I think the worry is is that our policies drive, you know, more consolidation. More consolidation drive not only nuisance and whole a bunch of other issues, but it feels -- I mean, if you have 300 cows, at one point in time and it was methane, and even if you were capturing a percentage of that methane, but now all these dairies are a thousand cows or 1,500 cows, the percentage that you're capturing still is going to have some leakage, I assume, or something that we're not capturing, and therefore it doesn't work out that way. Does that work? Is that -- is reflective of kind of what we're doing in our plan? Just trying to get a clear sense of what and how dairies will play into our Scoping Plan generally.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: So --

BOARD MEMBER FLOREZ: Thank you, Madam Chair.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: Generally speaking, what we have within the Scoping Plan is an expectation that over time in California, dairies -- the total herd size in California will decrease over time. What we did for our analysis was
look at what the existing dairy population is, factor in historical decline rates, assume that that continues going for, look at what the methane emissions from the statewide dairy population would be, and then put -- we did an assessment of the mix of strategies between digesters, alternative manure management practices, or what we call kind of an accelerated herd size reduction strategy would -- would mean for methane emissions statewide. So we're not looking at any specific region or any, you know, specific dairy operation, but statewide.

CHAIR RANDOLPH: Okay. Any more questions or --
oh, sorry. Board Member De La Torre.

BOARD MEMBER DE LA TORRE: Thank you.

Again, just a few points. One, on the wildfires, thank you, Dr. Balmes. I've said it before, the fact that we now will have a number that is attached -- and I think this is really, really important. It's important, because it reflects reality, but it's also very important, because it's going to make our job harder going forward. Including that -- those increased emissions in our overall portfolio is going to make our job harder, but again, it reflects reality. And as I've said before, I think we've been cheating up to this point. So we have this massive path to get to 2030 and now we're -- it's going to be even harder, because we're adding this component. Fine. It's
what we need to do.

Second on ag, regenerative soils. That kind of approach I'm very supportive of. I want to see us push in that direction all the points that you were just making.

Third on the cows, it was mentioned yesterday the feed additives that reduce the enteric is something we absolutely need to -- to incorporate into all of our thinking.

And then finally on pesticides, I know that that's a little far afield and the Secretary yesterday made a comment about it. We need to do something. If it's in the air, it's ours. That's my -- that's my approach since we were in Shafter for the 617 meeting, which was the first time we weighed in on this issue. We need to weigh in again with a multi-agency process. Obviously respectful of our sibling agencies, particularly DPR, on how we can move ahead. So some kind of a placeholder for a multi-agency process in the Scoping Plan and then we -- we go out and make it happen.

So thank you.

BOARD MEMBER TAKVORIAN: I just wanted to agree with my colleagues -- where are you Board Member De La Torre and Balmes.

BOARD MEMBER DE LA TORRE: Right here.

(Laughter)
BOARD MEMBER TAKVORIAN: Sorry -- on pesticides.
I want to make sure that it's included in the way that
they've described, but I also want to see that it's
included in the health analysis, because I don't think
that it's reflected there.

    Thank you.
VICE CHAIR BERG: Thank you.
I also would like to see in healthy soils that
we're looking at the endgame, and -- and -- and
encouraging reductions, especially in the synthetic
fumigants, the pesticides there. So as we're looking at
the future, let's not have the Scoping Plan highlight
using what we don't want them to use. So that would be my
input on the pesticides.

CHAIR RANDOLPH: Okay. Any other comments on
agriculture or pesticides?
Okay. All right. Short-lived climate
pollutants. I had -- I also had a placeholder for carbon
dioxide removal, separate from CCS, but I feel like we
kind of covered that. So I think we're okay there.
Short-lived climate pollutants, methane, black
carbon, other issues.

Board Member Kracov.

BOARD MEMBER KRACOV: Thank you, Chair.
On short-lived climate pollutants, the plan
identifies, the Scoping Plan, a discrete role for renewable natural gas as a transportation source. It's small, it's targeted for hard to decarbonize sectors. And we heard a lot yesterday from the solid waste and recycling industry, the wastewater sanitation agencies that are today investing, you know, hundreds of millions or billions of dollars in anaerobic organic waste recycling funded by ratepayers to meet the SB 1383 short-lived climate pollutant CalRecycle goals. This industry is an early adopter and I do hope that in our deliberations, colleagues, on the Scoping Plan -- I'm looking at Board Member Riordan. We visited one of these facilities in Colton and Rialto, the Anaergia facility.

But I'm hoping that in our deliberations on the plan, on LCFS pathways, and landfill capture rate, and ACF -- so Scoping Plan, LCFS, and ACF -- that we recognize and respect in a targeted way the investments that the waste and recycling industry, the wastewater sanitation agencies have made and need to make in the future with regard to these organic recycling mandates.

Thank you.

DEPUTY EXECUTIVE OFFICER SAHOTA: Thank you, Board Member Kracov for pulling all of those pieces together, because they are all very well intertwined. And there's a couple things here, and I'm going to kick it to
Matt in a second. And I want to speak to stranded assets. Stranded assets come up in several of our programs, especially if we think of a rapid transition away from certain technologies today to tomorrow.

In order for us to keep getting private investment and interest in the things we want to do, we have to show that we are responsible in a way that doesn't strand those assets or make sure that there's no way to recoup your investment on that up-front capital that you've put in there.

So not matter what we do, whether it's in this sector or whether it's going to be in any of the other programs that we have, handling stranded assets is -- and making sure that private investment continues to happen is something that we always think about and keep in the forefront of our mind.

Now, this is very specific to trucks and RNG, and what is the state of RNG and what is the ACF Rule look like. So I think both Matt and Craig are going to weigh in here on those pieces, but I wanted to make sure that I reassured you that we absolutely understand that there is an investment here, but we also know that we need to keep making sure that there's trust, that as we move forward, private investment continues to be in their where the public priorities are.
DEPUTY EXECUTIVE OFFICER SEGALL: And I guess let me start on the truck side and --

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

Maybe let me go first and then we -- yeah.

Thanks, Craig. So, you know, appreciate the question.

I do want to point out just, you know, the -- what's driving this is the State's kind of two primary goals here, both established in 1383 as 75 percent reduction in organics landfill diversion by 2025 target.

It's incredibly aggressive that we absolutely need to hit and a methane reduction target that we have in statute.

And that organics diversion target that is probably the most effective thing we can do. Hitting that target is one of the most effective things we can do to reduce our methane emissions in California, you know, with the livestock piece as well.

So, you know, we've got a suite of policies in the state that have been enacted over the past few years to help get us to that 75 percent diversion target there. There's funding coming from CalRecycle to support organics diversion facilities, there's LCFS supporting the capture of RNG and utilization --

BOARD MEMBER KRACOV: The PUC and AB 1440 procurement.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:
Yeah. There's the 1440 procurement going on in CPUC. So I think the State is there in terms of we know we need to really take action and accelerate progress on those organics diversion targets. And with that, that comes with this ability to stand up facilities like we're hearing from the wastewater treatment agencies on co-digestion, composting facilities. This is very similar to the conversations we're having on the energy side, which is we need a big build-out of that infrastructure to meet those targets and those environmental objectives that we have. It needs to happen quickly.

And we've got, as Rajinder mentioned, it's -- you know, the establishment of assets that are creating your energy, your compost, both of which are needed. So we reflected that in the Scoping Plan, that, you know, all of these infrastructure and assets are needed to help meet these targets. For us, it means an opportunity to be able to also look at RNG production from organic waste or from captured gases from landfills. And that RNG, you know, as we talk about the transition we need to make in the energy sector, we're having this conversation today about all of the new energy types that we need to deploy to displace the fossil fuel that we're using now, is opportunity to deploy, whether it's in some of transportation context, whether it's to convert it to hydrogen to use it for, you
know, our industrial facilities, whether it's for some sort of electricity. It's an energy source we can deploy. And we need to look at whether the technology endpoints are at -- in the various sectors and target the energy source to the -- to the best end uses.

So I think, Craig, if you want to...

DEPUTY EXECUTIVE OFFICER SEGALL: Yeah. On the truck side, Board Member Kracov, a couple thoughts. At Matt just outlined, you know, this -- this fuel is valuable and it will continue to be valuable in that sector. The question is really how best to, you know, use it across all these multiple sectors.

With regard to the truck fleet, working this through in the Advanced Clean Fleet Rule. And we're in active conversations, including on public fleets, on how do we shape the timing of that, what exemptions are appropriate, how do we handle availability, and so on.

In principle, these fleets are great candidates for electrification. They're local. You know, they go right to people's neighborhoods, so they expose them. They're often centrally fueled. The question is timing. A lot of those are older vehicles and may make sense to electrify or phase-out for some of them. You know they're using this fuel. And as the whole economy shifts, that's the conversation about, you know, zero in transport.
initially, where we know we want to move toward electrification and for good reason.

But understanding that there's a valuable asset here, in terms of fuel being produced and it ultimately goes and the timing and pace. So what the regulatory teams are doing that ECMI are working on is trying to figure out appropriate timing and design for those portions of the fleet, understanding the investments they've made, but also understanding the overall arch here that we're walking about.

CHAIR RANDOLPH: Okay. Does that address your question, Board Member Kracov?

BOARD MEMBER KRACOV: (Nods head)

CHAIR RANDOLPH: Okay. Board Member De La Torre.

Oh, sorry.

BOARD MEMBER DE LA TORRE: HVAC, HVAC, HVAC. As things get hotter, we're going to need more of it. And what we've got is not very good. And so, I mean, as much as we talked about the transformation -- market transformation of transportation, HVAC has to be transformed. And incredibly frustrating to me, a couple weeks ago I spoke at a conference on this issue and had a number of HVAC experts come to me complaining that our friends at another agency have not done the approvals for the standard for the low hydrofluorocarbon HVAC systems
that we approved, this Board approved, what was it, two years ago?

And we even had to delay that based on that process not being done then. So now it's two years later, or whatever it's been, they're still not done and -- and there's no sign that they're going to be done any time soon, which may mean that it has to come back to us to postpone it again.

That cannot happen. We need help from the GO. We need help from somebody in this government outside of us to resolve this. And this goes to the -- to the challenge of a Scoping Plan, or anything we do around here, that involves some of these other agencies that -- you know, we can put it in a plan, and then it goes off to this other place, and it gets dragged out.

And we absolutely need these reductions by the 2030 time frame. Short-lived climate pollutants are so incredibly important. As was said yesterday by a number of people from the public, as I've talked about numerous times about short-lived climate pollutants, not contributing to us getting to that 2020 target.

So HVAC is absolutely at the top of my list in this sector. We've talked about methane numerous times, so I'm not touching on that. Black carbon, you know, we've done stuff in that space to reduce fires, burning --
ag burning, et cetera, et cetera et, cetera. It could help if we could do something with the tire burning in Baja, California. That would be helpful, so maybe we can work with our colleagues south of the border on that space.

Thank you.

CHAIR RANDOLPH: Dr. Sperling.

BOARD MEMBER SPERLING: The issue about the trucks using the methane at sanitation districts and places like that where the methane is being produced, we have a situation where we have a policy in place, the LCFS that strongly -- that directs these gases towards the transportation sector, and we don't have -- it's not a balanced policy framework we have. You know, we say that the gases should be used in their -- in their best use, which would be -- and to some extent an industry where there aren't good alternatives, but we don't have any policies to support that.

So it's kind of a quandary, you know -- well, actually we need to develop the policies on the -- from the industrial sector, you know, to create a similar price signal for that. But at the same time, I think that the premise that we're working on is more of a performance-based cost-effective approach. And if -- we should create the mechanisms, so that if it makes sense
where these trucks that are located at these sanitation
districts to put it in their trucks, it makes sense to me
that we shouldn't be so direct about it as to say, no, you
can't do that.

   So, you know, generally, you know, the ACT and
ACF are exact -- you know, are exactly the right things to
do, but we do need to be a little flexible, you know, as a
few members have said.

   So that's, you know -- so, yeah.

CHAIR RANDOLPH: Okay. All right. So those are
kind of the specific topics.

   So now, it's kind of -- I think, folks, this is a
good time to talk about kind of overriding questions,
considerations, thoughts.

   I'm going to kick it off with two points. First,
I think the concern about being more clear and explaining
more about where we are in our path to 2030 is very
important. I think that needs to be significantly beefed
up in the -- in the plan. There needs to be more
discussion about that. And along those lines, I think the
challenge we have is folks don't quite understand where we
are towards 2030, because we don't have -- as we were
talking about earlier, we don't have a lot of easily
accessible information about the status of our different
programs and sort of any way to kind of trigger a
conversation about, oh, are we -- are we on track or are we off track?

We have targets, but not sort of specific metrics or interim kind of touchpoints. And so I think that's a really important thing we need to be thinking about with the Scoping Plan generally. Are there ways that we can insert some specific -- in each area that we're discussing, insert specific metrics, or touchpoints, or milestones that can be part of that interim time between each five-year update, which -- so that people can have a better understanding of where we are and any micro adjustments we need to make that are more short term than the five years. So I think it's really important to improve that section and give some thought to what are ways we can better reflect out our -- our progress.

Any other comments or questions?

Board Member Kracov.

BOARD MEMBER KRACOV: Yeah. Let me just step back for a second. I guess we're in the, you know, overall, and the miscellaneous section. So I do want to compliment staff. You know, the draft really is quite an accomplishment. You know, the list of measures, I think it's page 58 to 63, really is astonishing, truly. But it also demonstrates the getting to neutrality in 2045 is really difficult and I imagine, you know, you folks, the
modelers, the EJAC up at night, you know, staring at computer screens with cups of coffee, you know, trying to make the whole thing pencil out.

But, you know, in Hawaii in May at the Mauna Loa station, they saw 421 parts per million of carbon CO2, which is I think the highest it's been in millions of years. And there was study last week in the Lancet, which concluded that air pollution cause one of six deaths worldwide in 2019, and the global deaths increased because of air and chemical pollution 66 percent over the past two decades.

You know, so I wouldn't want to be anywhere else today than with all of you, you know. And I want to thank all the stakeholders yesterday, all the participants. It's going to take all of us to tackle these challenges. So I did want to acknowledge staff's incredible work on this. Thank you so much.

On the miscellaneous file, and I spoken to Rajinder Sahota about this, Appendix D, the local actions, there's some stakeholder comments in the -- in the docket. You know, the role of CEQA, the California Environmental Quality Act is really critical to local decision-making and the permitting which we all know is so important, in which the Secretary emphasized yesterday.

And Appendix D, which is the local actions, is
important because it gives the advice, the practical, workable guidance to the local jurisdictions on how they're supposed to take this Scoping Plan and apply it at the local level. I'd like staff to consider the role of some more uniform brighter line standards that's going to give certainty to the parties in these permitting decisions.

For climate change, you know, having a patchwork of local significant thresholds, some qualitative, some quantitative, all different for every jurisdiction, I don't know, is that really going to get us to where we need to be with regard to our climate investments, for example, for transportation demand reductions.

I think giving a little more certainty will also help the staff give a more balanced portrayal of CEQA. The appendix sites to the outcome of the Newhall and Centennial projects in Southern California as models. But the staff knows those were hard fought CEQA cases. In San Diego, Kern, judges of all political stripes, the California Supreme court, down to the trial courts have upheld the role of CEQA in combating climate change. Exhibit D should acknowledge that.

And, you know, we need to consult perhaps with the Office of Planning and Research on the role of the CEQA guidelines. There's just too much uncertainty out
there about how to analyze GHG impacts. And I think we should consider beefing up Appendix D to help resolve that.

Thank you, Chair.

CHAIR RANDOLPH: Could you --

DEPUTY EXECUTIVE OFFICER SAHOTA: So on Appendix D, Craig and I can work together and we'll reach out to OPR on that on what more we can do to give some kind of uniform guidance related to things like the CEQA thresholds. But I think it's important for us to also focus on areas that are within the jurisdiction of the local planning regions for that table, so that they have clarity on where they absolutely have full discretion to take action and they can be part of the entire story on addressing climate in the state of California.

We can probably give some directional guidance on some of the other pieces like EV charging stations support goals for the ZEV Executive Order and those kinds of things. Not that you must put in a thousand EV chargers in the next two years, but I think there -- there's a mix here that we can do that can help on that -- on that side.

CHAIR RANDOLPH: Board Member Riordan.

BOARD MEMBER RIORDAN: Thank you, Madam Chair. I just wanted to express my appreciation for all the work staff has done and will do in the future for taking these
refinements that some of us have asked for and making them a part of the final Scoping Plan.

The overarching item that I'd like to just underscore is what might be successful in a more urbanized area is not necessarily going to be as easy to effect in a rural. And coming from those rural areas, I just would like you to kind of keep that in mind that maybe there would be some opportunities that you could identify for those rural areas, and we're talking about people who live very far from maybe electric stations where they can charge, or just the whole issue of mass transit. That's just impossible in some of my areas but -- that I represent.

So we've got to think of -- we've got to be kind of clever about how we kind of nuance some of the opportunities that more rural California can access and be successful in controlling greenhouse gases.

Thank you.

CHAIR RANDOLPH: Thank you.

Board Member De La Torre is next.

BOARD MEMBER DE LA TORRE: Just one thing. It's kind of an assignment to staff, as we were thinking the Scoping Plan, because it is broad and this piggybacks on Board Member Hurt's comments. We need to be a clearinghouse in as many of the -- of the sectors as we
can be. So kind of give ourselves an assignment of being a hub for best practices out there across sectors and wherever it makes sense, and to our communications team, really hype that that stuff is there, so that whether you're local government, whether you in a rural area, whether you're -- you know, whatever. If you're interested in these things, these are the -- without endorsing specific companies, technologies, whatever, this is the stuff that works.

We know what works. We're doing all the analysis all the time. So it's -- I call it teaching to the test. So we know what works. Let's put that information out there to the general public, be more user/consumer friendly in all aspects of that.

Thank you.

CHAIR RANDOLPH: Dr. Balmes.

BOARD MEMBER BALMES: Thank you.

And I want to start off by praising a particular action of the staff. And as people know, I was concerned that we would not work well with EJAC this year -- or this time. And I'm sure EJAC will say they didn't get everything they wanted. I know they would say that. But I appreciate Rajinder and Chanell trying to work better with EJAC this time around. And I think yesterday's presentation showed that there's benefits for
engaging EJAC. I know it's hard on both sides, both for staff and for EJAC, but yesterday's presentation was impressive -- long, but impressive, and very thoughtful. And I appreciate both sides of that interaction this time around, and I just hope we can do better next time.

And the other sort of elephant in the room that we haven't talked about is the public health analysis. Okay. I wouldn't let you forget. I'm the public health member. And, you know, a lot of people have thrown the Research Division under the bus, including me, in terms of not doing a comprehensive of enough health benefits analysis, but I would just acknowledge, like I did Matt, about the national -- natural and working lands, that this -- this time we did way better than previous times. And I think we can only do better next time. And I think we should probably start tomorrow, in terms of a comprehensive health analysis, to get to the level of geographic detail that the environmental justice community -- not just, EJAC but the environmental justice and public health communities at large are asking for, to show how our climate change mitigation policies do benefit the health of all communities, including the most disproportionately burdened communities.

And I pledge to work with the Research Division on that. And I think, you know, it may behoove us to get
some outside help, so it's not just falling -- I know -- I know that we worked with CDPH and OEHHA, but we might need to, you know, get some contractors who can really put a lot of time and energy into the data crunching and modeling that we need. But overall, it's -- I want to commend staff for an improvement.

And -- yeah, I don't have to -- to go on and on about this. I think we can do better in terms of continuing to work with EJAC, continuing to work on our public health benefits analysis. But again, I'm happy with progress. Thank you.

CHAIR RANDOLPH: Dr. Sperling.

BOARD MEMBER SPERLING: On the subject of metrics, I had a thought and I'm not necessarily advocating it, but economics. You know, we talk -- everyone -- a lot of discussion about the State should invest in this and invest in that. What that means is, you know, spending a lot of public money on things. And I wonder to what extent, as a metric, how do we monitor the cost effectiveness, defined broadly. There's a section in the executive summary on cost effectiveness.

But I think we want to be thinking about which of these investments and which of these goals are going to get the most bang for the buck. You know, we're not -- yes we're going to net zero, but some things are going to
be a lot more expensive than others. And maybe, you know, we do not want to destroy the economy of California, right? And so somewhere -- somehow, and I don't know -- I'd actually be interested in what the staff thinks about this.

DEPUTY EXECUTIVE OFFICER SAHOTA: So, Dr. Sperling, as part of the AB 197 analyses, we actually do cost per ton by action in the Scoping Plan, whether it's deployment of zero-emission vehicles, whether it's deployment of appliances, et cetera, so you can see the relative cost per ton between the different actions in there.

As part of our rulemakings, we also do a cost effective analysis and so there's more detail that shows up in the individual rulemakings, when look at the ambition, the types of technologies, the options, the flexibility. And as part of their job over at the Legislature, the Legislature can also mandate certain things to happen at a certain rate that we then implement.

And so we can bring all of this information together. And we try to as part of the Scoping Plan as the rulemaking, and on the incentives side as part of the reporting out from the spending of the GGRF monies, we have that information today, but then we have priorities that are beyond just cost per ton per GHGs. There are
some things that are going to be more expensive in the early years, because you're still piloting and scaling the technology. So I think then you start to get into these questions -- like that number doesn't represent the full story.

BOARD MEMBER SPERLING: Yeah. And for the reasons you just said is why I was cautious about it. You know, we call them co-benefits. There's near-term, long-term. It's really com -- complicated and I'd hate to, you know, have everything ranked on -- you know, in a list. I think that would not be helpful, but at the same time, you know, having some kind of transparency is a good idea. So I leave it to you to figure that out.

CHAIR RANDOLPH: Board Member Hurt.

BOARD MEMBER HURT: So I want to start off by thanking the EJAC members, their long hard work to keep the lived experiences of the communities in the forefront. I want to definitely give a shout-out to all of you. And I want to remind folks that we're all in this fight together in surviving this climate crisis. And I really want our words around equity and being together in this climate challenge to be more than just theories. I want us to really understand practically what's happening. And so I have to uplift the metrics piece more and more about income, and race, and ethnicity, and making sure that
whether it's a dashboard, we really are being clear about the trade-offs and who is being harmed or who is going to have a harder time to get through these years ahead.

I -- I think there's a lot of great opportunities in diversity of our experiences and our thoughts, and I don't want us to lose that. I want to thank the staff. You know, you all have worked really hard to bring a viable plan forward. And so I thank each and every one of you. I know there's also been countless hours and I know I took up Rajinder's time quite a bit with a ton of meetings, but I appreciate it all.

And so my comments are really in gratitude to your work, but also challenging us to be better and go farther in our policies. And I also want to thank the public commenters for traveling from all over the state. I heard your passion yesterday. I hear it today. And it's what's leading me in my comments and how I'll eventually vote or -- and review the items before us.

Clearly, people are suggesting different paces to meet the goal and in different means. And this is what's really hard for all of us. But I think as a baseline, I'm hopeful that the Scoping Plan will give something to everybody. And it clearly tells us that we need to be aggressive and ambitious, and I think we need to do that more. We need to thread the needle, so that the very
people we're trying to improve in health and clean air, we are also not harming them in job loss and economic vitality and preventing the creation of generational wealth to truly pull families out of poverty.

And I think about this transformation that Hector De La Torre -- Board Member De La Torre spoke about, how transformative this is and who is going to be left behind. I -- I'm worried. I am really worried, especially when I see the state of things now. And I want to point us to, in that draft Executive Summary, where we state that an important part of our equity consideration is ensuring that we do not add further harm to overburdened communities. But I'd like for us to reframe the language to say how do we increase benefit and opportunities in those communities that have carried the burden of all of our consumption, especially around fossil fuels.

And I think everything when it comes to equity, I think we need to talk about how do we repair just the legacy of the disparity racially in this space. We know where future plants are going to go. We know what communities have really bore the brunt. And we cannot repeat those mistakes those past mistakes. We're in this together and if we are, then we need to figure out across the Board how to be equitable.

And so I'm looking for that with all the comments
that have been made by my colleagues in the new, or at least improved, Scoping Plan draft.

Thank you.

CHAIR RANDOLPH: Okay. Board Member Takvorian, be Senator Florez, and then Vice Chair Berg.

BOARD MEMBER TAKVORIAN: Thank you. Well, many of you have said a lot of what I wanted to say, so I want to just make a couple of points. And that is -- I know we're going to talk about public health in a minute, right? Is that what you said?

CHAIR RANDOLPH: Go. Do it now.

BOARD MEMBER TAKVORIAN: Oh. Okay. Okay. Well, I guess it -- putting it all together, I feel like you've given us, staff -- I really appreciate again all the hard work that folks have done. And I think we've all digested the scenarios that came before the proposed scenario. And you've helped us to really understand that. So now that we've said all that we've said, I feel like it's going to be really important for us to see the difference between where we are now with that proposed scenario and how you integrate a lot of our suggestions into a new scenario basically.

And so I'd really like to be sure that we're seeing that, because I think if it's kind of -- you know, not track changes, whatever, if it's not hidden, but it's
inside all -- the existing scenario, it's going to be hard to see, like what are the differences. So I know that there was that early chart with Alternative 1, 2 -- Scenario 1, 2, 3. I just think there's got to be another one. And maybe there's another one after that of, you know, you pull together what we've said it turns into this other scenario. And then you've got another suggestion, because maybe some of those things don't work from your perspective. I just feel like we need to see it really clearly. So that's one suggestion.

The other is that -- you reference the EJAC recommendations and the fact that they are referenced, but it isn't clear to me where they are and where they aren't. So that's another piece that I would like to see specifically on the measures that you talk about, because I think that's part of how we lift up equity and how we lift up the benefits that were just referenced. So I would like to see that along on the dashboard, I think that you're talking about. The dashboard is about emission reductions, but it's also about the benefits that we're bringing to our community. So I'd like to see that included there.

And then getting to health, if I understand it correctly, and Dr. Balmes will correct me if I'm wrong, we have modeled the bene -- the health benefits of the
scenario that we have put forward and not the health
benefits of some of the recommendations that we have made,
that have been made by the public, that have been made by
EJAC. So I think we need to see those described in terms
of lives saved, illnesses avoided, all of the metrics --
all of the criteria that you -- that you have.

So I -- I don't know how you'll do that, because
it's a lot. We've made a lot of suggestions for the
changes that will be made, but we really do need to see
the health benefits -- the improved health benefits,
assuming they are improved from the suggestions that we've
made. So I guess that goes along with the next scenario.
Does that make sense?

CHAIR RANDOLPH: Yes, but I'm not sure that that
is feasible in the sense of the health -- the public
health analysis that we've already done.

DEPUTY EXECUTIVE OFFICER SAHOTA: So for the --
for the four scenarios that we looked at, we've done the
health analysis the same for all four of those, and
that -- that exists right now. It's in one of the
appendices, so you can compare all four.

If we make any changes that are modeling changes,
we would have to redo the economic modeling. We'd have to
redo the health modeling to see how that looks. And I
guess this gets back to I've heard a lot of like clarify,
add additional kinds of information like on the income brackets and the impacts to household. We can do that, but that's not really changing the scenario. It's adding more information in.

There's some things that you asked for, Board Member Takvorian, that both Craig and I have information on that we can pull together, but that also doesn't necessitate having to model something different right now. And so I think we probably need some clarity maybe from you all what is the modeling change versus what is add more information, and maybe more textual information.

CHAIR RANDOLPH: And I'm going to respond to that with a question, which is some -- my understanding is that there's -- there's sort of the overall modeling, but then there's various sensitivities that might provide more information like, for instance, around VMT or things like that. So to the extent that we can use the existing information we have in the sensitivity to answer some of these questions, does that kind of help get to Board Member Takvorian's point, which is, right, like if we tweak a sensitivity around investments in mass transit or something like that, can you articulate that as sort of a -- you know, in the draft as kind of a tweak to the scenario. Does that make sense?

DEPUTY EXECUTIVE OFFICER SAHOTA: So whether it's
VMT, with its single passenger vehicles, or mass transit, we can figure out, between both Craig and I, what the fuel difference might be. We can take that fuel difference, look at the existing data that we have from the modeling of the scenarios and scale something to say if we're able to move this many people into transit, then we would be able to have this additional benefit. Is that an additional piece of information or are we changing VMT? Are we changing something in the modeling, the core modeling?

So I think that's — that's where we're trying to find some clarity here. We can add this as an informational piece, but are we looking to -- what specific changes are we looking to make in that table?

CHAIR RANDOLPH: But I guess if we identify data that would -- where you could identify a change in outcome -- it doesn't necessarily have to be a huge change, but then -- then you could be able to say -- and this is something that could be presented --

DEPUTY EXECUTIVE OFFICER SAHOTA: Yes.
CHAIR RANDOLPH: -- in the draft --
DEPUTY EXECUTIVE OFFICER SAHOTA: Yes. Yes.
CHAIR RANDOLPH: -- I mean, in the -- in the final, right? You know, if you, Board, if you make this tweak, you will see this benefit. And we can say, yes,
let's do that. If you make this change, we can see this benefit. We can -- you know, do you understand what I'm saying there?

DEPUTY EXECUTIVE OFFICER SAHOTA: So we can do this, because I think what we'll, because I think what we'll do is we have to have a series of workshops over the summer. We can add some of this into those workshops and then maybe we can have some briefings with you all to figure out what are the final changes, because when come back to the board in November, it's with the final plan.

CHAIR RANDOLPH: Right. So -- so between now and then, we have a joint meeting with the EJAC.

DEPUTY EXECUTIVE OFFICER SAHOTA: Um-hmm.

CHAIR RANDOLPH: So that might be a good opportunity --

DEPUTY EXECUTIVE OFFICER SAHOTA: Absolutely.

CHAIR RANDOLPH: -- to present specific --

DEPUTY EXECUTIVE OFFICER SAHOTA: Okay. That works.

CHAIR RANDOLPH: -- that you've -- that we've heard over the summer, that you've -- ideas that you've had and that would be a way to do that.

I mean --

BOARD MEMBER FLOREZ: Okay. I'm just going to add to what Diane. It's following your comment. And so
when we -- when we started this today, there was a little bit of debate, I even think amongst Board members and the Chair said let's go through this by segment and sector. I had an idea about starting with process yesterday. And so now we end with process. I mean, this is kind of where we're going. So I think my thought to the staff through the Chair is I think what you're hearing, and I may be with, but I'm -- I think we're asking for maximum flexibility within an eye towards change.

And I think what I'm hearing, at least in your explanation is, we can dabble around the edges, but we may not be able to incorporate what might have been major suggestions and changes. So I think it speaks to your -- to you work that there wasn't this massive revolt up here by some members that said this really is horrible. I think what we're asking for -- I would just say what I'm asking for. I'm asking -- I would ask, from what you've heard today, to look at the EJ plan again, and understanding what everyone has said here, to see if there's something in the model itself to reflect on. And to the Chair's point when EJ and others gather for this, see if we can make some progress based on that.

I mean, that would be my preference. I don't know how other Board members feel, but I mean obviously I'm an EJ rep, so I think I have a bit of a -- of an edge
on what I'd like to see.

And then the second point is the original question I wanted to have yesterday was -- and now today is the process. And I think the Chair has laid out a process of some checking in. I don't know is the close-off period for EJ and everyone officially midnight tonight? Is that the way it works? So in other words, there's no -- I mean, even if Martha Argüello, who's sitting out there says, hey, actually, there's some good points here, I want to resubmit, is that now not an opportunity after midnight tonight on is this a continual conversation? I think that's --

CHAIR RANDOLPH: I can clarify that and staff can add if I get this wrong -- or correct me if I get this wrong. That is the deadline for the CEQA environmental review that accompanied the draft plan.

BOARD MEMBER FLOREZ: The draft, okay.

CHAIR RANDOLPH: So the plan itself, and the -- some of the conversation around these policies and what we want to see, that will continue over the summer. We will be able to get input and make changes.

I think -- I think we need to be clear about sort of what -- what tweaks or changes in the modeling we need to see. And I think we've made pretty clear, you know, there's -- there's some things that we have identified.
So we want to make sure that we're giving enough guidance
to staff that they know the work that they're supposed to
do between now and the end of the summer and the -- and
that is accompanied with the public workshops and
listening sessions we're going to have --

DEPUTY EXECUTIVE OFFICER SAHOTA: Right.

CHAIR RANDOLPH: -- so they'll get more feedback.

And I think we can discuss some of that feedback in the
joint meeting and kind of see -- see where we are. I
agree, you know, at the end of the day, we're going to be
voting on the final plan. And as we have the conversation
in the -- with -- in the joint meeting, if there are
things where we might have questions or suggestions, you
know, that can be a substantive conversation, but if we're
any kind of fundamental changes that would require
fundamental new analysis, we need to highlight now.

And I think folks, to your point, Senator Florez,
it pretty much highlighted the key things that they are
interested in seeing.

BOARD MEMBER TAKVORIAN: Well, I guess I'm not
completely clear. I'm sorry. I guess I feel like, well,
I don't think we have -- I mean, we obviously don't have
complete agreement on what VMT goals should be there. So
if we're looking at it being modeled at VMT per capita at
reduced 25 percent below 2019 by 2030 and 30 percent by
2035, I want to see that model. And so I understand that's another discussion. We're not -- as far as I was concerned we didn't end that conversation here. We wanted more information.

The same thing on heavy-duty, we're ask -- I think that it's a good request to say we want to look at a different metric than the one that's in Alternative 3, which is a hundred percent heavy-duty sales are ZEV by 2040. I'd like to see that by 2035, so -- and some have asked for 2030.

So, you know, I want to get clear on what are we asking for to look at in that. I'm clear on what I would like to see. That doesn't mean I think that's what will go in the final Scoping Plan. It what's we need to look at to see what it looks like altogether.

CHAIR RANDOLPH: Okay. So those two, are those things that would need to be remodeled or are those things where we have the sensitivities that would help us?

DEPUTY EXECUTIVE OFFICER SAHOTA: So we Definitely have the VMT 25 percent by 2030 and the 30 percent by 2035 in Alternative 1. We have that modeling.

CHAIR RANDOLPH: So you can identify how it would affect Alternative 3 --

DEPUTY EXECUTIVE OFFICER SAHOTA: That's right. We can pull it out and share what that change would be.
BOARD MEMBER TAKVORIAN: Okay.

CHAIR RANDOLPH: -- or what we call the preferred alternative and no longer Alternative 3.

Okay. Anything else?

BOARD MEMBER TAKVORIAN: But you also had the -- the Cash for Clunkers in Alternative 1, which really changed that. So it's not all of Alternative 1. I mean that's why I'm saying I think it's a different alternative, because it's not all Alternative 1 and it's not all Alternative 3. So that's why I thought it needed to be in a different column. If you don't want to call it another scenario, that's fine, but it just would call out what those changes are and what they add up to.

CHAIR RANDOLPH: Right. That makes sense to me.

Okay.

DEPUTY EXECUTIVE OFFICER SAHOTA: I have a suggestion. You know how we did the oil and gas sensitivity and refinery sensitivity on the proposed scenario. We can add another section that talks about a sensitivity on VMT changes per Board Member Takvorian's suggestion here, if you all agree. And then also on an analysis of that Cash for Clunkers transit versus that -- that money going to Clunkers -- Cash for Clunkers or going towards transit. So we can do that right up in there as well as a sensitivity on the preferred plan.
CHAIR RANDOLPH: And you can clearly illustrate it as -- as that, right?

DEPUTY EXECUTIVE OFFICER SAHOTA: So it would be a discussion with some data in it, but it doesn't change the overall scenario.

CHAIR RANDOLPH: Yes, but I guess to what Board Member Takvorian is getting to, and maybe this is a conversation with the whole Board, is, you know, she's basically saying, I want these changes to be on the table for potential inclusion into the final. And so my question to you is do we need to kind of, as Board, now say up or down on those, you know, from a consensus standpoint or would it make more sense to have you present it as part of the preparation for the joint meeting with EJAC and then we can kind of have -- provide that guidance at the joint meetings? What -- do you have a preference?

DEPUTY EXECUTIVE OFFICER SAHOTA: I think from the staff perspective --

CHAIR RANDOLPH: Yeah.

DEPUTY EXECUTIVE OFFICER SAHOTA: -- it would be helpful for us to have that time --

CHAIR RANDOLPH: Okay.

DEPUTY EXECUTIVE OFFICER SAHOTA: -- for the September 1 joint meeting between the Board and the Environmental Justice Advisory Committee. And that way we
can share what we find and hear back from you all.

CHAIR RANDOLPH: Perfect. And that helps us, because then we know what we're really comparing and what the -- what the costs are. Right. Okay. Great.

BOARD MEMBER TAKVORIAN: (Inaudible)

CHAIR RANDOLPH: Well, I think one of the questions we have -- I guess what I would say is my hope would be that we could cover that in the joint meeting, because my concern is that another September -- adding this as an agenda item in the September meeting might be a bridge too far, but we can keep that on the table as a potential, given, you know, sort of the workload we have at the end of the year.

BOARD MEMBER FLOREZ: There's -- there are notes prior to this decision, as Diane just said, if we were, you know, to have additional time. You're going to -- we're going to look at that as we go.

CHAIR RANDOLPH: Right. So we will have public workshops.

BOARD MEMBER FLOREZ: Yes.

CHAIR RANDOLPH: We will have the listening sessions with the public.

BOARD MEMBER FLOREZ: Okay.

CHAIR RANDOLPH: We will have the joint EJAC Board meeting.
BOARD MEMBER FLOREZ: Okay.

CHAIR RANDOLPH: And then there could be potential to add the Scoping plan as an agenda item to an existing meeting in September.

BOARD MEMBER FLOREZ: Okay.

CHAIR RANDOLPH: Turn that into a two-day meeting.

BOARD MEMBER FLOREZ: Okay. Thank you.

CHAIR RANDOLPH: And we would have other agenda items as well.

BOARD MEMBER SPERLING: Just to be clear, what we're asking for is a sensitivity analysis, right, or are we talking about changing --

CHAIR RANDOLPH: No. We're asking for a sensitivity analysis. And then the question would be is -- would we direct staff to say in the final plan include that as part of the final scenario, correct?

DEPUTY EXECUTIVE OFFICER SAHOTA: That's correct. And I want to clear, if we wait till September to -- we can -- we can manage this, but we won't be able to use the full suite of tools to do the economic and health analysis. At that point, we would be using or -- or we would do the work behind the scenes based on other data to calculate the final changes for final plan, if we make this changes for the VMT. And it's fine, I just want to
make sure I'm clear about the tools we have.

CHAIR RANDOLPH: Right. And we wouldn't necessarily -- yeah, you're -- we wouldn't be rerunning every analysis that we did.

BOARD MEMBER FLOREZ: Yeah, I think it -- maybe as you do that, and I know you all are responsible for it, just think of a broader brush and a very thin brush as you go over this one more time. I mean that's -- I think what you're hearing from the Board is stretch, if you can. And you will. I know you will. I mean we're all kind of working towards the right goals, but just one more look and one more hard view of it with a broader brush I think is what we're trying to capture.

CHAIR RANDOLPH: Okay. Vice Chair Berg.

VICE CHAIR BERG: Thank you. I apologize, but on natural and working lands, I did -- I had it marked and I did not bring up our involvement with our tribal -- our tribal neighbors and you were going to do that too.

BOARD MEMBER BALMES: Yep.

VICE CHAIR BERG: So I apologize, it was not an oversight. My brain is tired and I really appreciate my notes here from the EJAC and I head it marked. So my only comment in that, which is an important one truly, is I think we have a real opportunity from our EJAC representative to be able to embrace and engage. And I
would really encourage that.

DEPUTY EXECUTIVE OFFICER SAHOTA: Thanks for that. And I would like just to make sure that we're being transparent for Matt Botill to talk about how we did engage on this, but what we can do more moving forward over the summer.

VICE CHAIR BERG: Yes.

DEPUTY EXECUTIVE OFFICER SAHOTA: So, Matt.

BOARD MEMBER BALMES: If I -- if I could add to this. And I did mean to bring it up, so thank you, Vice Chair Berg. I was quite impressed and moved by the EJAC representative from the Hoopa Tribe. I haven't worked with Hoopa -- the Hoopa, but I've worked with the Yurok. And, in fact, Richard Corey I think did a great job in responding to my concerns about diesel generator next -- dirty diesel generator next to a school and when there wasn't PG&E distributed power to that school. And I've, you know, worked all over the world in, you know, low resourced communities and I was blown away with the situation in the Yurok village that I went to.

But where I think we can engage respectfully with the sovereign tribes, especially the Yurok and the Hoopa that have a long experience with wildfire and cultural burning, not that they're the only tribes that do that, but I think in terms of forest management, we should
embrace -- we should ask our sister agencies that are
involved with forest management to embrace a genuine
partnership with the sovereign tribes that know a lot
about this. You know, they were managing the forests for
a long time, a lot better than we do.

And, you know, the -- I think it's the Hoopa
actually have a training program for forest wildfire --
wildland firefighters with regard to prescribed burns.
You know, my own doctoral student who was a wildland
firefighter took that training. So I think it's -- that's
a specific area where we could learn a lot. It could be
mutually beneficial and we could show the respect that I
think they're entitled to. So thank you, Sandy, for
bringing that up.

VICE CHAIR BERG: Well, thank you, Dr. Balmes.
And it just really resonated with me that we are missing
the how-to, and we -- it really seemed to open the door of
opportunity, as you said Rajinder, for let's start and go
forward in a much more vigilant way. So I appreciate you
letting me bring that up.

And my final closing thoughts are really round
Chapter 5 and challenge accepted. I love the title of
that. Some day I hope you'll share with us how that title
came about, but it's really what we're looking at here.

And my last thought on EJAC is there's a lot of
categories within that chapter that talk about things that are -- are applied to the EJAC, but not a lot of connecting benefits. And so maybe that's an area when we look at challenge accepted, more details and more connecting ideas on -- on how the plan is benefiting. And maybe it connects more also to their -- their individual recommendations.

   My other thought is under challenge accepted, oh, by the way, this is the easy part here. If you think yesterday's meeting was tough or that writing this plan -- which by the way, I think you guys are rock stars. If you look at the difference between 2017 and 2022, it is remarkable. And I really do want to lift that up.

   But this was the easy part. It is about implementation and execution. And so many of the ideas that came from EJAC are also about implementation. And so we have to have a mechanism to be able to bring those and consider those as we're moving forward. And I wanted to definitely highlight that.

   My final thought is this has to -- this transformation that Board Member De La Torre absolutely nailed is about market acceptance. There's nothing in this plan that says this citizens of California have to accept this. There's no regulation that is going to make the citizens of California do this. This has to be about
market acceptance. And so we can put these markers down, but we could do it faster if the citizens got on board. And so I'd like just us to take back, before we had smartphones, and those of us that, you know, maybe had BlackBerries, and quite frankly loved our BlackBerries --

(Laughter.)

VICE CHAIR BERG: -- and we hated the iPhones when they first came out. Those of us that bought one quickly got rid of it, because all the words jumbled up. You -- we have to adopt here and we cannot, as Diane said, discount the fact that we have to connect with the consumers to change their behavior.

So, I'm -- I -- I can't give enough kudos. And to my fellow Board members what a thoughtful conversation. You're right, Rajinder, challenge accepted. But that challenge honestly starts after November when we come up with this final plan to imple -- to execute and implement. So thank you so very much.

DEPUTY EXECUTIVE OFFICER SAHOTA: You're very welcome. I want to make sure that we do have a chance to respond to the tribal engagement that we had and that we have incorporated some of the wildfire learnings into the plan. I didn't want to leave the impression that we were completely clueless in this aspect, and that we recognize them as a sovereign government with a special relationship
Matt.

INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:
Yeah. No, thank you for that. And kind of building on those points of -- about the tribes and the being sovereign nations. We did have a representative of the Yurok give some remarks at our opening Scoping Plan workshop back in June. We had a request out to the tribes for consultation. And then we also had a number of workshops with the tribes on the natural and working lands pieces of the Scoping Plan and a subsequent deep dive with the Yurok.

And that's not to say that we did enough. We kind of absolutely and should absolutely do more. And so what I'm excited about having, you know, Jill Warne Sherman recently appointed to the EJAC give us an opportunity to go back and do some additional consultation, make some updates to the -- to the draft plan, based on that.

BOARD MEMBER BALMES: And just be clear, I wasn't really critical of you folks. I was just saying as an agency, we need to be engaged, just to be clear.

CHAIR RANDOLPH: Yeah. And -- yeah, I will absolutely be interested in coordinating with you and working with you all and make sure we -- we do make the
opportunity for consultation available, in addition to what we've already done.

Okay. We are going to take a 30-minute lunch break and then go back to our two additional agenda items for today. Thank you. And we will also be doing a closed session during our lunch break.

(Off record: 12:49 p.m.)

(Thereupon a lunch break was taken.)
AFTERNOON SESSION

(On record: 1:25 p.m.)

CHAIR RANDOLPH: All right. Okay. Thank you.

We have returned from our lunch break and our closed
session, and no reportable action was taken.

The next item on today's agenda is item number
22-9-2, public meeting to consider AB 617 Community Air
Grants to Environmental Health Coalition.

If are here with us in the room and wish to
comment on a this item, please fill out a request to speak
card as soon as possibly and submit it to a Board
assistant. If you are joining us remotely and wish to
comment on this item, please click the raise hand button
or dial star nine now. We will call on both in-person and
remote commenters when we get to the public comment
portion of this item.

This item is listed on the agenda in accordance
with the Board approval and ratification process in
Government Code section 1091, because one of our Board
members is affiliated with Environmental Health Coalition.
Accordingly, Board Member Takvorian will abstain from the
discussion and the vote on this item.

Ms. Fletcher, would you please summarize the
item.

DEPUTY EXECUTIVE OFFICER FLETCHER: Thank you,
chair Randolph. In February, staff shared an information update on the community air grants. This item is for the Board to consider approval of 2021 AB 617 community air grant to the Environmental Health Coalition to support accomplishment of the community emission reduction plan, or CERP, for the San Diego Portside environmental justice communities and ratification of a 2018 AB 617 community air grant to the Environmental Health Coalition to educate residents on air quality issues and health risks, provide leadership development, and support community-based research on local air quality in San Diego.

This item is presented to satisfy Board approval or ratification requirements in Government Code section 1091, because one Board member is affiliated with Environmental Health Coalition. Approval by the Board of the 2021 grant will authorize staff to proceed with execution and implementation of the 2021 grant. Ratification of the 2018 grant will confirm that the grant met the procedural requirements of Government Code section 1091 to be considered a remote interest.

This concludes my remarks.

CHAIR RANDOLPH: All right. Thank you.

We will now hear from the public who raise their hand to speak on this item. Will the Board clerk call any public commenters.
BOARD CLERK GARCIA: So we have no commenters at this time.

CHAIR RANDOLPH: All right. I will now close the record on this agenda item. Do I have a motion and a second to approve the 2021 AB 617 community air grant to Environmental Health Coalition, ratify the 2018 AB 617 community air grant to Environmental Health Coalition, and have staff proceed with executing the 2021 grant.

BOARD MEMBER HURT: I'll move approval.

BOARD MEMBER BALMES: Second.

CHAIR RANDOLPH: All right. And we will need to call the role on this item. Clerk, would you please call the role.

BOARD CLERK GARCIA: Yes.

Dr. Balmes?

BOARD MEMBER BALMES: Yes.

BOARD CLERK GARCIA: Mr. De La Torre?

BOARD MEMBER DE LA TORRE: Yes.

BOARD CLERK GARCIA: Senator Florez?

BOARD MEMBER FLOREZ: Aye.

BOARD CLERK GARCIA: Ms. Hot -- Ms. Hurt?

BOARD MEMBER HURT: Aye.

BOARD CLERK GARCIA: Mr. Kracov?

BOARD MEMBER KRACOV: Yes.

BOARD CLERK GARCIA: Mr. Riordan?
BOARD MEMBER RIORDAN: Aye.

BOARD CLERK GARCIA: Professor Sperling?

BOARD MEMBER SPERLING: Aye.

BOARD CLERK GARCIA: Vice Chair Berg?

VICE CHAIR BERG: Aye.

BOARD CLERK GARCIA: Chair Randolph?

CHAIR RANDOLPH: Yes.

BOARD CLERK GARCIA: Madam Chair, the motion passes.

CHAIR RANDOLPH: All right. Thank you.

The next item on the agenda is Item number 22-9-3, California's Regional Haze State Implementation Plan.

If you are here with us in the room and wish to comment on this item, please fill out a request to speak card as soon as possible and submit it to a Board assistant. If you are joining us remotely and wish to comment on this item, please click the raise hand button or dial star nine now. We will call on both in-person and remote commenters when we get to the public comment portion of this item.

California is home to 29 National Parks and wilderness areas that are known for their amazing views, including iconic National Parks such as Joshua Tree and Yosemite, as well as lesser known, but still stunning
locations like the Hoover and San Rafael Wilderness Areas. Visitors from around the world come to California specifically to visit some of these beautiful places. In 1970, Congress recognized the importance of these areas by affording them visibility protection under the Clean Air Act, and they are known as Class 1 areas.

Congress required states to develop plans to improve visibility to natural conditions. These plans are due every 10 years and each time include a fresh assessment as to what is driving poor visibility. Since adoption of California's first Regional Haze Plan in 2009, visibility has improved at all of the 29 Class 1 areas.

California's second Regional Haze Plan builds on the success of that first plan and demonstrate that -- demonstrates that visibility will improve through 2028 and that California is on the path to reaching natural conditions by 2064.

Ms. Chang, would you please introduce the item.

DEPUTY EXECUTIVE OFFICER CHANG: Thank you, Chair Randolph.

As you mentioned, California's first Regional Haze Plan was adopted by this Board in 2009 and approved by U.S. EPA in 2011. Revisions to the Federal Regional Haze Rule in 2017 changed the metric used to track visibility conditions to focus on the subset of days that
had the most and least human caused impairment. For this Regional Haze Plan analysis shows that the most human cause impairment in California's Class 1 areas is attributable to ammonium nitrate. Strategies targeting the emissions driving the formation of ammonium nitrate are needed to improve visibility.

Because of this, the strategy -- the strategy in this plan relies on controlling NOx, both through already adopted measures and the commitment to adopt and implement four mobile source control measures detailed in the State SIP Strategy. This will provide a total of 440 tons per day of NOx emission reductions in 2028.

California's Regional Haze Strategy takes into account State specific conditions, leverages resources from other clean air programs, targets the pollutants that matter most, and provides meaningful improvements in visibility that put California's Class 1 areas on track to reach the 2064 visibility targets.

The iterative process laid out for regional haze planning allows states to make informed planning decisions supported by science and provides a mechanism to assess progress and adjust the control strategy. As emissions from the mobile source sector are reduced in the future, the pollutants driving visibility impairment will likely change. In future planning periods, CARB will take a
fresh look at visibility conditions, the emissions driving
visibility impairment, and develop evidence-based plans to
achieve meaningful improvements in visibility.

I will now ask Rebekka Fine of the Air Quality
Planning and Science Division to begin the presentation.

And as Rebekka begins, I want to note that we've
streamlined the staff presentation in consideration of the
lengthy Scoping Plan board item.

Thank you.

Rebekka.

(Thereupon a slide presentation.)

AQPSD AIR POLLUTION SPECIALIST FINE: Good
afternoon, Chair Randolph and members of the Board. My
name is Rebekka Fine. And as Edie said, I work in the Air
Quality Planning and Science Division.

I'll be providing today's staff presentation on
California's Regional Haze State Implementation Plan.

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AQPSD AIR POLLUTION SPECIALIST FINE: For today's
presentation, I will begin with an overview of the
Regional Haze Program, then discuss the key content in the
proposed Regional Haze Plan, and share a summary of
comments received from stakeholders. I will conclude with
the staff recommendation.

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AQPSD AIR POLLUTION SPECIALIST FINE: With the 1977 amendments to the federal Clean Air Act, congress established a national goal to remedy existing and prevent future visibility impairment resulting from human caused air pollution in specific large National Parks and federal Wilderness Areas where visibility was identified as an important value.

To help understand the sources of visibility impairment, the first monitoring sites were established in 1985. In 1999, EPA promulgated the Regional Haze Rule, which requires states to prepare Regional Haze plans. The rule was revised in 2017. This Board adopted California's first Regional Haze Plan in 2009. The Regional Haze Rule requires states to develop comprehensive SIP revisions every 10 years. The proposed SIP that we are discussing today is California's first comprehensive revision to our initial Regional Haze Plan.

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AQPSD AIR POLLUTION SPECIALIST FINE: The areas where visibility is protected under the Regional Haze Rule are known as Class 1 areas. There 156 Class 1 areas in the country. Although not all states have Class 1 areas, all 50 states are required to prepare haze plans. California has 29 Class 1 areas. Seventeen monitoring sites in and around these areas collect data used to track
visibility conditions.

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AQPSD AIR POLLUTION SPECIALIST FINE: For regional haze planning, California works collaboratively -- collaboratively with other western states as part of the Western Regional Air Partnership.

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AQPSD AIR POLLUTION SPECIALIST FINE: This figure shows the timeline for regional haze planning. The starting point is the 2000 to 2004 baseline period. Progress in each planning period is compared to conditions from this baseline period and interim goals are established for the end of each planning period.

For the second SIP, the 2014 to 2018 time period is considered the current period and interim visibility goals are set for 2028.

Regional haze planning is an iterative process, meaning that every 10 years we'll take a fresh look at visibility conditions, the pollutants driving the formation of haze, and opportunities to control emissions to assure meaningful strides towards improving natural conditions -- and reaching natural conditions.

The target to reach natural conditions is the end of calendar year to 2064. As you can see, we are still in the early stages of the Regional Haze Program with many
more milestones ahead.

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AQPSD AIR POLLUTION SPECIALIST FINE: Before diving into the details of this proposed Regional Haze Plan, it is important to consider a number of factors that are unique to California. These unique factors play a role in our approach to controlling emissions. California is working to meet a host of air quality and climate targets and our effort to control emissions does not stop or start in line with the timeline for the Regional Haze Program.

Accounting for state-specific circumstances is necessary in order to efficiently develop effective strategies. California's widespread attainment challenges have led to aggressive emission control programs. As you know, recognizing the unique and widespread challenges faced by the State, Congress allowed California to seek a waiver of federal preemption for its mobile source emission controls. Mobile sources drive many of our air quality challenges.

Through decades of monitoring and analyses, we know that many of the same pollutants driving non-attainment also are the dominant contributors to haze in Class 1 areas. Beyond mobile sources, California is pioneering efforts to identify and address emissions that
disproportionately impact air quality in many communities. California's integrated planning process is one that considers the host of air quality goals, identifies strategies necessary to meet those goals, and then creates actionable plans. For many states, the Regional Haze SIP is the only SIP that they must put together.

The next few slides will provide details on the strategy laid out to ensure visibility continues to improve.

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AQPSD AIR POLLUTION SPECIALIST FINE: These are the key elements of the Regional Haze Plan.

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AQPSD AIR POLLUTION SPECIALIST FINE: This photograph here shows the landscape from the Keys View Overlook in Joshua Tree National Park. Peaks in the San Gorgonio Wilderness are visible above the layer of haze in the Coachella Valley. Haze is made of many different types of particles. Emissions from a variety of sources contribute to haze that impairs visibility in parks and wilderness areas. Visibility itself can be subjective. So in order to compare visibility conditions across time and in different locations, a deciview metric was developed.

Deciviews represent the level of visibility
impairment. As shown in the scale at the bottom of the slide, visibility or the visual range improves as deciviews and light extinction decrease.

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AQPSD AIR POLLUTION SPECIALIST FINE: Since the Regional Haze SIP is different than a non-attainment SIP, using this figure I'm going to walk you through some terms specific to regional haze. Regional haze planning is focused on two set of days: the 20 percent clearest days and the 20 percent most impaired days. For this and future plans, visibility is compared to average conditions in the baseline period. For the clearest days, the goal is to assure that visibility does not degrade from baseline conditions.

For the most impaired days, the goal is to ensure visibility steadily improves and natural conditions are restored by 2064. The path between the baseline period and natural conditions is termed the glide path. And while it's not a safe harbor, the glide path does offer a checkpoint to see if improvements and interim goals are on track to reach 2064 goals.

The 2017 revisions to the Regional Haze Rule provided states with an option to adjust the 2064 endpoint to account for impacts from prescribed fire and international emissions. California has proposed to make
those adjustments.

AQPSD AIR POLLUTION SPECIALIST FINE: And this one we'll just --

AQPSD AIR POLLUTION SPECIALIST FINE: -- yeah, click through. This is where we cut a little bit.

So this slide provides an overview of the data elements that are considered in the development of this plan.

AQPSD AIR POLLUTION SPECIALIST FINE: In today's presentation, I will spotlight three of California's Class 1 areas. Redwood National Park is located along the northern most coast of California in a rural, remote area. Sequoia National Park is in the central Sierras adjacent to the San Joaquin Valley. The San Gabriel Wilderness is located inland from the Los Angeles metropolitan area.

Now, let's dive into some specific information for these areas.

AQPSD AIR POLLUTION SPECIALIST FINE: This slide shows a summary of the types of particles contributing to haze at the three spotlight sites.
AQPSD AIR POLLUTION SPECIALIST FINE: The data shown here are from the Redwood National Park monitoring site. Haze attributable to U.S. sources are represented by the bar on the left. As you can see, the teal green portion of this bar is largest showing that ammonium nitrate accounts for most of the haze attributable to human caused emissions from the U.S. The focus of regional haze planning is on addressing the haze shown in this bar.

The second bar from left shows haze attributable to prescribed fire. This source accounts for a small share of haze on the most impaired days and is mostly comprised of organic mass.

The third bar from the left shows haze attributable to transported international emissions. Ammonium sulfate accounts for most of the particles from international sources. The bar on the right shows haze attributable to natural sources, including wildfire. Ammonium sulfate, organic mass, and sea salt account for most of the haze from natural sources at this location.

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CHAIR RANDOLPH: Rebekka, I'm sorry to interrupt, but I just had a quick question about that slide --

AQPSD AIR POLLUTION SPECIALIST FINE: Sure.
CHAIR RANDOLPH: -- for those of us who are sort of air quality newbies. Could you -- just briefly, what are the sources of ammonium nitrate and ammonium sulfate?

AQPSD AIR POLLUTION SPECIALIST FINE: Yeah. So for ammonium nitrate, a lot of it -- the formation tends to be driven by NOx emissions or oxides of nitrogen. It also involves ammonia, but ammonia tends to be ubiquitous. And so that -- the limiting factor tends to be NOx. And then for ammonium sulfate, human caused sources tend to be sulfur dioxide or other oxides of sulfur. And then there's also natural sources. Wildfire emits oxides of sulfur. Oceanic emissions can also contribute to ammonium sulfate. There's biological and photochemical processes that involve sulfur that's in ocean waters. And so we'll see sulfate from those sources.

Thank you for the question.

BOARD MEMBER BALMES: And wildfires also generate NOx too.

CHAIR RANDOLPH: Yes.

AQPSD AIR POLLUTION SPECIALIST FINE: Thank you, Dr. Balmes.

Like Redwood National Park, the Sequoia National Park data show that a ammonium nitrate accounts for most of the haze attributable to human-caused emissions from the U.S. The prescribed fire group again accounts for a
small share of haze on the most impaired days and ammonium sulfate accounts for most of the haze from international sources. Organic mass and ammonium sulfate again account for most of the haze from natural sources.

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AQPSD AIR POLLUTION SPECIALIST FINE: Like Redwood National Park and Sequoia National Park in the San Gabriel Wilderness, ammonium nitrate accounts for most of the haze attributable to human-caused emissions from the U.S. And the types of particles attributable to prescribed fire, international emissions, and natural emissions are similar to those at Sequoia.

While the types of particles impacting visibility can vary and result from many different sources, targeting the particles attributable to U.S. sources that account for the largest share of haze will provide for the largest amount of progress.

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AQPSD AIR POLLUTION SPECIALIST FINE: Looking at these three sites together, the pie charts indicate that ammonium nitrate, shown in teal, accounts for the largest portion of haze attributable to human caused emissions. Focused efforts on emissions that drive the formation of ammonium nitrate are important to improving visibility.

We know that emissions of nitrogen oxides, or
NOx, generally drive the formation of nitrates. Thus, the focus of the proposed plan is on ensuring that NOx emissions are reduced during this planning period and those reductions provide for improved visibility.

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AQPSD AIR POLLUTION SPECIALIST FINE: This slide summarizes the amount of past, present, and projected progress at these three spotlight sites.

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AQPSD AIR POLLUTION SPECIALIST FINE: And this slide shows that the progress that has been made is at a rate that is better than the glide path at these three spotlight sites, and that's consistent with the other sites in California.

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AQPSD AIR POLLUTION SPECIALIST FINE: This bar chart on the left shows statewide emissions for 2014, which was the base year for regional haze modeling. NOx emissions are the green portion of the bar. As you can see, mobile sources dominate the statewide inventory of NOx, accounting for nearly 80 percent of total NOx emissions.

The yellow portion of the bar represents oxides of sulfur, or SOx, emissions which account for a very small portion of statewide emissions. As shown earlier, a
relatively small portion of human caused haze is attributable to ammonium sulfate which are particles formed from SOx emissions. Significant NOx emission reductions are the primary element of our long-term strategy in this Regional Haze Plan.

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AQPSD AIR POLLUTION SPECIALIST FINE: The long-term strategy in the proposed plan provides for emission reductions that amount to more than 400 tons per day of NOx through adopted Measures that were part of the base inventories used in this plan. Additional controls that were identified as being reasonable include heavy -- the heavy-duty omnibus, the Heavy-Duty Inspection and Maintenance Regulation, Advanced Clean Trucks, and the Advanced Clean Cars II Regulation.

The proposed plan includes a commitment for CARB to adopt and implement these four measures to achieve an additional reduction of 40 tons per day of NOx by 2028. These substantial emission reductions are expected to improve visibility.

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AQPSD AIR POLLUTION SPECIALIST FINE: Baseline, current, and 2028 reasonable progress goals are summarized on this slide. Note that the 2028 goals are at or better than the glide path.
AQPSD AIR POLLUTION SPECIALIST FINE: To supplement our focus on mobile sources, we also developed a process to screen stationary sources with the intent to ensure that reasonable controls were in place or would be put in place at larger stationary sources. The steps in this process are summarized on this slide and we'll provide an update on the controls at stationary sources in our 2025 progress report.

AQPSD AIR POLLUTION SPECIALIST FINE: The additional steps that CARB is taking to address stationary sources are summarized here.

AQPSD AIR POLLUTION SPECIALIST FINE: And this slide highlights CARB's engagement with federal land managers, states, and the public during the development of this plan.

AQPSD AIR POLLUTION SPECIALIST FINE: Comment letters on the proposed plan were provided by staff from National Parks Service and the U.S. Forest Service. The Parks Service noted that they appreciated mobile source emission reductions that will be achieved through CARB's actions and the co-benefits for haze, but expressed
concerns that CARB is missing an opportunity to control emissions from stationery sources.

The Forest Service was largely satisfied with California's proposed plan, but requested that staff consider a larger glide path -- glide-path adjustment to account for projected increased use of prescribed fire.

The Forest Service also suggested that CARB further consider expanding the assessment of sulfur dioxide emissions in this plan to ensure that sources that may otherwise have been overlooked are brought to the forefront.

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AQPSD AIR POLLUTION SPECIALIST FINE: During the public comment period 11 comments were received. And comments covered a wide range of topics that are summarized here.

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AQPSD AIR POLLUTION SPECIALIST FINE: A number of commenters were critical of a strategy focused on mobile sources and conveyed that CARB was missing opportunities to control emissions from stationary sources. While stationary sources do contribute to emissions and haze impacting Class 1 areas, mobile sources remain a dominant source of emissions in California. And California is continuing to take aggressive steps to reduce emissions
from this sector.

Further, due to our air quality challenges, California has stringent stationary source control programs that are continuing to evolve. Local efforts to reduce emissions from large stationary sources is ongoing and State efforts to implement a comprehensive stationary source emissions inventory has been initiated. CARB staff will provide an update on these ongoing efforts in the 2025 progress report and will continue to engage with stakeholders on these efforts and the implications for regional haze moving forward.

One commenter requested an extension to the comment period and a delay in the hearing date. While staff recognized the complexity of the plan and the time demands to conduct a thorough review, the proposed plan is consistent with the themes that have been communicated to stakeholders throughout the plan development process.

Another commenter raised points about the significance of fire regimes and uncertainty in natural conditions estimates. We agree that there is uncertainty in the estimates for natural conditions and fire is an important planning consideration. Given the iterative nature of haze planning, there will be opportunity to incorporate new information concerning estimated natural conditions and emissions from fire into our future haze
The comments provided by stakeholders throughout the development of this plan are being thoroughly considered and will continue to play into regional haze planning in the future. Ultimately, the strategy laid out in this plan is based on the best available technical information that we have. Regional haze planning is iterative and for the development of each plan we'll take new look at visibility conditions, progress, and human caused emissions driving the formation of haze. This information will provide the basis of strategies developed to ensure that visibility continues to improve.

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AQPSD AIR POLLUTION SPECIALIST FINE: Staff recommend that the Board approve the proposed Regional Haze State Implementation Plan, including the commitment to achieve a cumulative NOx emission reduction of 40 tons per day by 2028 through adoption and implementation of four mobile source control measures and direct CARB's Executive Officer to submit the proposed SIP to the U.S. EPA for approval. This concludes my staff presentation and I'd be happy to answer any questions that the Board may have.

Thank you.

CHAIR RANDOLPH: Thank you.
Do we have members of the public who have signed up to speak on this item either in person or on Zoom?

BOARD CLERK GARCIA: No commenters at this time.

CHAIR RANDOLPH: Okay. I will bring it to the Board. Any questions?

First of all, I just want to thank you all for condensing down your presentation. It's such an interesting topic and something that, you know, I wish -- I wish we could have spent more time on it, but I feel like you guys did a good job of summarizing the strategies and the importance and the analysis that goes into this whole question. So I really appreciate that.

Okay. Board Member Kracov.

BOARD MEMBER KRACOV: Yes. So thank you very much to the SIP preparation staff for this. And coming from the South Coast, the SIPs, you know, are real important to me. And I know we're going to be working really hard over the remaining part of this year to look at the statewide SIP, and the South Coast SIP, and the San Joaquin SIP. So my ears are always perking up because of the importance and the challenges that we face in the South Coast on the attainment issues.

On this one, I'll be voting yes. I did read, you know, from some of the commenters who asked for more controls on stationary sources. I mean, speaking for the
South Coast, we have the strongest stationary source controls probably in the world. So I'm just not sure how much, you know, more juice we can get from that lemon. We've already squeezed it so much.

The one thing I will say, and we do mention the role of 617 and the Stationary Source and BARCT programs, the inventory, the clearinghouse, and 617, that is something that if we're going to be relying on for this plan and for the SIPs, that we do need to really make sure it's robust as possible. We have had some discussions with our 617 staff around BARCT, around trying to get some degree of consistency among the air districts. I know that's not easy. But if that is going to be a key component of this and the BARCT stationary source element of 617 is going to be part of this and the other SIPs, then we really do have to make sure that that is as consistent and robust as possible. And I wanted to make that comment.

Thank you.

CHAIR RANDOLPH: Thank you.

Any other comments?

Dr. Balmes.

BOARD MEMBER BALMES: I just want to thank staff for a good job both with the presentation but more importantly for the work on the Regional Haze SIP. Those
of us that like to go to National Parks really would like them to be cleaner and more visible. And I think that, you know, our contribution to the, you know, regional -- Western Regional Haze Program is important. And, you know, I would move that we accept the staff recommendations.

BOARD MEMBER RIORDAN: I'll second the motion, Madam Chair.

CHAIR RANDOLPH: Board Clerk, will you please call the roll.

BOARD CLERK GARCIA: Dr. Balmes?
BOARD MEMBER BALMES: Yes.
BOARD CLERK GARCIA: Mr. De La Torre?
BOARD MEMBER DE LA TORRE: Yes.
BOARD CLERK GARCIA: Senator Florez?
Ms. Hurt.
BOARD MEMBER HURT: Aye.
BOARD CLERK GARCIA: Mr. Kracov?
BOARD MEMBER KRACOV: Yes.
BOARD CLERK GARCIA: Mrs. Riordan?
BOARD MEMBER RIORDAN: Aye.
BOARD CLERK GARCIA: Professor Sperling?
BOARD MEMBER SPERLING: Yes.
BOARD CLERK GARCIA: Ms. Takvorian?
BOARD MEMBER TAKVORIAN: Yes.
BOARD CLERK GARCIA: Vice Chair Berg?

VICE CHAIR BERG: Yes.

BOARD CLERK GARCIA: Chair Randolph?

CHAIR RANDOLPH: Yes.

BOARD CLERK GARCIA: Madam Chair, the motion passes.

VICE CHAIR BERG: And I just wanted to mention that, you know, we have quite an involved staff. Besides all the work they do on -- behind their desk, I would like to call to attention the photography credits --

(Laughter)

VICE CHAIR BERG: -- and how many staff go out of their way to really research these areas. And there are several pictures here by our staff members namely Jeff Kessler is quite popular, but others as well. So thank you so much.

AQPSD AIR POLLUTION SPECIALIST FINE: Thank you for bringing that to the attention. I did -- I did intend to call that out as well, so I appreciate your noticing that.

CHAIR RANDOLPH: All right. Thank you. Okay. The last item on the agenda for today is Item number 22-9-4, 2021 Annual Enforcement Report.

If you are here with us in the room and wish to comment on this item, please fill out a request to speak
card as soon as possible and submit it to a Board assistant. If you are joining us remotely and wish to comment on this item, please click the raise button or dial star nine now. We will call on both in-person and remote commenters when we get to the public comment portion of this item.

Each June, CARB's Enforcement Division prepares a report for the Board and the public detailing staff's work during the year to help ensure compliance with CARB's emission reduction program. The 2021 report is now available on our website. Ms. Peter, would you please introduce the item.

CHIEF COUNSEL PETER: Thank you, Chair Randolph.

Enforcement programs protect public health, especially in disadvantaged communities by helping bring noncompliant companies into compliance. Also, our enforcement efforts ensure emission reductions envisioned when regulatory programs were adopted, are actually achieved in practice.

The implementation of enforcement programs is a team effort across CARB. This year's report includes a thorough analysis of compliance rates across programs to evaluate their effectiveness and identify where improvements can be made to better achieve our goals. The report also describes actions we are taking to improve our
enforcement programs, especially in disadvantaged communities. There, we're redesigning our enforcement work to be more responsive to community needs. The report further discusses our work by program type and closes with a discussion of where our enforcement efforts are going for the remainder of 2022 and beyond.

I'll now ask Mae Colcord of the Enforcement Division to begin the staff presentation.

Mae.

(Thereupon a slide presentation.)

ED AIR POLLUTION SPECIALIST COLCORD: Thank you, Ms. Peter, and good afternoon, everyone. Today, I will provide an overview of the 2021 Annual Enforcement Report.

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ED AIR POLLUTION SPECIALIST COLCORD: In today's presentation, I will begin with a brief introduction to CARB's Enforcement Program. I will then walk through the analysis we performed in 2022 to assess compliance rates in several CARB programs and the reason why this analysis is important for enforcement. I will next describe our efforts to address environmental injustice and community concerns, and then describe 2021 highlights in three major enforcement areas, diesel vehicles, engine and product requirements, and stationary sources. I will close with a brief discrete -- discussion on where our programs are
moving in 2022.

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ED AIR POLLUTION SPECIALIST COLCORD: First, I will start with a high level overview of CARB's enforcement goals and highlights from 2021.

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ED AIR POLLUTION SPECIALIST COLCORD: One key goal in enforcement is to ensure the highest possible compliance rates in every program we enforce, to ensure emissions reductions envisioned at adoption of the regulation are actually achieved in practice. In addition, we want to address environmental injustice by focusing our enforcement efforts to address long-standing local issues experienced by community members especially those in disadvantaged communities.

Through these efforts, we strive to create a level playing field across industry so that violators do not profit from noncompliance and to deter noncompliance. And we aim to provide transparency in our enforcement process to provide accountability to both regulated parties and the public.

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ED AIR POLLUTION SPECIALIST COLCORD: Enforcement is a collaborative effort within and outside of CARB. In 2021, we continued to focus our enforcement work in
disadvantaged communities. We conducted nearly 12,000 inspections of diesel vehicles, equipment, and ships with 80 percent of inspections in these communities. We conducted 12 mobile PEAQS deployments across the state, many of which were in these communities, screening nearly 15,000 vehicles to identify those with high emissions for further enforcement follow up and ensure compliance, and diverted $6.8 million in penalties to Supplemental Environmental Projects, or SEPs, benefiting disadvantaged communities. Lastly, we resolved 2,746 cases and citations for more than $18 million in penalties.

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ED AIR POLLUTION SPECIALIST COLCORD: Also, in 2021, we assessed compliance rates in key programs to evaluate how well our enforcement programs are working and how they may be improved.

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ED AIR POLLUTION SPECIALIST COLCORD: Enforcement Division began assessing compliance rates several years ago to help identify which programs need more focused enforcement to ensure a level playing field across industries, and emissions reductions, and health protective goals are achieved.

In past years, we have focused this analysis on two of CARB's key programs, the Truck and Bus Regulation,
and the At-Berth, or Shore Power, Regulation. Compliance rates for these programs are calculated industry-wide using independent data sources to assess compliance and focused enforcement efforts directly on noncompliant vehicles and fleets.

This year, we expanded our analysis to more programs using inspection results, so compliance can be assessed and reported annually.

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ED AIR POLLUTION SPECIALIST COLCORD: The Enforcement Data Visualization System, or EDVS, is a publicly available, map-based tool that displays CARB's enforcement inspections from 2015 to 2021. EDVS was updated in 2022 to also include stationary source inspections conducted by CARB staff. EDVS is created as a transparency tool allowing the public to track enforcement activities over space and time. EDVS can also be used as a tool to calculate and track compliance rates for each of our enforcement programs.

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ED AIR POLLUTION SPECIALIST COLCORD: Using EDVS, compliance rates are calculated by comparing the number of violations found during inspections to the overall number of inspections conducted. These quantitative compliance rates are informative, especially when compared over time.
However, the compliance rates assessed using this method will also vary, based on where and when inspections are conducted each year. As a result, we are qualitatively characterizing compliance rates into three bins, high, medium and low, where low rates are less than 85 percent, medium between 85 and 95 percent, and high above 95 percent.

The compliance rates calculated using this method may also be biased, because in some programs staff can preferentially target inspections for noncompliance or they may be incomplete when there's not enough data to calculate an accurate rate.

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ED AIR POLLUTION SPECIALIST COLCORD: Overall, programs have very similar compliance rates in disadvantage communities relative to the rest of the state. And most programs have compliance rates exceeding 95 percent. There are several program, however with compliance rates that are considered low. We are working to address these lower compliance rates using a variety of approaches, including leveraging technology for enforcement, and developing robust regulatory requirements. Program compliance rates can be found on page six and in Appendix M of the report.

We also recognize that while compliance rates in
disadvantaged communities are high for most program
communities are -- communities are still experiencing
impacts from emission sources

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ED AIR POLLUTION SPECIALIST COLCORD: In 2021, the Enforcement Division began working on an approach to address these concerns and continue to deploy resources into disadvantaged communities.

I will discuss these efforts in the next few slides.

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ED AIR POLLUTION SPECIALIST COLCORD: The Enforcement Division has been working to address environmental injustice in disadvantaged communities by focusing a variety of efforts in these communities. While enforcement is not a tool that can solve all problems, there is room for us to expand the scope of support we can provide in these communities.

We are working to do so by building collaborative, co-led processes with communities to better prioritize our work and deriving lessons learned to develop improved approaches and policies that benefit all disadvantaged communities across the state. The following slides include examples of this community work.

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ED AIR POLLUTION SPECIALIST COLCORD:

Supplemental Environmental Projects, or SEPs, are community-based projects funded by a portion of penalties received from our settlements and are designed to improve public health, reduce pollution, increase environmental compliance, and bring public awareness to neighborhoods most burdened by environmental harm.

Since the start of the program, we have distributed $20 million in penalties to projects in disadvantaged communities. In 2021 alone, we allocated $6.8 million in penalties to SEP projects. Last year, the program funded tree plantings in Fresno, as pictured on the slide, school air filtration systems across the state, and air quality education programs.

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ED AIR POLLUTION SPECIALIST COLCORD: To better target our efforts in areas where they are needed most, Enforcement Division is using an area focused investigation, or AFI, strategy that concentrates investigations and enforcement of multiple programs in disadvantaged communities.

In November 2021, we conducted a three-day enforcement event in the Portside EJ Neighborhoods Community and the International Border Community. We conducted both facility and roadside inspections,
resulting in a total of 245 vehicle and equipment inspections and 20 citations issued.

Enforcement staff also conducted 34 ocean-going vessel fuel inspections, and three shore power audits during 2021 in these communities.

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ED AIR POLLUTION SPECIALIST COLCORD: Similarly, Enforcement Division conducted an AFI in West Oakland in August 2021 in collaboration with the West Oakland Environmental Indicators Project. West Oakland is an AB 617 community heavily impacted by the ports, trucking activities, and industrial facilities.

Following a community-led enforcement tour, staff conducted a two-day event resulting in six citations and three fleet investigations. Enforcement is now working to build a more lasting and collaborative partnership with the West Oakland community to address ongoing environmental concerns.

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ED AIR POLLUTION SPECIALIST COLCORD: To reduce emissions from oil and natural gas operations, CARB adopted the California Oil and Gas Regulation, which is enforced by CARB and by local air districts through memorandum of agreement. CARB also leverages resources through interagency collaboration, data, and technology to
help target inspections at oil and gas facilities with excess emissions and collaborates with other agencies such as CalEPA, CalGEM, U.S. EPA, and local air districts to address community concerns.

In 2021, CARB inspected nine facilities as part of the CalEPA Task Force initiative and two additional facilities as part of CARB's oversight responsibilities under MOAs with local air districts. Most of these inspections took place in the San Joaquin Valley. Moving forward, CARB has begun a more permanent focused enforcement effort addressing leaking wells, through our work with the Arvin-Lamont and South Kern communities.

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ED AIR POLLUTION SPECIALIST COLCORD: Through past enforcement efforts, we have learned that the environmental issues disadvantaged communities face are challenging to address. Although direct enforcement can sometimes address community concerns, we hear from community members that regulated sources are still causing a significant cumulative impact, even from compliant sources.

In an effort to address these impacts, Enforcement has begun developing a community-based approach that builds on the idea that part of achieving environmental justice is making sure we are partnering
directly with community members to truly understand community issues more holistically. We will collaborate with community members as partners to identify strategies that may help to solve the problems community members are experiencing and to document and report on our understanding of the issues, the results, and lessons learned from our enforcement work and the next steps that we think could be taken to address underlying community issues.

In late 2021, we began working with several communities to pilot this expanded approach. And we look forward to learning from and further developing this approach in more communities.

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ED AIR POLLUTION SPECIALIST COLCORD: Diesel particulate matter is the most significant source of air toxic health risk in our communities. So we continue to maintain a robust Enforcement Program focusing on reducing emissions from diesel vehicles and equipment.

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ED AIR POLLUTION SPECIALIST COLCORD: The Truck and Bus Regulation, results in some of the most significant reductions in harmful diesel emissions from heavy-duty diesel trucks. Achieving compliance over the years has been challenging, due to the high volume of
vehicles subject to these requirements. Despite the challenge, CARB been successful in increasing compliance rates to over 95 percent with 98 percent for the heaviest, highest emitting trucks.

This success is a result of hard work by CARB staff across the agency conducting outreach, implementing new laws, and streamlining enforcement. This streamlined enforcement process in particular was expanded this year to additional programs to capture more types of noncompliance. Increasing compliance rates are also made possible by our partnerships with air districts, like the San Diego Air Pollution Control District, who, in 2021, conducted 6,701 inspections and issued 426 citations on behalf of -- on behalf of CARB's heavy-duty diesel programs.

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ED AIR POLLUTION SPECIALIST COLCORD: Most excess emissions will be generated by a small fraction of high-emitting trucks. The Portable Emissions AcQuisition System, or PEAQS, is a roadside emissions monitoring system used by Enforcement Division to screen for high-emitting vehicles and can be deployed as an unattended platform at stationary locations or as a mobile platform in conjunction with field enforcement staff. A streamlined pilot project was implemented beginning late
2021 during which 433 letters were sent to high-emitting vehicles detected by our stationary PEAQS units.

We are continuing to send out more noncompliance letters throughout 2022 as a precursor to identifying high-emitting vehicles in the Heavy-Duty Inspection and Maintenance Program. Enforcement staff also deployed mobile PEAQS units during 12 field enforcement events in 2021, screening nearly 15,000 vehicles and issuing 224 citations.

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ED AIR POLLUTION SPECIALIST COCORD: Both the stationary and mobile PEAQS units will be critical to implementation of the Heavy-Duty Inspection and Maintenance Program in 2023 to flag high-emitting vehicles for immediate follow-up compliance testing to ensure emission control systems are operating properly. The expansion of our PEAQS program for the HD I&M Program requires ongoing collaboration between CARB and several State partners on siting and deployment locations, and to coordinate on enforcement efforts.

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ED AIR POLLUTION SPECIALIST COCORD: California ports are a significant source of nitrogen oxides and particulate matter emissions in the state. Two of CARB's regulations aimed at reducing emissions from these sources
through implementation and enforcement are the At Berth Regulation, and the Ocean-Going Vessels Fuels Regulation.

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ED AIR POLLUTION SPECIALIST COLCORD: The At Berth or Shore Power Regulation generally requires ships to plug in to electricity while at major ports in California and to annually report to CARB each visit. Enforcement staff audit the visit reports each year to determine each fleet's compliance status. Note the compliance analyses are always one year behind due to timing of reporting requirements. So our most recent compliance analysis is for 2020.

In 2020, there were three major events that significantly affected vessel fleets, including COVID-19 emergencies, the loss of an alternative technology option, and energy grid emergencies. Initial results from 2021 audits are revealing similar impacts.

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ED AIR POLLUTION SPECIALIST COLCORD: This chart depicts the statewide assessment of the At Berth Regulation's power reduction requirement. The green line signifies the regulatory requirement each year. Notice how it gradually increases as the requirement gets more stringent.

The yellow line indicates the percent of megawatt
hours reduced statewide by all fleets each year. Until 2020, the regulatory requirement was met or exceeded on a statewide average, meaning the emissions reduction goals of the regulation were also being met. However, in 2020, the regulatory requirement increased to 80 percent while fleets were only able to reduce their power by 75 percent on the whole. We believe a number of factors contributed to this, including the new regulatory requirement and the year's unique impacts as previously mentioned.

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ED AIR POLLUTION SPECIALIST COLCORD: The Ocean-Going Vessel Fuels Regulation requires ships to use cleaner fuel within regulated -- regulated California waters. Enforcement staff have traditionally sampled fuel to determine compliance with the fuel sulfur limit. However, we have found a small, yet significant, percentage of vessels that enter regulated California waters operating on contaminated fuels that may comply with the sulfur limit, but do not meet the specifications of a distillate grade fuel. Specifically, the fuel contains elevated levels of micro-carbon residue, which results in increased particulate matter emissions. This additional sample analysis was incorporated into every violation found in 2021 and has proven to be a successful component of our inspections.

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In pursuit of gathering additional information to further reduce emissions from ocean-going vessels, CARB has been exploring the use of drones to monitor emissions from ships to help target enforcement efforts on noncompliant vessels. These projects are ongoing and will continue in 2022.

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ED AIR POLLUTION SPECIALIST COLCORD: CARB regulations also apply to vehicle and engine certification as well as consumer products.

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ED AIR POLLUTION SPECIALIST COLCORD: Vehicles and engines must be certified by CARB and issued an Executive Order before they can be legally sold in California. CARB staff tests vehicles and equipment to verify compliance and initiate investigations if emissions exceed the standards. Often, a failed part is identified as the problem and CARB regulations specify procedures the manufacturer must follow to recall and fix affected vehicles or engines.

But sometimes during emissions testing and investigation, CARB staff identifies issues that go beyond failing parts. Possible violations include failure to report or disclose information during or after certification or illegal software called a defeat device.
Consumer products include many categories of products that are purchased and brought into consumer's homes. CARB sets limits on emissions from consumer products and uses a variety of enforcement techniques to ensure compliance.

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ED AIR POLLUTION SPECIALIST COLCORD: Small off-road engines, or SORE, are primarily used in lawn and garden equipment, commercial utility equipment, specialty vehicles like scooters, and golf carts. CARB verifies regulatory requirements are met through field inspections and in-use compliance testing. Field inspections have found 99 percent of retailers are selling certified engines. However, in-use testing has found only about 60 percent of tested engines meet useful life emissions standards.

In 2021, CARB reached a $6.9 million settlement with American Honda Motor Company for manufacturing engines that did not meet CARB's SORE evaporative emissions standards discovered during in-use compliance testing. This was the second enforcement action against Honda in the past two years for the same violation.

As the SORE sector moves to zero emissions, enforcement of SORE regulatory requirements will evolve, as CARB focuses more on ensuring that the zero-emission
manufacturing warranty and durability requirements are met.

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ED AIR POLLUTION SPECIALIST COLCORD: Due to a dramatic growth in wildfires and concerns about COVID-19 transmissibility, California has seen an increase in sales of indoor air cleaning devices. Approximately, 1,500 indoor air cleaning devices were newly certified in 2021, which is nearly double the number of devices certified in 2020.

Enforcement staff have responded quickly to the increased number of complaints and referrals received from the public regarding these devices. In 2021, more than $100,000 in penalties were assessed from three companies for selling uncertified indoor air cleaning devices in California.

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ED AIR POLLUTION SPECIALIST COLCORD: In addition to direct enforcement authority, CARB has an important role in providing support to local air districts through training, enforcement support, and review of district permitting and enforcement programs.

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ED AIR POLLUTION SPECIALIST COLCORD: In 2021, we continued to support districts through our more
traditional training and enforcement support programs. In addition, we are hearing concerns from communities about specific stationary source facilities and their impacts, and as a result, have begun taking a more proactive role in reviewing local permitting and policy decisions and coordinating with air districts on any needed follow up. We have also worked to increase our transparency by publishing results of our stationary source inspections in EDVS.

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ED AIR POLLUTION SPECIALIST COLCORD: Newly added inspections to EDVS include those at landfills, oil and gas sites, and other stationary sources throughout the state. The data also includes a detailed summary and outcome for each inspection.

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ED AIR POLLUTION SPECIALIST COLCORD: One of the Enforcement Division's goals is to ensure consistent and effective enforcement in all air districts and at CARB by providing training that helps to improve inspections and investigation skills, and increase stationary source knowledge. In 2021, we offered 54 live training sessions reaching just over 2,000 students. We also updated the functionality and content of CARB's Air Quality Training Program, modernizing the program on multiple fronts. We
also expanded our online training offerings, launching
three new trainings in 2021.

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ED AIR POLLUTION SPECIALIST COLCORD: The
Enforcement Division is responsible for providing a broad
range of stationary source permit support services to
districts throughout the state, including conducting
analysis of air district rules, regulations, variances,
and policies as required by State law. Enforcement staff
continued to work on three program reviews of district
operations in 2021. One is the San Diego Air Pollution
Control District program review, with the results from the
review published soon.

Enforcement Division staff have also been
supporting South Coast Air Quality Management District on
their transition of facilities in the RECLAIM Program to a
command-and-control regulatory structure. Finally,
Enforcement staff have continued to work cooperatively
with air district staff on implementing Emission Reduction
Credit improvements in the San Joaquin Valley.

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ED AIR POLLUTION SPECIALIST COLCORD: Enforcement
staff inspect landfills for exceedances of methane in
conjunction with local air districts. CARB currently
holds MOUs with 23 air districts to implement and enforce
CARB's landfill methane regulation. This coordination among CARB and local inspectors is important to better understand the compliance rates of this and similar programs.

In 2021, enforcement conducted 15 inspections in coordination with local districts, nine of which had exceedances of methane. When exceedances are found, air districts follow up to ensure emissions are mitigated within the time frame required by the regulation. We are in the process of developing new tools to make inspections more efficient, increasing the number of landfills that could be inspected throughout the year.

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ED AIR POLLUTION SPECIALIST COLCORD: We also operate equipment registration programs such as the Portable Equipment Registration Program, or PERP, and the Cargo Tank Vapor Recovery Program. Both programs process registration applications and operate on a revenue neutral basis. In the past year, we have implemented an electronic based application tracking tool which will provide significant relief for mail delays and in-office limitations affecting staff and the public alike.

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ED AIR POLLUTION SPECIALIST COLCORD: Finally, I'll discuss our current vision and future plans.
ED AIR POLLUTION SPECIALIST COLCORD: We continue to work to be more effective in our enforcement efforts and interactions with disadvantaged communities. We are using the results of our compliance analyses to enhance enforcement and programs with lower compliance rates and as CARB develops new regulations, we provide input to help ensure enforceability. We are developing our next generation of enforcement tools and expanding our work on stationary sources.

ED AIR POLLUTION SPECIALIST COLCORD: That concludes our presentation. Our 2021 annual enforcement report can be found at the link provided here. We're happy to answer any questions.

Thank you.

CHAIR RANDOLPH: All right. Thank you. Let's see if we have any public commenters on this item, before we take it to the Board. Board Clerk, are there any public commenters?

BOARD CLERK GARCIA: Yes. We have two remote commenters at this time. So I will -- oh, actually that's going to be three, so I will call on Cynthia Babich, Muriel Strand, and Tom Krazen.

So Cynthia, I have activated your microphone.
Please unmute and you can begin.

CYNTHIA BABICH: Thank you. My name is Cynthia Babich. I'm with the Del Amo Action Committee. And I had the pleasure of being before the Board I think at your last meeting. I want to say that, you know, building a relationship and building trust with communities is really critical. Hearing us has made a visible difference with working with our CARB enforcement collaboration that I spoke to you in I think it was May about.

And enforcement is something that we waited decades for. And we've been tossed around like a hot potato from one agency to another with no one really claiming jurisdiction over the issues we were raising. CARB's support of communities co-leading the efforts is making all the difference in the world to us. CARB's ability to reach out to additional agency partners will make this effort a success. Part of the successful enforcement engagement is identifying the loopholes that lead to no pollution reductions in our air. Once identified we will be asking all of our partners, including CARB, to help close them. Repairing the harm done to us is just as important as stopping the increase of air pollution in the future for more EJ communities.

The current laws are not protecting us including: AB 1358, complete Streets Act; SB 375, land use and
greenhouse gas reductions, better transportation corridors, and statewide land use implementation; SB 535 and AB 1550, which would direct funding to our EJ communities provided that these ground zero grassroots communities have the Capacity to apply; and until recently, AB 617, the Community Air Protection Program, which allowed a warehouse to be built recently in our community.

The new path that we're working with with frontline communities is really critical to the change that is really needed at many of our communities. You know, I told you before when I spoke to you that I was really shut down 20 years ago by the Scoping -- the lack of grabbing the low hanging fruits with the Scoping Plan at that time. And I'm just -- you know, it takes a village to make our communities healthier. And today, I just want to stay that I'm really glad that I'm part of yours. So thank you for caring about us and making us visible.

BOARD CLERK GARCIA: Thank you.

Muriel, I've activated your microphone. Please unmute and begin.

MURIEL STRAND: Thank you. My name is Muriel Strand. I am a retired air resources engineer. And as such, I have been well acquainted with the excellence of
your compliance department. However, I am talking today about a gap in the compliance mandate that the Board has a legislative and regulatory gap, namely noise pollution, which I have long called the orphan form of air pollution.

At one time, noise pollution was meaningfully regulated on the federal and State level. To my knowledge, that has never resumed and there is much research out there on the harmfulness of noise pollution to health, and education, and various other things.

Now, in particular, I would point to motorcycles, too many of which have installed aftermarket devices, which make excessive amounts of noise and they could use a quote unquote smog check.

And also, thinking about it, it appears to me that just about every source of serious noise pollution has a fossil fuel connection. So I urge the Board to seek out this legislative and regulatory mandate to act in this arena. Thank you for the opportunity to comment.

BOARD CLERK GARCIA: Thank you.

Tom, I've activated your microphone. Please unmute and begin.

TOM KRAZEN: Hang on a second. Can you hear me now?

BOARD CLERK GARCIA: Yes, we can.

TOM KRAZEN: Okay. My name is Tom Krazen and I'm
with CADWRA. CADWRA is Californians for Affordable Drinking Water and in Rural Areas. I'm also a water well driller. I'm a C-57 contractor.

Every day we receive calls from people that are out of water in rural areas. And the only options that we have, especially if somebody needs a new well, is to use a diesel powered drill rig. In the state of California, there's only about 400 -- 450 drill rigs, and they all are diesel rigs, because it requires high power to drill down into the groundwater table.

As we're moving forward to try and improve the air, and I really appreciate it -- I'm a benefactor of, you know, clean air. I'm also quite worried that if we're forced to do away with our diesel engines, we may not be able to drill wells for people that are out of water. So rural California and especially the San Joaquin Valley, there's a high dependence on groundwater and groundwater wells.

If I went electric, just to give you an example, if I could plug into a house, I'll get about -- about 30 or 36 horsepower. I would have to connect over 34 houses just to be able to come up with the horsepower of my one diesel truck to be able to drill a well, which, of course, that's not possible.

And also, if I'm on a remote piece of property
and I'm all electric, I don't think I could carry enough batteries to be able to drill. So I guess what I'm trying to say is with only 450 diesel trucks compared to the one million heavy diesel trucks in the state of California, the water well industry is just a speck. In fact, they don't even make an impact on air quality. So I would really appreciate it if the Board would consider the impact that they're having on groundwater and the fact that this time the industry is in quite a dither not knowing exactly what they're going to do. And I want to tell you thank you for listening to me.

BOARD CLERK GARCIA: Thank you. And that concludes the commenters at this time.

CHAIR RANDOLPH: All right. Board Member Riordan.

BOARD MEMBER RIORDAN: Yes. I wanted to thank the staff for your presentation and also the work that you do. And I know four of you are but a small part of the enforcement effort that goes on here at CARB. I want to specifically say how much training is important to working with your local air districts. And I'm hoping that we continue in that vein, because I think it gives consistency across the state. And there are a number of districts that can really use your expertise because they're small and they don't have necessarily all the
expertise that we might have and you specifically might
have. So those are the two things that I wanted to bring
to your attention. And I do appreciate the report today.

CHAIR RANDOLPH: Dr. Balmes.

BOARD MEMBER BALMES: Thank you. And I told
staff during my briefing, but I'll say it publicly again,
I'm very pleased with how the sort of culture is changing
in the Enforcement Division since I've been on the Board,
which is now a long time, and the efforts that have --
that you've made to work with communities --
disproportionately burdened communities. I think it's
incredibly important and commendable. And from my perch
on the AB 617 Consultation Group and my interactions with
various community stakeholders, they really appreciate
that sort of collaborative -- collaborative spirit that
you've shown. So I just want to commend the staff for
that.

CHAIR RANDOLPH: Board Member Hurt.

BOARD MEMBER HURT: Thank you, Chair. Just a
quick question. And I'm thinking about the community at
this point. And I was really struck by the fact that you
said that there are different agencies all with
enforcement capability or authority. Is there like a
document or a website page we could direct folks to to
clarify the structure of enforcement powers, because I
definitely hear at the local air district that some people call in, and then it kind of gets kicked to CARB, and then it kind of gets kicked to U.S. EPA. And people get frustrated and that's -- we start losing trust again that there are really people interested in making sure people comply.

ED ASSISTANT DIVISION CHIEF QUIROS: Yeah. Hi. Heather Quiros. We don't have anything online, per se, that would describe that structure, but we can work on something like that. We are also looking to research actually within the community work that we're trying to do. We're coming at it at a little bit of a different angle trying to look a little more broadly in terms of even additional agencies and identifying who has authority over what.

And so I think that work is coming and we're trying to pull different things together and can absolutely consider maybe putting something on our website, if that's helpful.

BOARD MEMBER HURT: I think it would be really beneficial and it would stop that kind of pointing that goes on. And then I had learned even in our local air district that we have MOUs with other agencies to do things. And so it's just another added complexity that the community can't reach, and again, they feel alone.
So thank you.

CHAIR RANDOLPH: Board Member Takvorian.

BOARD MEMBER TAKVORIAN: Thank you, Chair.

I just wanted to thank you all for the incredible work that you're doing. I think we, you know, just spent a day and a half depending on how you count on the Scoping Plan, which is about all these forward-thinking plans. We're talking about zero emission then we forget -- I don't think we forget, but we don't think about it as much, that we've got all these vehicles and industrial settings that are -- really have the potential to harm our health and that you're being out there is so critically important to all our communities. So I wanted to thank you for that.

I do appreciate just looking at it from a local perspective. The portside and border inspections that you've been doing in those communities are really appreciated. And to add to Dr. Balmes statement, the 617 committees are really appreciative of that and that gets reported to them, so -- as I'm sure you know. I also wanted to point out that the partnership with the San Diego APCD on truck inspections is really forward-thinking, I think, and I'm glad that it's happening at other districts as well.

I would like to ask you if you have thoughts
about how community can participate better in that kind of inspection, because we have issues with, well, trucks actually being illegally -- illegally on residential streets. And so there's a truck ordinance -- truck route ordinance that isn't enforced, but then oftentimes they may be noncompliant trucks as well, in terms of CARB. So I'd love to ask you about that.

And then also in the vein of partnerships, I think the SEP model that you've put forward has been super helpful. I know that San Diego Air Pollution Control District has actually utilized that as a model and are moving forward with some SEPs of their own. I don't know if that's happening in other districts, but that seems like it's been super helpful, and something that I know they're -- they're expanding even further in the future.

And then lastly, I think the review that you're doing, which probably is news to a lot of folks, but this is connected to the transformation of the San Diego Air Pollution Control District. When AB 423 was moving through the legislature and we realized that we really wanted to take a look at the performance of San Diego Air Pollution Control District, we were going to include it, and we included it there.

And so it's a provision of that bill. And I'm -- I know that the Air District is taking it really
seriously. It's a brand new board and they're very excited about having your thoughts about it. So I think that's really helping them to remake the air district. And I just -- this is going to age me just a little bit, but there was a CARB audit that happened in like 2003, or 4, or something like that, and that's something that was in the library that we were able to take a look at, and has been useful all these many years. And I know this one will be as well.

So gratitude and any thoughts you have about community participation on the inspections would be helpful.

ED ASSISTANT DIVISION CHIEF QUIROS: Thank you for your comments. Regarding community inspections, yes, absolutely. That is something that in these pilot communities that we're doing this sort of new approach. We are actually engaging their assistance in a lot sort of new and different ways for us such as truck counts and things of that nature. And so that is something that we are looking to include as we expand this approach into other communities, including the portside and border communities.

BOARD MEMBER DE LA TORRE: Thank you, guys. You're absolutely stellar in what you're doing out there. I -- you know, we get so many -- we all get so many
compliments about what -- what you do on the day-to-day basis. I will repeat what two of my colleagues said about the AB 617 work, phenomenal. Exactly what we wanted to do there which is to replicate good programs in these places. And you're -- you're a big part of that.

A little bit of a complaint. I appreciate that the complaint form for smoking vehicles has been simplified again. It was simple, then it got complicated and now it's simple again. Thank you. Many a time I've used that. We need to hype it more. On our homepage for CARB, it's not there. So, if I'm, you know, Joe Public, and I'm on the 710 Freeway, and there's some big smoking truck going by, and I, you know, take a picture of the door that has the information for whose company it is, and it has the DOT number on it, which I do, then, you know, it's easier for me to do that if I can just go straight to the homepage and click a link and give you that information.

And I know it says, and I know the process, they get a courtesy letter telling them that they were -- because you can't do it from third parties, but do you put them on some list as a result of that or any kind of follow up for any kind of enforcement or does -- is the courtesy letter it, especially now that we have the Smog Check Program.
ED ASSISTANT DIVISION CHIEF QUIROS: Yeah, on the courtesy letter, we do. We do incorporate that. So we try to identify noncompliance and sort of triage the -- prioritize, I guess, who we go after with our resources. And so yeah, the type of information gets included. We try to send the letter just to give them sort of a notification --

BOARD MEMBER DE LA TORRE: Uh-huh.

ED ASSISTANT DIVISION CHIEF QUIROS: -- more immediately, if we can't get to them right away, but then we do include them in sort of our prioritization list.

BOARD MEMBER DE LA TORRE: Okay. That was my recollection was that they do get put on the naughty list besides getting that letter. But again, thank you so much. I -- you know the community really supports -- really is grateful. We're all grateful, so keep up the good work.

Thank you.

VICE CHAIR BERG: Well, I, too, want to add my congratulations, because as we talked about in my briefing, it -- enforcement I've really enjoyed working with the Enforcement Division for many years. Appreciate Todd Sax. Appreciate all of you. And I really also echo Dr. Balmes, change is really very evident.

But following up on Board Member De La Torre, you
know, you might want to meet on this inspection and maintenance. I think you have a real opportunity with the new database that's being built to be able to tag easier and see if a truck that has a lot of smoke is also complying with the inspection and maintenance. And maybe that is then a more streamlined ability for you to be able to help people be in compliance and taking care of those repairs. It is badly needed.

And then another thing we did speak about in our briefing was on the trucks for the communities, idling is also a big issue, but that wouldn't necessarily be picked up in a roadside inspection. And appreciate how you're trying to coordinate with the community. And that gets back to Board Member Takvorian, maybe there is something within the communities that we can help on that idling, because that is a complaint that I hear over and over again.

And then my third point is that, you know, you have been developing these agency partnerships. I remember when the Truck and Bus Rule that we didn't have a partnership with CHP for example and we had to develop that. They had all these roadside inspections, but we're a little -- saying well, I don't know that we want to take on the extra work of enforcing CARB. We did a lot of joint work together. That was impressive. You know, we
might want to try that with some of the oil and gas that
you're out and looking at these neighborhoods, these oil
wells, making sure the leaks and some of the emissions.
So that was just an observation.

And I really appreciate Cynthia calling in today.
I had an opportunity to meet her on our last EJ site tour.
And she was explicitly very pleased with this turnaround
and the involvement. And she -- it was really -- it was
great to hear, because enforcement does take a long time.
There is not only the due diligence, but there's process.
There's legal process. And so from start to finish, we
need to follow the process and it's great that you can
interact with the communities to explain the process,
because it doesn't mean that you see something one day and
the fine goes out the next day. You've got to -- you've
got to work the process. So thank you so much for that
and great job.

CHAIR RANDOLPH: All right. Any other -- oh,
Board Member Kracov.

BOARD MEMBER KRACOV: Yes. So thank you very
much for the presentation. And, you know, excited about
the focus on the disadvantaged communities and the 617
work. It really seems to me to be a pretty elegant
solution. You have the communities there attending the
meetings. There can be a dialogue back and forth about
what issues, whether they're mobile or stationary are important to them. You've got the districts there. And, you know, we have decided that these are the priority communities for these kind of local actions. So us being present there and listening to the community.

You know, helping I think is one of the many ways when we're trying to deliver value through the 617 program to these communities. So I think this is a really strong innovation and I look forward to hearing more from you folks about how it's working, and also from the communities and the districts, and for that matter regulated industry as well. So thank you for that.

I know we talk about the PEAQS devices there to monitor the emission from the mobile sources. And picking up on what Vice Chair Berg just had to say, you know, between the truck and bus phaseout, between, you know, I&M, you know, there's a lot of work to do in this space. And I think the enforcement group here is really going to be important in that, not to play gotcha with industry. We're trying to get folks in compliance, but I think the PEAQS -- and I know we're spending a lot of effort on getting those deployed perhaps in San Diego, but really in the San Joaquin Valley. Again, working with the harbor truckers, really with the focus on compliance and education.
I'd love to see one of those just camped out permanently on the 710 Freeway, you know, at the ports. Driving up and down that 710, the amount of trucks, the congestion, the need for compliance is just obvious for anybody that lives in Los Angeles.

So, you know, think about that, but -- and again in a way that's constructive, working with industry, and educating the trucking community on what are the different things that we need as a state to get to compliance in the heavy-duty sector.

The third thing, too, you know, I know that working with the local agencies and the districts is not always easy. And, you know, I believe that there are good strong relationships there. And as Board members it's not our role to get involved there and you don't want to kill a mosquito with a sledgehammer, but we are here, you know, as appropriate, whether it's Davina in the Bay Area, or, you know, myself, you know, the five or six of us, Barbara, Nora, Tania, Phil, who represent the districts. If you need our help in communication with the districts in the appropriate time to make sure that our efforts are delivering for the residents of the state, you know, don't hesitate to call on us and we'll try to be constructive in those relationships knowing that, you know, sometimes it can be a bit challenging. So I wanted to make that offer
as well.

And thank you for the presentation today.

ED ASSISTANT DIVISION CHIEF QUIROS: Thank you for that and for all the comments so far.

Thank you.

VICE CHAIR BERG: And I'm just going to mention, Mr. Segall that I did hear the comment from Tom Krazen, and I'm sure we'll be taking a look at that, and so thank you very much.

DEPUTY EXECUTIVE OFFICER SEGALL: Correct.

CHAIR RANDOLPH: Thank you so much for the presentation. I agree with all of the comments, particularly about working with communities. And I also wanted to highlight the creativity around trying to harness new technologies and new opportunities for enforcement strategies. So really appreciate that forward-thinking creativity.

So with that, thank you very much. Appreciate the presentation. And obviously we don't have a vote, because this is just an update. But thank you and looking forward to hearing the report next year as well. And now we have open public comment.

BOARD MEMBER TAKVORIAN: Chair.

CHAIR RANDOLPH: Oh, sorry.

BOARD MEMBER TAKVORIAN: I'm sorry.
CHAIR RANDOLPH: Oh, no, no. That's okay.

BOARD MEMBER TAKVORIAN: I should have asked you on the said. Not related. Thank you so much.

I just had one comment I wanted to make before we went to public comment, because I have to run to the airport. Would that be okay?

CHAIR RANDOLPH: Yes.

BOARD MEMBER TAKVORIAN: And it's -- I just wanted to really acknowledge CARB the Monitoring and Laboratory Division, the Air Quality Planning and Science Division, and the Research Division, you all may remember that in July of 2020 we had a horrific fire on the Navy ship, which burned for four days. And it was not well monitored and the response wasn't great. It really exposed. It was right there on the portside communities, West National City, Barrio Logan, the entire south bay was really inundated with the smoke.

So we asked would CARB please take a look at the protocol and the response, and they did. There's been multiple public meetings and they issued the report in May. It's excellent. We really, really appreciate the work that CARB did to really help us to come to a better place with response. We have a very industrialized waterfront in the south bay. And I know many other places have it as well. So hopefully, it's advanced our ability
to respond to these kinds of emergencies.

I just wanted to put it on record that we really appreciate it and it's part of us moving forward in a very effective way. So I just wanted to thank everyone and please pass that along to the -- to the folks who've done all this good work.

Thank you.

CHAIR RANDOLPH: Thank you so much.

Okay. Now, we have public comment on items that not on the agenda for the two-day meeting.

Clerks, please call the commenters.

BOARD CLERK GARCIA: Yes. We have three commenters who wish to speak at this time.

That's Todd Campbell, Sean Edgar, and John Bottorff.

So, Toddy, I have activated your microphone. Please unmute and begin.

TODD CAMPBELL: Thank you, Madam Chair and members of the Board. I wanted to congratulate you on concluding a very long two-day Board meeting, but I'm also very upset. I'm upset because I've complained about and have been very concerned about Craig Segall's constant discussion about a study -- and in-use study for low-NOx trucks that has not been concluded, has not been able to be peer reviewed. We have not been able to review the
data. We don't know really what exactly he's talking about in terms of what the emissions are with the low-NOx truck.

But as you know, I've talked to you about this at the toast of the Coalition -- at the Coalition for Clean Air feeling it's very unfair. I feel like it's -- you know, like when I was a council member in the City of Burbank, so when, you know, basically say to you when was the last time you beat your wife. It's really unfair to make comments and to create damage for an industry, especially one that's trying to clean up the air without being presented the facts without being presented the data.

So if we're going to continue to talk about it, share the data with us, give us the study so that we can comment. Let us review what you're talking about. From my understanding from the South Coast, you are overstepping and inflating a study that has not been peer reviewed and it's disgusting. So I would kindly ask this Board to make Mr. Segall make a choice, either stop talking about it until you release it to the public and allow us to review it or provide us with the study. Otherwise, it's super unfair to an industry that's trying to do the right thing and help the Air Resources Board and this State meet its air quality and climate change goals.
And with that, I'm sorry to end a meeting like that -- on that note, but it's -- it's enough. At this point, it's just -- it's gotten enough and it's incredibly frustrating for us to have to sit there and take it. It's been like a campaign by him, and, you know, whoever else on staff for almost a year now, and we still haven't seen the study. It's not fair. Something needs to change and I hope this Board demands that we be able to see what he's talking about.

Thank you.

BOARD CLERK GARCIA: Thank you.

Sean, I have activated your microphone. Please unmute and begin.

SEAN EDGAR: Hi. Good afternoon. How is my volume?

BOARD CLERK GARCIA: Sounds good.

SEAN EDGAR: Great. Thank you very much for this opportunity to speak a little bit about the Advanced Clean Fleets proposal. For the record, I'm Sean Edgar. I'm the Director of Clean Fleets. Our organization has been working with CARB staff for the last 22 years on implementing the Diesel Risk Reduction Plan. And I've been working on CalEPA in multimedia issues for 31 years. And so the conversation about satisfying multiple requirements to improve the environment is something that
our firm has worked on. And as part of the Edgar Institute, we also are privileged to represent the California Compost Coalition. And the conversation yesterday was very refreshing to hear that compost is valued, to hear that natural and working lands are valued.

And I'll just take a few minutes to concentrate -- and I appreciate Board Member Kracov and also Board Member Sperling punctuating that the waste industry is in a unique position to help on early reductions using renewable natural gas and has some early adopter strategies that we hope to continue in dialogue with the Board.

But just the key items just to refresh the Board. CARB has had no better friend than the solid waste collectors that our group works with. And what I mean by that is for well over 20 years, the solid waste industry have been pioneers in advanced technologies, huge, huge investment, especially in renewable natural gas projects. As I was reflecting on yesterday's discussion, if there is a -- you know, medical diagnosis as the Board was going through -- and Dr. Balmes did a good job talking about health effects, but if I were to try to dissect some of the Board testimony particularly yesterday, if -- if we've got the left hand in a way of the political spectrum fighting with the right hand of the political spectrum.
And I'm not sure whether CARB is in the position to have to do brain surgery or heart surgery, but the folks I work with I consider more like the big toe. And what I mean by that is it's things that you do not think of very often, until you've got a problem with it. So as the big toe, the solid waste industry consistently delivers emission reduction programs to you, because you're our customer. Your roll your carts out to the curb every week. We send a guy along in a really expensive truck to pick up your waste. And then more and more occasions, we're converting your waste into transportation fuel.

And so I'm excited of the discussion earlier today. I'm encouraged as we get to the ACF discussion. We've constantly reminded your staff that we merit a transition plan for renewable natural gas burning fleets. I was encouraged by the discussion earlier today, that that looks like that discussion should continue. And I engage in that conversation as soon as staff is ready.

Thank you.

BOARD CLERK GARCIA: Thank you.

After John, we'll hear from Suzanne Hume.

So John I have activated your microphone. Please unmute and begin.

JOHN BOTTORFF: Yes. Thank you very much. Chair
Randolph and Board members. My name is John Bottorff with CleanEarth4kids.org. I wanted to make a few points.

First, we must quickly move to energy that does not burn anything. Replacing air pollution from the burning of fossil fuels with air pollution from burning biofuels is not an option. We must transition to clean renewable energy very quickly. We must only invest in clean renewable energy. The work by researchers like Mark Z. Jacobson from Stanford make it very clear that we already have the technology we need to completely transition from fossil fuels. We just need to do it.

Technologies like direct air capture are not needed and waste money and valuable resources away from proven methods. Now, one thing I have not heard anyone speak of, is that it is not realistic that we can safely store large amounts of CO2, which is a dangerous gas.

Carbon dioxide is an asphyxiant that displaces oxygen. Even small exposure to access CO2 can cause coughing, shortness of breath, increased heart rate, dizziness, headache, nausea, lack of concentration, disorientation, and impaired cognitive performance. At higher levels, it can cause convulsions, coma, and death.

CO2 is corrosive and will eat through the steel used in Petroleum pipelines. CO2 pipelines would also have to run at significantly higher pressures than natural
gas pipeline, increasing the chance of leaks. Reusing pipelines would be a disaster in the making. The fossil fuel industry says CO2 storage and transport is safe and a great solution, because it makes them money and extends their monopoly on energy. This is the same industry that still insists fracking is safe. They demonstrated a long history of leaks from every thing they do, like the Huntington Beach pipeline. And, of course, we all remember the massive methane leak at Aliso Canyon, so many more leaks and spills, the same type of -- doing the same type of thing with carbon dioxide is a disaster.

We must also transform the agricultural sector. Some of you -- several of you mentioned that. I ask California to set high goals and push to meet them. Conventional farming relies on synthetic pesticides, which destroys all the organism in healthy soils, stopping the land from absorbing carbon. Healthy soils must be a major part of CARB's plan and that means stopping the use of synthetic pesticides. Considering the vast majority of synthetic pesticides come from fossil fuels, it also will be greatly reducing the use of fossil fuels and depends on it.

Please set a goal of 50 percent of all agricultural land being organically farmed by 2030 and set a goal of 70 percent reduction of synthetic pesticides by
2030. The time for playing it safe is long past. We are in a climate emergency and we must take bold and strong action quickly and immediately. Our window is closing. We must focus on human health and protecting lives instead of profits.

    Thank you from CleanEarth4kids.

BOARD CLERK GARCIA: Thank you.

Suzanne, I've activated your microphone. Please unmute and begin.

SUZANNE HUME: Thank you so much. Good afternoon. My name is Suzanne Hume and I'm the Educational Director and founder of CleanEarth4kids.org. Thank you to the Board, and the staff, and everyone out there working for clean air for public health, environmental justice protection of our environment and taking action so our kids can have a livable future.

Today, we were hoping -- hoping to listen in on a conversation dedicated to public health, the public health section specifically, and listening to important benefits of reducing fossil fuel pollution, toxic chemicals and synthetic pesticides by 2030. In the plan, these are not fleshed out or stated clearly enough with health models at all. We must have this conversation. We're looking forward to attending that.

We must have the public health focused
conservations to -- about eliminating pollution and
decarbonization, and stopping these toxic chemicals and
pesticides.

These -- we're not just stalking about numbers of
lives saved, we're talking about actual people here,
children, moms, dads, aunts, uncles, grandmas and
grandpas, and teachers like me. I was poisoned by
pesticides used by an agricultural farm a hundred feet
from where I lived and where people still live on three
sides.

Legal is not safe in the United States. As you
know, the U.S. only bans 15 pesticides China bands 51, and
the EU bands 175 pesticides. As you know that between
2011 and 2018, over 89 percent of our pesticide testing
was waived, and they didn't have to do. For more
information, we have it on Team 5 CleanEarth4Kids and
Intercept has a nine-part article on the specifics of
this.

So we've done a lot of research. I had some
time. I had to leave my teaching job, because I was so
sick. And there's a lot to talk about and do. But that
piece that was missing in the public health section, I
mean, it -- you can just do F7, right, and look for the
word "pesticides", and you will be heart broken, because
there's like hardly anything there.
So we know that, you know, how many millions of pounds in California, over 200 million pounds of pesticides were used in 2018. And we've got kids. You know, that it's legal in California for kids to work in agricultural fields. And CDPR is not doing what they need to do whatsoever. And you know how chemical insiders sit on local State and federal agencies and on boards, and it's really just tragic.

So I would ask everyone to please dig in and work to protect our kids and protect them from synthetic pesticides.

Thank you.

BOARD CLERK GARCIA: Thank you.

And that concludes the commenters for open comment.

CHAIR RANDOLPH: Thank you.

This meeting is now adjourned.

(Thereupon the Air Resources Board meeting adjourned at 3:03 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 17th day of July, 2022.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063