

MEETING

STATE OF CALIFORNIA

AIR RESOURCES BOARD

ZOOM PLATFORM

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

BYRON SHER AUDITORIUM

1001 I STREET

SACRAMENTO, CALIFORNIA

FRIDAY, JUNE 24, 2022

8:30 A.M.

JAMES F. PETERS, CSR  
CERTIFIED SHORTHAND REPORTER  
LICENSE NUMBER 10063

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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PROCEEDINGS

1  
2 CHAIR RANDOLPH: Good morning. The June 24th,  
3 meeting of the California Air Resources Board will come to  
4 order. This is the second day of a two-day meeting. And  
5 I just wanted to take a moment again to thank our audio  
6 visual staff, our -- the BARCU staff, our clerk, and the  
7 translators and the court reporter for all of the hard  
8 work you all did yesterday. It was a very long day and  
9 really appreciate that.

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

25 (Applause)

1           CHAIR RANDOLPH: Thank you. You guys are  
2 awesome.

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

17           But it is important to recognize that the State  
18 of California is working hard and it's doing it -- it's  
19 doing it -- let me put it this way. We cannot do it  
20 alone, right? We are one state in a large country. We  
21 have many states that are our partners work closely with  
22 us. We have states that are trying to stop us. We have  
23 states that are going to court and trying to stop us. We  
24 have a federal government that is sometimes supportive,  
25 sometimes overtly hostile.

1           So California has a lot to do and we need to all  
2 do it together, and we need to do it in a way that is  
3 strong and can be implemented. So I really look forward  
4 to the discussion for ways that we can improve this plan  
5 and ways that we can go forward and do the work we need to  
6 do as a state.

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

17           Okay. With all of that --

18           (Applause)

19           CHAIR RANDOLPH: Let's clap for that too.

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

23           BOARD CLERK ESTABROOK: Excuse me, Chair.

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

25           BOARD CLERK ESTABROOK: Just the agenda order for



1 today, we need to call roll and go over some of the  
2 housekeeping items.

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

5 (Laughter)

6 CHAIR RANDOLPH: I just rolled into the second  
7 day.

8 (Laughter.)

9 (Multiple voices)

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

13 BOARD CLERK GARCIA: Dr. Balmes?

14 BOARD MEMBER BALMES: Here.

15 BOARD CLERK GARCIA: Mr. De La Torre?

16 Mr. Eisenhut?

17 Senator Florez?

18 BOARD MEMBER FLOREZ: Here.

19 BOARD CLERK GARCIA: Assemblymember Garcia?

20 Ms. Hurt.

21 BOARD MEMBER HURT: Present

22 BOARD CLERK GARCIA: Mr. Kracov?

23 BOARD MEMBER KRACOV: Here.

24 BOARD CLERK GARCIA: Senator Leyva?

25 Dr. Pacheco-Werner?

1 Mrs. Riordan?

2 BOARD MEMBER RIORDAN: Here.

3 BOARD CLERK GARCIA: Supervisor Serna?  
4 Professor Sperling?

5 BOARD MEMBER SPERLING: Here.

6 BOARD CLERK GARCIA: Ms. Takvorian?

7 BOARD MEMBER TAKVORIAN: Here.

8 BOARD CLERK GARCIA: Supervisor Vargas?  
9 Vice Chair Berg

10 VICE CHAIR BERG: Here.

11 BOARD CLERK GARCIA: Chair Randolph?

12 CHAIR RANDOLPH: Here.

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

15 CHAIR RANDOLPH: Okay. All Right. Sorry.  
16 Housekeeping. We are conducting today's meeting in person  
17 as well as offering remove options for public  
18 participation both by phone and in Zoom. Anyone who  
19 wishes to testify on a Board item in person should fill  
20 out a request-to-speak card available in the foyer and  
21 turn it in to a board assistant prior to the commencement  
22 of the item. If you are participating remotely, you will  
23 raise your hand in Zoom or dial star nine, if calling in  
24 by phone. The clerk will provide further details  
25 regarding how public participation will work in a moment.

1           For safety reasons, please note the emergency  
2 exit to the rear of the room through the lobby. In the  
3 event of a fire alarm, we are required to evacuate this  
4 room immediately and go down the stairs to the lobby and  
5 out of the building. When the all-clear signal is given,  
6 we will return to the auditorium and resume the hearing.

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

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

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

25           I want to remind all of our speakers to speak

1 slowly and pause intermittently to allow the interpreters  
2 the opportunity to accurately interpret your comments.

3 (Interpreter translated in Spanish)

4 (Interpreter translated in Cantonese)

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

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

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

24 To make a verbal comment, we will be using the  
25 raise hand feature in Zoom. If you wish to speak on a

1 Board item, please virtually raise your hand as soon as  
2 the item has begun to let us know you wish to speak. To  
3 do this, if you are using a computer or tablet, there is a  
4 raise hand button. If you are calling in on the  
5 telephone, dial star nine to raise your hand.

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

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

15 During your comment, please pause after each  
16 sentence to allow for the interpreter to translate your  
17 comment into English. When the comment period starts, the  
18 order of commenters will be determined by who raises their  
19 hand first. I will call each commenter by name and will  
20 activate each commenter's audio when it is their turn to  
21 speak. For those calling in, I will identify you by the  
22 last three digits of your phone number. We will not show  
23 a list of commenters, however I will be announcing the  
24 next three or so commenters in the queue, so you are ready  
25 to testify and know who is coming up next.

1           Please note, you will not appear by video during  
2 your testimony. I would also like to remind everyone to  
3 please state your name for the record before you speak.  
4 This is especially important for those calling in by phone  
5 to testify on an item.

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

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

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

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

25           CHAIR RANDOLPH: All right. Thank you. And I

1 will just remind folks again that yesterday's item, the  
2 public comment is closed, so will be doing Board  
3 discussion and then we will be moving on to the Regional  
4 Haze State Implementation Plan agenda item, which we will  
5 be taking public comment on and then we also have open  
6 public comment.

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

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

25 Okay. So I thought we would start with

1 transportation. That's obviously a big topic, right?  
2 We're talking about new technologies, zero-emission  
3 vehicles. We're talking about sustainable transportation.  
4 How do we reduce vehicle miles traveled? How do we  
5 encourage more sustainable mobility? We are also talking  
6 about the fuels that we use to power sources of  
7 transportation.

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

13           Okay. Board Member Takvorian, you're on.

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

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

22           And I want to express huge gratitude to the EJAC.  
23 I don't know how many dozens of meetings and I'm deeply  
24 appreciative of all of the work that you've done. And I  
25 know that, you know, more than anyone, you all are feeling



1 what our communities are feeling, and that is not just the  
2 climate crisis, but the health crisis that we're in.

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

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

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

19           (Laughter.)

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

1 say how we're going to get to the State goals.

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

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

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

25           I'd like to the see that in the plan to see how

1 do we get to accelerated ZEV sales 75 percent by 2030 and  
2 a hundred percent by 2035 as one of the things -- and,  
3 Chair, I just want to make sure we're making a list of  
4 things we want to see modeled, right? I'm not asking...  
5 I'm just saying it's partly like what our perspectives are  
6 about what would be useful, but also what we'd like to see  
7 modeled that we need more formation about, so that we can  
8 make a better decision in the future.

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

13 BOARD MEMBER TAKVORIAN: Okay.

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

20 BOARD MEMBER TAKVORIAN: Okay.

21 CHAIR RANDOLPH: So I think you get it.

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

1 percent by 2030 and 100 percent by 2035?

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

4 Good.

5 (Laughter)

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

21 I felt like there was -- I have to say in  
22 Alternative 1, there was an exorbitantly expensive early  
23 vehicle retirement program that was proposed. I'd like to  
24 see comparing the costs of buying back all of those fossil  
25 fuel vehicles to direct investments in mass transit, which

1 I don't think were modeled. If we spent that money to  
2 support mass transit, how would that -- how would that  
3 play out in terms of GHG reductions and air pollution?

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

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

20 So I think on the heavy-duty side, I know that  
21 we're working on ACF. I think again I want to see us  
22 supporting those local governments that are moving  
23 forward. So, for instance, I saw that the Port of San  
24 Diego has a Maritime Clean Air Strategy with a goal of a  
25 hundred percent zero-emission drayage trucks by 2030. So

1 how do we support those kinds of programs? If local  
2 governments are stepping up and say they want to do it,  
3 then how do we support that and how do we create a  
4 structure that allows that would -- that would be able to  
5 be accomplished?

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

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

14           Thank you.

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

18           BOARD MEMBER TAKVORIAN: I recall it's 12.

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

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

24           CHAIR RANDOLPH: Okay.

25           BOARD MEMBER TAKVORIAN: -- because I want to

1 make sure that I'm -- I've got 16 numbers in front of me,  
2 so give me a minute.

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

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

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

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

18 In terms of looking at the ACC II with the 25  
19 percent -- or the 75 percent in 2030, 100 percent in 2035,  
20 I think we can do that without doing any modeling. We can  
21 do an analysis of that across the work that was done to  
22 support the regulation, ACC II, and the modeling data that  
23 we already have from the Scoping Plan, because we look at  
24 a range of VMT already, so we have that -- those  
25 spreadsheets available to us, so we can do that.

1           The detailed cost across transit versus  
2 retirement of early vehicles, that's a little bit of a  
3 challenge, because the model itself does not have that  
4 level of dis -- disaggregated inputs in it and it's hard  
5 for us to figure out where that transit would be, the  
6 estimated miles that would be associated with it in terms  
7 of moving from one mode of travel, which is single vehicle  
8 occupancy to a mass transit system. We can go back and  
9 look at that and see if can try and find some kind of  
10 analysis related to it, but it's probably not going to be  
11 part of the modeling either. So we will do our best to  
12 try and answer that question.

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

24           But we will do our -- we can do our best to try  
25 and see if there's anything out there to pull a discussion



1 together, as part of a final plan. In the least bit, we  
2 can actually talk about directionally what it might look  
3 like if we do some of these -- if we were to look at some  
4 of these options of putting more transit out there and  
5 increasing that VMT target. Now, increasing the VMT  
6 target for the modeling itself.

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

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

1 on that on the chances of actually hitting it.

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

4 DEPUTY EXECUTIVE OFFICER SAHOTA: Sure.

5 BOARD MEMBER TAKVORIAN: Thank you.

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

9 DEPUTY EXECUTIVE OFFICER SAHOTA: That's right.

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

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

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

18 BOARD MEMBER TAKVORIAN: I guess I'm asking  
19 because you just said it's difficult to do that. So just  
20 to be clear, what I'm asking for is 25 percent below 2019  
21 by 2030 and 30 percent below 2019 by 2035. So I just want  
22 to -- I'm just putting the context out there. I want to  
23 hear what -- what -- how you got there, so that we can  
24 understand why then you're saying those aren't reliable  
25 numbers, which is kind of what I heard -- I thought I

1 heard you say.

2 DEPUTY EXECUTIVE OFFICER SAHOTA: Oh, no, 12 and  
3 22 is based on a discussion with the staff on SB 375. We  
4 think those are ambitious numbers and we -- even -- even  
5 with those numbers, we think there's going to be a  
6 remaining challenge, because we hardly ever meet our -- I  
7 don't recall a time we've met our VMT target from the  
8 Scoping Plan. We can increase it. We can increase those  
9 and we can work with Craig's team to figure out what those  
10 policies could look like, but the uncertainty increases  
11 even more when you try to increase the ambition on VMT  
12 reduction.

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

16 So on VMT, we recently came out with our draft SB  
17 150 assessment report. This is how we track how we're  
18 doing. And what it says right up front is that we've  
19 generated some really good plans that we've failed, we  
20 collectively California, to fund. So, for instance, in  
21 San Diego, we set a target for SANDAG, the planning  
22 organization there, of a 15 percent reduction in VMT by  
23 2020 and a 19 percent reduction in 2035.

24 VMT in San Diego is actually reduced to three  
25 percent. That is consistent across all the larger

1 regions. It's down to about one percent in the Bay Area  
2 and this is 2019, which is our most recent data, you know,  
3 four percent in LA.

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

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

21           The strategy identifies in both a Scoping Plan  
22 appendix and in the SB 150 report a range of things we  
23 affirmatively can do, you know, including things like  
24 transit funding, free transit, et cetera, all of which I  
25 agree with are important to explore.

1           Some of them require administrative coordination,  
2 some of them require legislation, and we should just be  
3 frank about that, that as we set stronger targets, the  
4 really key thing, and we were trying to focus, is direct  
5 implementation, because otherwise you have to have strong  
6 targets.

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

16           Finally, on local government, you asked we --  
17 that's another appendix we've worked on and we're in  
18 really close partnership with local governments. The  
19 really key thing is helping them build to do the right  
20 things. You know, it really, you know, Zone for  
21 affordable housing, provide chargers in apartment  
22 buildings. Build the facilities you need to move forward  
23 on generation and everything else. And we're trying to  
24 clear the way for them through whether it's environmental  
25 permitting review or other layer I can partner with them

1 on that. I just think it's really, really important to  
2 help them join us, because this whole project needs to be  
3 across all levels of government. So that's a strong  
4 component of the plan we worked on with Rajinder's team  
5 that I think is central.

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

18           Finally, I just want to note that in terms of  
19 overall transportation system planning and incentives,  
20 obviously do not intend. It is clearly far more cost  
21 effective to improve the transportation system than to buy  
22 back every internal combustion car in California. And  
23 that is, of course, where we're focusing. So you see  
24 pivots toward helping lower income folks into cars, you  
25 know, statewide Clean Cars 4 All, pushing down income

1 limits in the Clean Vehicle Rebate Program, looking at  
2 smaller fleets in all the trucking programs, and expanding  
3 into transportation incentives while partnering whether  
4 it's with housing -- with the Housing Department, and the  
5 Strategic Growth Council, or in transportation with the  
6 Transportation Agency, really, really focused on aligning  
7 not just our money, but State budget priorities in general  
8 in that direction.

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

17 So I appreciate that I think -- I don't want to  
18 put words in your mouth, but I think you're saying we set  
19 these ambitious goals, which is what we need to do to  
20 achieve our climate goals and we didn't achieve them  
21 because we didn't fund them properly. And I -- I want to  
22 acknowledge, I think it's tough, because we're a car  
23 culture, right, and we know how to buy cars, so we know  
24 how to help people buy cars. What we don't know is how to  
25 help people change the culture, so that they are able to

1 ride public transit in a way that's economical, and  
2 equitable, and efficient for them to get to work, and to  
3 school, and wherever they need to go. So I appreciate  
4 what I think I hear you saying, which is we need to work  
5 on that more.

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

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

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



1           Thanks.

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

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

6           (Laughter.)

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

17           And I don't -- I understand why we don't want to  
18   rely on natural gas heavy-duty vehicles, because they'll  
19   be around for a long time, but I still think we have an  
20   issue with diesel emissions in the short term.   So what  
21   all I'm requesting, and it's really not a change to the  
22   Scoping Plan necessarily, but I think we need to have a  
23   good discussion about the near-term transition.   And this  
24   is to particularly protect low-income communities of color  
25   that get the most exposure to diesel.

1           You know, I studied diesel pollution -- diesel  
2 exhaust pollution on kids and we have to get rid of  
3 diesel -- dirty diesel. And I just -- when Cummins tells  
4 me that they can't come up with the claim dirty -- the  
5 clean diesel in a short time frame that we expect to be  
6 out there, I worry.

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

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

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

19           And so then it calls into question what does this  
20 sector look like in terms of a transition? How does that  
21 map to the energy source, the reliable energy source that  
22 we want to move to. And on that piece, I think that for  
23 transportation, you're right, we don't want to put more  
24 things out there that we know are not the ultimate  
25 solution.

1           We know we have the ZEV Executive Order that is  
2 pushing for, you know, zero-emission vehicles in heavy  
3 and medium space everywhere feasible by 2045. We know we  
4 have the State Implementation Plan to meet air quality  
5 targets, where we have to keep pushing on the sector. But  
6 we also have some transition fuels today that can help be  
7 that near-term bridge that don't actually require you to  
8 put technology on the streets today or fund something like  
9 CNG, because you can have renewable diesel, which does  
10 deliver significant benefits and it's a drop in fuel, and  
11 there are refineries that are trying to move into that  
12 space, so they can produce that clean fuel because we're  
13 going to be in that liquid fuel for a while. So -- so  
14 there are solutions for this transition, but everything  
15 you said about, you know, how -- what does it look like,  
16 what's the time period, how do we avoid trans -- stranded  
17 assets. That applies almost across every sector that  
18 we're looking at right now.

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

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

23           DEPUTY EXECUTIVE OFFICER SEGALL: And a few  
24 points on the diesel piece, Dr. Balmes. So the first  
25 thing is to say is, on course, we need to get rid of

1 diesel trucks. We also need to get rid of combustion  
2 trucks generally. So just a few points here.

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

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

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

22 CHAIR RANDOLPH: Okay. I'm going to interrupt  
23 here, because I -- I appreciate your point, Dr. Balmes. I  
24 think it's a great point and you guys have hit some really  
25 key points, but I want to try to stick as much as possible

1 to the Scoping Plan itself. So when I hear the phrase,  
2 I'm not sure it needs a change in the Scoping Plan, I  
3 think we should set it aside, so that we stay focused on  
4 the -- on the Scoping Plan.

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

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

9 All right. Dr. Sperling.

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

12 (Laughter)

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

15 (Laughter)

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

25 Well, let me jump right in. So I think it's --

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

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

24 Now, if we're going to double it, it's just a  
25 huge cost. And so -- okay, one more thing on transit, not

1 to -- not to trash transit, but we need to be realistic  
2 about what we can do. And right now, transit is going to  
3 fall off a cliff. It's been declining. It's been kept  
4 alive the last couple years because of massive additional  
5 federal subsidies that are going to disappear. We're  
6 going to be lucky if we can keep transit. And I'll call  
7 it legacy transit where it is.

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

16           But, you know, that's not what CARB is going to  
17 do. So, you know, Jen Gress's groups is -- you know, is  
18 working on this. And I think we need to support that, but  
19 mostly it's signaling and encouraging other agencies. And  
20 where Board Member Takvorian is exactly right is we need  
21 to encourage and support local governments much more.  
22 That's where a lot of the action is. It's not at the  
23 State level when we talk about VMT with a couple of  
24 exceptions, and that is we should be continue to encourage  
25 CalSTA and Caltrans to not put money into expanding

1 roadway capacity and to use it for like bike  
2 infrastructure, to use it for ways of encouraging more  
3 pooling, more -- better utilization of vehicles.

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

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



1 going to talk much about anything else. So this is my  
2 piece here.

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

19 Okay. That was both the hard and -- part and the  
20 longest part, because I think the vehicles and fuels part  
21 is really well done here. The -- actually, I think on the  
22 vehicle side, I -- I mean, we're doing it all. I don't  
23 even know if there's much to say on vehicles. We're  
24 putting in place the ACC II, you know, okay, maybe someone  
25 is, you know, there might be some minor tweaking, but I

1 think it's pretty clear the staff proposal is about what  
2 we're going to do and I think that's what -- it is what we  
3 should do, if only because we don't -- as we talked at  
4 length, we don't want to scare off the other states. You  
5 know, because remember, what California does on climate in  
6 terms of in the state is almost trivial. It's -- but it's  
7 what we do as a leader and what we do that can be  
8 replicated.

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

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

23           All right. So I would say vehicles, you know,  
24 we're going to update the -- we're going to get the ACF in  
25 place. The fleets, that's going to be challenging and

1 we'll have to figure that out, but it's basically the  
2 structure we know what we want to do. And then the ACT,  
3 the next version, we're going to have to update, because  
4 it only goes to 2035. I think through 2035 it's good, but  
5 we do need to figure out how to get to, you know, a  
6 hundred percent or close to it after that.

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

25           And we heard a little bit of testimony yesterday

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

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

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

24 (Laughter)

25 BOARD MEMBER SPERLING: There's always one more

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

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

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

22 CHAIR RANDOLPH: Okay. Before I turn it over to  
23 Board Member Hurt, I just wanted to note really briefly  
24 the topics we're going to cover, because if people are  
25 thinking about how they want to orient their comments,

1 we're going to do transportation, we're going to do  
2 energy, we're going to do industry, which will include a  
3 discussion of CCS, we're going to do natural and working  
4 lands, we're going to do carbon dioxide removal,  
5 independent of facilities, and we're going to do  
6 short-lived climate pollutants, and then we'll figure out  
7 where to put health -- public health probably at the --  
8 maybe right after that one or at -- yeah, probably right  
9 after that one. So we'll do public health after.

10 VICE CHAIR BERG: Infrastructure goes in energy.

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

14 And then the other thing I would say is kind of  
15 in response to Dr. Sperling, I -- I -- I think we need to  
16 be clear about what the "we" is as we're talking, because  
17 I do -- I actually kind of disagree with you somewhat, Dr.  
18 Sperling, in the sense that I do think we still need to  
19 double down our efforts around transit, because that can  
20 integrate the more sustainable, you know, active mobility,  
21 and thinking of it in this systematic way. But we, at  
22 CARB, are not the ones who do the mass transit, sort of  
23 investments. And so I think one opportunity for the --  
24 kind of the information Board Member Takvorian was talking  
25 about in the Scoping Plan is just to -- you know, there is

1 an opportunity to be very clear about, you know, what the  
2 costs are, what the benefits are, and as a signal to the  
3 larger "we", the Legislature, local governments, and the  
4 larger "we" that are making these investments. I just  
5 wanted to make that point.

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

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

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

18 CHAIR RANDOLPH: He said transit on its own.

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

22 CHAIR RANDOLPH: Right.

23 BOARD MEMBER TAKVORIAN: -- to the grocery story  
24 or kids to -- or school, that kind of stuff. So I just  
25 want to -- not arguing it at this point. I'd be happy

1 too, but I think I hear you saying, Chair, that's what  
2 needs to get modeled in terms of -- or discussed in terms  
3 of what -- how that will look, right?

4 CHAIR RANDOLPH: Right. Because I --

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

8 CHAIR RANDOLPH: Right.

9 BOARD MEMBER TAKVORIAN: Okay.

10 CHAIR RANDOLPH: Right.

11 BOARD MEMBER TAKVORIAN: Thank you.

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

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

16 CHAIR RANDOLPH: Right. Exactly. Yes.

17 Okay. Sorry. Board Member Hurt.

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

25 (Laughter)



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

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

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

25           DEPUTY EXECUTIVE OFFICER SEGALL: Let me speak a

1 bit to the rural areas point. So I think there's this --  
2 sort of this common misnomer that somehow we just can't  
3 make other electrification or transit work in smaller  
4 cities and places, and that's not the case.

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

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

25 BOARD MEMBER HURT: Yeah. I mean, I think we

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

10 DEPUTY EXECUTIVE OFFICER SEGALL: One thing we've  
11 tried to do in the local action appendix is really  
12 concretely identify both tools and resources to get it  
13 done for folks on all these fronts. And that's both  
14 information sharing and it's also about a resource  
15 management point. It's exactly your point, you know, when  
16 your entire transportation department has a name, you  
17 know, and it's like Betty, and she's doing her best and  
18 she's holding it together, it's really important that the  
19 State not to sort of say good luck, but instead provide  
20 direct resources and information in time. And part of  
21 that has also been streamlining, so you don't necessarily  
22 need, for instance, you know, a whole inventory before you  
23 can do climate action at the local level. So here are the  
24 things you can do, so we can help make clear are  
25 definitely environmentally consistent, don't require a

1 huge CEQA process, and can get going. So we're really  
2 trying to provide those tools and we're actively talking  
3 to a lot of local governments on this and would love to  
4 talk to more.

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

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

24 So we can try and do that. We can then try and  
25 map it potentially to other statistics about who is

1 generally in those income brackets when it comes to some  
2 of the census data that's collected as part of the normal  
3 census process. So we can go back and look at that and  
4 see if we can add in that additional detail.

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

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

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

22 BOARD MEMBER HURT: Well, I just heard that she  
23 could do that, so I'm looking forward to that. And I also  
24 know at the local air district, we do that when we have  
25 rule creation. And so I think there are more details we

1 can point out or pull out --

2 BOARD MEMBER BALMES: You can get down to the  
3 census --

4 BOARD MEMBER HURT: -- to understand that  
5 impacts.

6 BOARD MEMBER BALMES: -- census block, which is  
7 better, but --

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

15 CHAIR RANDOLPH: Okay. Excellent. Thank you.

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

20 And so one reason would be probably the most  
21 potent weapon are using incentives, and disincentives, and  
22 pricing and use -- you know, so any analysis you do -- and  
23 there's been a lot done already and there's lots of  
24 academic work tie to that. But, you know, let's not just  
25 do a sprawl, you know, analysis of everyone on everything.

1 Let's be strategic about it about it and use our resources  
2 well.

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

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

21 And then there's a lot of interest in increasing  
22 the stringency of the Low Carbon Fuel Standard, but also  
23 recognizing that we need to be careful about our feedstock  
24 strategy. And so when we -- when we look in -- when we  
25 unpack the LCFS that will be part of the discussion, I

1 think, that will be important to have.

2 Okay. Are we good with transit? Okay.

3 VICE CHAIR BERG: Can I just make one comment.

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

6 Vice Chair Berg.

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

23 Thank you.

24 BOARD MEMBER TAKVORIAN: No, I appreciate that,  
25 Vice Chair Berg, and I hope that it's not -- it's part of



1 the conversation, but that we're exploring alternative  
2 ways to actually do what Craig said, which is what's the  
3 way that we increase funding here? And, I mean, we --  
4 that's what we're about. And just because we haven't done  
5 it before doesn't mean we can't do it again. And I  
6 just -- I have to say equity, which I know is where we all  
7 are, but EJAC especially has focused on, so I appreciate  
8 you lifting that up, that's not in autonomous vehicles,  
9 I'm sorry, and single -- it's -- and it's not on bike. I  
10 love bikes. I think we should have bikes, but we need  
11 transit, because that's the culture our communities are in  
12 now. And if transit doesn't come for an hour, then  
13 they're late to work and they never get the better job.  
14 So -- so a big part of our culture is already there, but  
15 they're just not getting served. So thank you.

16 VICE CHAIR BERG: And I -- I just want to put the  
17 caveat. I agree -- I do absolutely agree from  
18 accessibility, but we also need to be real -- we have to  
19 be knowledgeable. I won't say realistic. We have to be  
20 knowledgeable where the legacy transit is and how  
21 vulnerable it is financially because we haven't been  
22 financially supporting it. So I don't want to go after  
23 something in a bubble that is -- we didn't address what  
24 was happening on the ground. So that's part of that  
25 greater discussion, where we realistically we are now

1 today in a legacy perspective and where do we want to be.  
2 And I just want to lift that up as -- I love that  
3 statement I've highlighted it that you said.

4 Thank you.

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

7 (Laughter)

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

20 BOARD MEMBER TAKVORIAN: I'm not turning my mic  
21 on. The whole country operates on a transit system that  
22 --

23 BOARD MEMBER SPERLING: It's not on.

24 BOARD MEMBER TAKVORIAN: I know I'm not turing it  
25 on, because I'm not really speaking --

1 (Laughter)

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

6 Okay. So did you -- oh, sorry.

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

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

25 And then the big one for goods movement is useful

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

7 Thank you.

8 CHAIR RANDOLPH: Perfect. Thank you.

9 Okay. Energy.

10 BOARD MEMBER HURT: Can I ask one more question.  
11 It's really quick.

12 CHAIR RANDOLPH: Yes.

13 (Laughter)

14 BOARD MEMBER HURT: Teeny tiny.

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

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

24 CHAIR RANDOLPH: Doesn't it vary wildly by  
25 community?

1           DEPUTY EXECUTIVE OFFICER SEGALL: This is pretty  
2 much where I'm going to go in a teeny-tiny response, which  
3 is it's really variable. And what people need more than  
4 anything else are, one, affordable cars, and two, lots of  
5 transit and transportation options. It varies by person.  
6 And the problem now is we lock people into depreciating  
7 assets, in the sense that the car is their only option,  
8 and that's a huge problem.

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

11           (Laughter)

12           BOARD MEMBER HURT: I just wanted that publicly  
13 said.

14           CHAIR RANDOLPH: All right. Okay.

15           Our next topic, which I hope will not take an  
16 hour and 15 minutes --

17           (Laughter)

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

20           BOARD MEMBER FLOREZ: I just have a per -- a  
21 question on this. So to the modelers, I'm looking at  
22 Alternative 1, Alternative 3 and then the EJ presentation  
23 yesterday. Is it fair to say, Madam Chair, maybe through  
24 staff, is this of the categories that you're going through  
25 today, we're kind of the closest on this. In other words,

1 it seems the time frame here is a 30, a 35, and a 45. The  
2 ultimately goal, I assume, is the Governor's Executive  
3 Order driving this.

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

11 (Laughter)

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

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

23 Another ask was to phase out oil and gas  
24 extraction and refining by 2035. Alternative 3, we still  
25 have legacy vehicles that need petroleum, which means we

1 still have some reduced need for activities on oil and gas  
2 extraction and refining. So those are probably the  
3 biggest places where they differ, the time frame, and then  
4 the fact that we will still have some combustion on our  
5 transportation sector, which means some production of fuel  
6 to support that demand in-state.

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

10 (Laughter)

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

18 So we need to be thinking about some key issues  
19 in this area. And I know there's a lot of conversation  
20 about accelerating targets and also how we address  
21 reliability. Reliability is not -- it's not some kind of  
22 luxury. It is fundamental to the operation of the system  
23 and it's fundamental to the public confidence in making  
24 the transition towards electric vehicles and electric  
25 appliances.

1           So can you -- I would love for staff to talk a  
2 little bit about -- you hit on this in your presentation.  
3 The modeling does show that there is a continued need for  
4 gas on the system, which was also consistent with a lot of  
5 the analysis that was done in the SB 100 report, even  
6 before we identified all these strategies that will  
7 increase reliance on the electricity grid.

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

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

25           DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. And the



1 electricity sector is quickly becoming one of my favorite  
2 sectors as well, because it is where we need to go. And  
3 if we are successful in getting that sector to where we  
4 need it to be, we turn off fossil energy in the system.  
5 And so for electricity in our modeling, it's the most  
6 we've ever pushed in terms of electrification in  
7 buildings, in industry, and in transportation.

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

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

1 can turn them on and off quickly. It's gas.

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

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

25           That means we're going to need more natural gas

1 capacity sitting on the side. That's what the model is  
2 showing. What it really is is indicative of the need for  
3 more dispatchable power or more storage so that anything  
4 that we didn't use earlier in the day is available later  
5 in the day when that peak happens.

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

17           Ultimately, what they procure and what is built  
18 is part of implementation under existing statute at the  
19 PUC and some of the work at the Energy Commission. So the  
20 10 gigawatts that's showing up that people think we're  
21 building all these power plants in the State of  
22 California, that's not what we're saying. What we're  
23 saying is we're going to move the economy to  
24 electrification. We're going to need to have reliability.  
25 That reliability has to be about 10 gigawatts. From

1 affordability, based on the data we have today, that  
2 model that the eight energy agencies use, it's looking  
3 like natural gas.

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

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

1 Scoping Plan to look at alternatives as we move forward.

2 CHAIR RANDOLPH: So I would like to see more  
3 clear -- a more clear goal articulated in the Scoping Plan  
4 that basically says, you know, we recognize this is where  
5 we are, but this is not where we need to be, and, you  
6 know, sort of more direct language to our sister agencies  
7 and to the publicly owned utilities that, you know,  
8 this -- this is -- we need to meet this need with clean  
9 generation and that we will be working with them to do  
10 that and that, you know, we need to improve the suite of  
11 our options to address what -- the way we see the system  
12 behaving as we continue to grow our electricity growth.

13 Dr. Balmes.

14 BOARD MEMBER BALMES: I think Ms. Riordan had her  
15 mic on.

16 CHAIR RANDOLPH: Oh, sorry.

17 BOARD MEMBER RIORDAN: You're so nice, Dr.  
18 Balmes. Yesterday, I was very concerned about the  
19 testimony of the power providers. And they were all very  
20 supportive. And I think it's so important, and I don't  
21 know if it has to be spelled out, but just remember this  
22 when you're looking towards these goals, that we need  
23 their support and their willingness to work with us,  
24 because if we are not working together, we're never going  
25 to achieve the goals that are set forth in our Scoping

1 Plan. So that testimony of support on their part was very  
2 good, but they are partners with us. We can regulate all  
3 we want. But unless the industry is moving right along  
4 with us, we've got some serious problems. So that, Madam  
5 Chair, is my \$0.02 worth.

6 CHAIR RANDOLPH: Thank you.

7 Dr. Balmes.

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

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

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

1 yesterday. And --

2 (Voice off record)

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

16 And then I'm going to end with something that is  
17 controversial, I think that we ought to consider nuclear  
18 here, not -- I'm not asking you to put that in the -- in  
19 the Scoping Plan, but I do think -- I have an open mind.  
20 I used to be a total no nukes person, but somebody on the  
21 CEC that I know for, you know, decades ago actually,  
22 before I was even on the Board -- well, I guess I just had  
23 gotten on the Board, told me that he thought that we were  
24 going to need nuclear power if we're going to deal with  
25 climate change effectively. And I think we should have

1 open mind about keeping Diablo Canyon open. I mean, we'd  
2 have to do a lot of work to make that realistic. And I'm  
3 not saying we should go there. I'm not saying it should  
4 be in the Scoping Plan, but I think we really need to  
5 consider that.

6 CHAIR RANDOLPH: Thank you.

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

13 DEPUTY EXECUTIVE OFFICER SAHOTA: Um-hmm.

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

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



1 changed.

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

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

16           DEPUTY EXECUTIVE OFFICER SAHOTA: Supervisor --  
17 or I'm sorry, Board Member Kracov, thank you for that  
18 question. And one of the things that we designed into  
19 this Scoping Plan is to make sure that there are  
20 benchmarks on the types of energy we need, and how that  
21 needs to grow -- the rate it needs to grow. So you  
22 benchmark for all of the different energies we're trying  
23 to bring online. We also have very specific ramp-ups and  
24 benchmarks for the deployment of technology. So how many  
25 ZEVs should be on the road by this point, how many

1 heavy-duty, medium-duty vehicles, appliances. So we have  
2 a lot of that built into the Scoping Plan.

3           What we haven't done in the past is try and have  
4 something like a dashboard, where you say here's where we  
5 should be by this time based on the last Scoping Plan and  
6 here is based on the data we've collected either from  
7 incentive programs or through regulations and reporting  
8 that shows where we are against that benchmark.

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

24           The other thing is we do an annual update to the  
25 Board on the Scoping Plan. And so that is something there

1 where we come back to you. We can have a touch-in on  
2 that. And we publish an annual GHG inventory.  
3 Traditionally, we've used the inventory as a way to track  
4 progress. The problem with the inventory is that it  
5 doesn't pick off the nuances on what's maybe happening in  
6 terms of where to focus incentives, where to focus  
7 regulation, because you're not able to see that deployment  
8 of technology of growth in fuels. You're just seeing the  
9 emissions numbers. These would need to come together.

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

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

20 BOARD MEMBER KRACOV: Thank you, Ms. Sahota. And  
21 then -- and so, Chair, also I know the Chair is committed  
22 to keeping the EJAC on a moving forward basis. So I don't  
23 know if there -- we should think about, you know, the role  
24 for the EJAC with regard to the things that were just  
25 mentioned perhaps.

1 CHAIR RANDOLPH: That's a very good point. Yeah,  
2 I think that's a good suggestion.

3 Okay. Any other comments?

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

16 CHAIR RANDOLPH: Can I -- could I address that,  
17 because I do think it's important to articulate, you know,  
18 the clear risk to communities and what we want to avoid.  
19 But the gap we're seeing here is not about renewables.  
20 It's about that -- the firm dispatchable power that  
21 supports renewables and smooths it all out. That's the  
22 challenge, which is why we're talking about things like  
23 storage, but other opportunities for other types of  
24 generation, because the challenge with storage is, you  
25 know, you need -- you need the generation to support the

1 storage. And I -- there's -- there's huge opportunities  
2 to have more renewable generation during the day to  
3 support storage. But at some point, we're going to  
4 start -- we're going to start, you know, capping out,  
5 right, because we need -- we need to create green hydrogen  
6 and we need to fuel our vehicles, and we need to fuel our  
7 buildings. So there's a lot of -- even though right now,  
8 we're curtailing during the day, we're going to start  
9 using that up at some point. And so we need -- that's why  
10 we need to send the signal that we're looking for  
11 opportunities for clean dispatchable power.

12 BOARD MEMBER HURT: And I agree with you.

13 CHAIR RANDOLPH: Yeah.

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

22 DEPUTY EXECUTIVE OFFICER SAHOTA: So -- so on  
23 this point, I think it's important to lay out what we're  
24 really talking about here in the electricity sector,  
25 because it's a huge growth. I think the statistic was 7

1 gigawatts of new power year over year for the next 22  
2 years. One gigawatt is one nuclear reactor. One gigawatt  
3 is two average natural gas plants. That's the pace and  
4 scale that we're asking for renewables to be built. And  
5 it is prob -- and historically the max has been 2.7  
6 gigawatts in a single year, so it's more than double that.

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

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

1 things that can be sited -- that need to be sited in other  
2 places where the sun is there, the wind is there, and an  
3 offshore wind farm.

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

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

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

1 there. And I think --

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

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

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

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

15 CHAIR RANDOLPH: Yes.

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

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

24 (Laughter)

25 BOARD MEMBER TAKVORIAN: Two things that



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

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

1 when we would start that. So that's -- that's an  
2 additional question.

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

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

16 Okay really quick.

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

19 CHAIR RANDOLPH Oh, my gosh.

20 (Laughter)

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

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

25 BOARD MEMBER DE LA TORRE: Yes.

1 CHAIR RANDOLPH: -- agreement on and we're about  
2 to hit a sector --

3 BOARD MEMBER DE LA TORRE: But --

4 CHAIR RANDOLPH: -- where we're not in agreement,  
5 so I think we need to make some time for that, but go.

6 BOARD MEMBER DE LA TORRE: Okay. One,  
7 piggybacking backing on the peaker issue, we need to  
8 mandate hybrid peakers in California. What are we -- the  
9 technology is there. Every peaker in the state of  
10 California should be hybrid. It dramatically reduces the  
11 emissions, the efficiency. What are we doing? The fact  
12 that we have these old diesel peakers or whatever fuel  
13 they use is ridiculous in 2022. We know that they're bad.  
14 Let's make them less bad, if we're going to have to have  
15 them around.

16 Two, hydrogen. Let's get away from this stupid  
17 color system --

18 (Laughter)

19 BOARD MEMBER DE LA TORRE: -- because everybody  
20 means something different when they say these dumb colors.  
21 Let's go to a CI index well-to-wheel of hydrogen,  
22 non-fossil fuel hydrogen. That's -- that's got to -- when  
23 we talk about hydrogen -- green hydrogen -- I just used  
24 the dumb color -- that it -- that we are saying low CI  
25 non-fossil fuel hydrogen. That -- that should be our

1 definition. That should permeate everything we're doing  
2 in this plan.

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

4 CHAIR RANDOLPH: We're going to.

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

6 CHAIR RANDOLPH: Yes.

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

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

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

18 I kind of have an additional concern, because my  
19 understanding is that we modeled -- for CCS, we modeled it  
20 in the cement sector and in the refinery sector. And I'm  
21 just concerned that even in the refinery sector, are we  
22 being too optimistic in the deployment. And even if we  
23 push out the deployment to 2028, are we -- given the  
24 complexity of those facilities, given the age of those  
25 facilities, it's -- it's unclear to me exactly kind of

1 what the options are and how effective they will be.

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

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

13           So I will kick it to my colleagues.

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

16           CHAIR RANDOLPH: Yes, because this is industry  
17 generally.

18           BOARD MEMBER DE LA TORRE: Yes. Okay.

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

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

23           CHAIR RANDOLPH: Okay.

24           BOARD MEMBER DE LA TORRE: A couple things. The  
25 placeholder numbers, four million metric tons, which is

1 tiny. If it is so tiny, why is it there? Is that because  
2 of the technology? I mean, help me to understand what  
3 this is. And I will say -- I will make my own personal  
4 comment. Number one, in the next few months, I want to  
5 get more into the geology of California and how it works.  
6 I know it would work in Upstate New York where you've got  
7 granite everywhere. We've got fault line running all over  
8 this place, and so I'm a little skeptical on that. I'm a  
9 little skeptical on the oil refining and the smoke stack  
10 applications of this. So a little clarity on -- on CCS  
11 and why that.

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

24 And then oil, I think we need a multi-agency  
25 process to discuss how we're phasing out oil in the state

1 of California. I think it's time for us to have that  
2 discussion. It has to be completely inclusive of all of  
3 our agency partners. It's not something we can do  
4 ourselves. I'm not talking about a date. I'm talking  
5 about the process to figure out how you do this. No one  
6 has. We should figure out and talk amongst ourselves  
7 about how we, California, would do something like that.

8 Thank you.

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

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

20 CHAIR RANDOLPH: Yes. Yes.

21 BOARD MEMBER BALMES: Okay -- is, you know,  
22 there's a lot that's -- you know, people are looking at  
23 the San Joaquin Valley, which, as we know and we heard  
24 from many witnesses yesterday, is, you know, a heavily  
25 impacted area with -- both in terms of air pollution and

1 heat, and where there's a great -- the greatest  
2 concentration of, you know, poverty among people of color  
3 in the state. And I just -- it seems wrong to me to be  
4 talking about carbon storage concentrated in the San  
5 Joaquin Valley.

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

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

24 CHAIR RANDOLPH: Board Member Hurt is next.

25 Anybody on this end of the -- okay.



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

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

20           CHAIR RANDOLPH: I'm going to go to my colleagues  
21 on the this side of me in just a moment. But, you know,  
22 one of the questions -- one of the ways that I would think  
23 about this is is there an opportunity in the Scoping Plan  
24 to be more specific about, you know, here are the specific  
25 concerns we have. Here are the things that we are trying

1 to avoid as guidance for, because, you know, I hear a lot  
2 of interest in, you know, this is a technology we need to  
3 explore, but could we just be more specific about -- about  
4 concerns and pitfalls? And then that would guide the work  
5 going forward of this group -- interagency group that has  
6 been -- that has been articulated in the Scoping Plan so  
7 far that needs to have conversations and get more  
8 information about the deployment of CCS. So that might be  
9 one way to kind of tackle this.

10           Okay. Board Member Kracov and then Senator  
11 Florez.

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

19           And the plan, I've spent a lot of time with it.  
20 It shows how difficult it's going to be to reach that  
21 destination. So it proposes, you know, in-state  
22 demand-side reductions and Cap-and-Trade, concluding that  
23 there is going to be an 80 to 90 percent reduction in  
24 state. And this is theoretical, you know, aspirational.  
25 But in the end, the plan insists that it is not feasible

1 to reach the Governor's goals, mostly because of  
2 transportation. And the plan gets it right. I've spoken  
3 with Ms. Sahota so much. There are so many technical  
4 complexities, the role of oil imports, how to fuel  
5 aviation, rail, marine equipment. I mean, that's what's  
6 going to be remaining in 2045. The differences in gravity  
7 and sulfur content of the blends. I mean this is reality.

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

20           Now, I can be mistaken on this, but I think our  
21 state in our Scoping Plan have to have a conversation  
22 about these matters. And, you know, this is not a  
23 modeling exercise. Look at what's happening in the real  
24 world when we drive to the gas pump today. This week,  
25 President Biden urged oil refining companies to drill and

1 refine more, not less. The President requesting lifting  
2 federal gas taxes and State ones too. In Germany, they're  
3 switching the coal plants back on.

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

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

23 So, you know, where do we go from here? I agree,  
24 the plan candidly shows you where in-state demand-side  
25 measures get us on our journey, if our very optimistic

1 projections come to pass. And it presents an honest  
2 assessment of the technological constraints.

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

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

21 And I envision, I see, our Scoping Plan clearly  
22 sending this signal. And, of course, each step taking  
23 into account what these policies will mean for all  
24 Californians with empathy. And as the Governor said again  
25 quote, "Focusing on benefits in disadvantaged communities

1 and economic growth", end quote. So that's my little  
2 spiel on this, Chair.

3 Thank you.

4 CHAIR RANDOLPH: Thank you.

5 Senator Florez.

6 BOARD MEMBER FLOREZ: Thank you.

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

15 I think just a little bit I disagree with my --  
16 my past colleague, Mr. De La Torre, on this. We do and  
17 are asked to look out, and try to create, and think about  
18 new standards, but CCS is still something that is not  
19 quite there -- there -- there in my view. And I want to  
20 ask the modelers let's -- just tell me the facts that we  
21 hear -- we hear so much from up here. You know, how much  
22 of this plan is really CCS as a percentage of the overall  
23 plan? And when you thought about carbon capture, how much  
24 of that was distinguished between direct air capture and  
25 what we -- we'd call, you know, bolt on traditional CCS.

1 I always say it's kind of like a -- when I think of -- I  
2 probably think about it wrong, Dr. Sperling will correct  
3 me. But it feels like CCS is kind of like an early  
4 version of catalytic converter for oil companies. You  
5 know, it allows the engine to continue to run  
6 combustion-wise, and at the same time it's kind of  
7 cleaning or giving us and excuse that it's giving us some  
8 better emission outcome, but it still allows the machinery  
9 to continue.

10 And I think we're making these jumps to  
11 electrification, and I'm wondering if CCS doesn't fall, at  
12 some point, by the wayside like, I assume a catalytic  
13 converter will at some point. And how -- but the  
14 catalytic converter, in some sense, was a proven thing.

15 CCS I just -- again, my question pretty simple,  
16 how much of this plan is that? I've read small. I've  
17 read large. That's my only question I think I have.  
18 Thank you, Madam Chair.

19 Oh, and I do want to say one last thing, because  
20 I'm not going to ask again. You know, utility-scale  
21 solar, wind, geothermal, distributed energy, the Governor,  
22 to your point, Madam Chair earlier, loaded the budget up  
23 with things like long duration batteries trying to  
24 explore, you know, other ways to get to storage that are,  
25 you know, gravity based, other types of things that are

1 renewable in nature, and also in that state being proven.  
2 But it seems like the Governor and others are trying to  
3 get there. I -- and it's -- and I -- and I think even  
4 what's being debated -- you know, Eduardo Garcia is going  
5 to be a big part of that on Monday and Tuesday when the  
6 budget trailer bills come out on what the energy mix  
7 should be and how we should look at it from a renewable  
8 perspective.

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

17           CHAIR RANDOLPH: Go ahead.

18           DEPUTY EXECUTIVE OFFICER SAHOTA: Okay. There  
19 was a lot there. So no, no. No. It's a good  
20 conversation, because there's been a lot of discussion  
21 outside of an official Board meeting on this again with  
22 stakeholders and just even over at the Legislature with  
23 some hearings. And so I want to make the distinction  
24 first between CCS and other direct air capture. CCS is  
25 focused on being attached to a smoke stack. So just like



1 you may have a NOx filter or a PM filter, CCS is a  
2 technology that you attach to a smoke stack and it  
3 captures and pulls out of that gas stream whatever you're  
4 targeting towards, in this case, CO2.

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

11 For CCS, it has been deployed for almost 30 to 40  
12 years internationally. We have had a effort since 2003 to  
13 2013 called WESTCARB here in California with multiple  
14 states along the west coast, going all the way up to  
15 British Columbia and Alaska. That collaborative was  
16 funded by the Department of Energy and it was run by CEC,  
17 the Energy Commission. It consisted of a hundred public  
18 agencies, private sector, universities, non-profits,  
19 research labs. And their findings were that CCS is a  
20 viable technology. Their findings were that the Geology  
21 in California is well suited. And the reason they think  
22 it's well suited is because that geology is depleted oil  
23 fields, they have held oil for really long periods of  
24 time, and it's taking a lot of energy to pull that oil  
25 out.

1           And so they are very well situated, as depleted  
2 oil fields, to actually capture and retain CO2. They have  
3 proven to be hard to pull oil out. They are going to be  
4 just as hard to have leakage of CO2 once it's injected and  
5 safely put in there.

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

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

1 industrial sector.

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

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

20 For refineries, we said that we would need to  
21 keep some amount of refining activity in the state to meet  
22 the ongoing demand for that fuel in the State of  
23 California. If we shut off the refineries, we're building  
24 a different type of infrastructure. We're going to have  
25 more finished product, more finished fuel coming in at the

1 ports, more storage for that product at the ports, and  
2 then more pipelines of finished oil going throughout the  
3 state to meet that demand.

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

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

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

23           So again, it's a very small amount. And to your  
24 question, Mayor Hurt, it's about two percent from today  
25 through 2045 in the plan. It's going to be reduced,

1 because we're going to push out the start date till later.

2           The key here is that all of this hinges on the  
3 fact that we are successful in moving away from all of  
4 this fuel, right? And that means we are building the  
5 clean stuff. And so as we think about what are we really  
6 talking about? We're talking about ending fossil fuel  
7 combustion. Where is that fuel being produced? Well,  
8 it's used to produce energy. Where is that energy going?  
9 It's going into transportation and buildings. And we want  
10 to switch all those to a different energy source, we need  
11 to build that different energy source, transition them  
12 over, and then turn off the ones that are existing.

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

19           One of the questions we keep hearing about is the  
20 90 percent capture rate versus, you know, what is really  
21 theoretically possible at a refinery. So 90 percent is  
22 the proven capture efficiency at a smoke stack. And, in  
23 fact there's DOE reports that say that some projects have  
24 exceeded that to be about 92.4 percent.

25           When we put it on the refineries, we know you

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

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

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

24           DEPUTY EXECUTIVE OFFICER SAHOTA: So there is  
25 research sitting out there. And some of it's at Stanford

1 and there's going to be a forthcoming report, I believe,  
2 that was mentioned at the Legislative oversight hearing,  
3 that as you're attaching CCS units -- units, there are  
4 some treatments that can be added into that process that  
5 also pull off some of the other gases in the stream, to  
6 help reduce the harmful air pollution, along with  
7 capturing the CO2.

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

10 CHAIR RANDOLPH: Um-hmm.

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

1 have pipelines for everything all over the place.

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

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

18 BOARD MEMBER SPERLING: And Senator Florez --

19 CHAIR RANDOLPH: So I --

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

23 CHAIR RANDOLPH: So I think this goes back to  
24 the -- to the suggestion I made earlier that in the -- in  
25 the section we already have where we talk about the



1 process that we have been in conversation with CalEPA and  
2 the Natural Resources Agency for how do we get to ground  
3 on some of these questions, I -- it -- I think it would be  
4 useful to be very specific about the concerns, because to  
5 me this question of, you know, pipelines is not -- it's  
6 not insignificant, right? I mean, you know, pipelines can  
7 leak. Pipelines can have, you know, very damaging issues.  
8 And so I don't want to trivialize that and I want to make  
9 sure that we are considering that as part of the  
10 conversation, you know, what are the safety standards, how  
11 would they be deployed. And so if we could be specific  
12 about that.

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

25           So there's a lot of different options and

1 technologies that out there. And so I think in the carbon  
2 removal place, we should also be thinking about making  
3 sure we're addressing any safety concerns that have  
4 overlap with CCS.

5 Board Member Takvorian.

6 No, I was -- I was done.

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

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

20 I guess to your point, Chair, about -- about CCS,  
21 I -- I'm concerned about what the status of the projects  
22 are in California, and what the regulations are, and  
23 what's the status of those regulations. I mean, all of  
24 the things that you just named, those are pretty baseline  
25 issues, that if we don't have the answers to, I'm not sure

1 how we can be putting this in at any percent. If it's for  
2 a specific industry like cement, or glass, then that's a  
3 different matter than thinking about it as -- as a more  
4 overarching technology.

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

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

22           CHAIR RANDOLPH: So I think you hit on a key  
23 point with regard to industries -- polluting industries  
24 going away. And I think our goal, as a state, and I think  
25 it's reflected in the original legislation, is we want

1 clean industries. I don't know that we are a society  
2 that's going to not have industry. And so, I mean, I --  
3 so I guess you agree though that like the goal is to have  
4 clean industry.

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

7 CHAIR RANDOLPH: Um-hmm.

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

15 BOARD MEMBER FLOREZ: Yeah. And I think Rajinder  
16 hit right in terms off the tradeoff between imports and  
17 the whole host, I mean, leakage, and jobs. But I -- But I  
18 would say we should push the envelope to think about  
19 cement plants from a perspective of what is the need that  
20 requires them to always have maybe a CCS component to it,  
21 as opposed to some sort of electrification that has  
22 battery storage that could be something completely  
23 different and it could actually provide maybe something  
24 that isn't necessarily dependent on what we're depending  
25 on right now from a renewable perspective.

1 I mean, I think the renewable is coming. And I  
2 don't we should always think of the cement plant as always  
3 having to be that. In 10 years, it could be a completely  
4 different conversation. So I think we should just hold  
5 out hope that there are going to be some industries that  
6 if indeed we have to utilize CCS, may even transition from  
7 that to something on the renewables side that might allow  
8 for that. I don't know if that -- it matches.

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

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

23 DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. So this  
24 just goes right back to the thing -- and I sound like a  
25 broken record. I've said this to myself many times. We

1 can shut down the bad things like the fossil fuel  
2 production and distribution, only if we're successful in  
3 moving away from it. And so to the extent that we are  
4 able to build out clean electricity at the rate that we're  
5 talking about and have it be available, then we can move  
6 over to that and have deployment of that technology.

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

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

22 Pursuing CCS is not a -- is not a light on  
23 capital investment. You're talking about having companies  
24 go in, go through permitting, looking at the economics,  
25 thinking about what their future plans are going to be,

1 looking at any tax breaks on this, because it is supported  
2 through tax breaks -- the technology is supported through  
3 tax breaks at the federal level, and then dock -- deciding  
4 does this make financial sense -- sense for us to even  
5 embark on this, knowing that they're going to be  
6 questioned about what the impacts are, how they're  
7 engaging with communities, what their presence means, and  
8 every aspect when they do these projects.

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

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

23           Those industries have a way to think about  
24 repurposing themselves and also how that may be able to  
25 benefit and use some of that CCS technology. It's not

1 clear if we putting it in the plan means they're going to  
2 pursue it. It's not clear if that is something that they  
3 are going to say is economically feasible. But from an  
4 environmental perspective, from a climate change  
5 perspective, those are -- those are the technologically  
6 feasible cost-effective things that we have right now for  
7 those sectors that we modeled.

8 CHAIR RANDOLPH: Okay. Board Member Hurt.

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

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

25 So the goal is to pull us all together and have



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

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

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

20           DEPUTY EXECUTIVE OFFICER SAHOTA: I have not  
21 heard that there's 17 projects. I will say that there was  
22 one that was proposed. It was Mendota. It was supposed  
23 to be a non-combustion biomass energy plant. So it was  
24 not about a traditional -- it was not a traditional  
25 biomass plant that would be using incineration to produce

1 energy. It was non-combustion. It was not going to have  
2 any criteria pollutants associated with it. And they are  
3 going to add CCS to it. They put in an application in  
4 February of 2020 I believe. They thought they were going  
5 to be able to be operational by 2026. They have decided  
6 to work through some additional issues with U.S. EPA,  
7 because U.S. EPA is part of the permitting process.

8           The earliest that they will be in operation is  
9 2028 now. The -- the reason that plant was being thought  
10 of and was being moved forward is, one, it was  
11 non-combustion and it was an alternative to ag waste  
12 burning and it would have produced energy using a  
13 sustainable resource.

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

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

24           BOARD MEMBER HURT: Okay. Thank you.

25           CHAIR RANDOLPH: I think -- I think that is the

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

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

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

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

25 So it is -- we are definitely not the only ones

1 working on this issue. There are -- there's a lot of work  
2 at Department of Energy, other federal agencies, and other  
3 State agencies. And that's kind of one of the -- one of  
4 the goals of having a more coordinated conversation to  
5 share information and try to understand what's -- what's  
6 out there.

7 Board Member Takvorian.

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

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

21 What we looked at was what does it take to get to  
22 the California need, because this is the California  
23 Scoping Plan. And the next steps would be to then think  
24 about, well, what are the policies to try and align  
25 reducing actions with California's in-state need for that

1 fuel. But looking at the western coast or the western  
2 region, as more of a holistic approach and working with  
3 those states is probably the better place to try and  
4 figure out how to bring it down, not just regionally but  
5 also how to think about addressing that export issues,  
6 because we don't have the authority -- we, as a state, do  
7 not have the authority to stop exports of goods out of  
8 California.

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

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

1 extraction in the State of California as part of the  
2 Scoping Plan.

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

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

12           CHAIR RANDOLPH: Vice Chair Berg.

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

22           And just as we had other references -- oh, on  
23 small cities, I really appreciated that, Davina, when you  
24 said we don't have the expertise. Well, small businesses  
25 have even less expertise within -- wherever they're

1 operating. And yet, they do have cumulative impacts on  
2 our community.

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

10 Thank you.

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

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

24 And we will -- as part of that interagency  
25 discussion around CCS, we need to identify sort of, you

1 know, where we are, what projects are anticipated, you  
2 know, trying to get information to the public. And I'm --  
3 I don't know if that may be a -- going forward, the  
4 working group can talk about things like public disclosure  
5 dashboards, whatever might help us run to ground some of  
6 these questions.

7 Anything else on this topic?

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

14 CHAIR RANDOLPH: Okay. We can add that.

15 All right. Do folks need to take like a  
16 10-minute break?

17 Okay. Ten minute break and then we will  
18 reconvene.

19 (Off record: 11:08 a.m.)

20 (Thereupon a recess was taken.)

21 (On record: 11:21 a.m.)

22 CHAIR RANDOLPH: All right. We are online. We  
23 are back in session. I just want to note I did a -- got  
24 a -- got a little information when we were on the -- on  
25 our break. And there are some Classic -- the one, two,



1 three, four, five, six Classic applications at Region 9  
2 for California, yeah. So there are -- there are projects  
3 out there. And that's why I think it's really important  
4 that we have these -- this conversation about how we're  
5 thinking about those projects and addressing potential  
6 impacts of those projects.

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

17           BOARD MEMBER BALMES: I don't think so.

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

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

21           CHAIR RANDOLPH: Okay. So th ongoing bark beetle  
22 issues that we have that are exacerbated by drought. And  
23 so I would love to hear from staff about what are the  
24 policy levers we need to be thinking about as we're trying  
25 to get forth to become a sink rather than a source.

1           INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: Hi.  
2 Thanks. Matt Botill, Division Chief of ISD.

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

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

17           So when we did this analysis, we also asked  
18 ourselves what has the State done over the last couple of  
19 decades from a management perspective, and what could we  
20 do going forward by accelerating those management actions,  
21 and what would the greenhouse gas outcomes be? And this  
22 goes to your point, Chair Randolph, about the policy  
23 levers. We didn't want to model a bunch of actions that  
24 the State hasn't been able to do in the past or that we  
25 don't have experience doing, because we wanted to make

1 sure that if we were going to change the way we look at  
2 natural and working lands, change the management actions  
3 that we're doing on lands, that there's some precedent for  
4 those actions having happened in the past, so that we can  
5 expand those going forward.

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

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

22           And so your kind of opening question about how do  
23 we get lands to be a sink? That's going to be difficult.  
24 You know, the analysis that we did showed that over a  
25 20-year time frame, we expect them to be a source of

1 emissions as carbon stocks decline over time, as, you  
2 know, wildfires happen, they become more intense. As you  
3 know our agricultural soils release greenhouse gas  
4 emissions from management decisions. And the actions that  
5 we do around fuels reduction, around healthy soils, around  
6 wetlands restoration, around urban forestry, they can  
7 reduce the amount of emissions we have from those lands.  
8 And, you know, if we had some pretty significant scale-up  
9 on certain actions, like unprecedented scale-up way beyond  
10 anything the State has ever done, you could get closer to  
11 having lands be kind of carbon neutral, but it would take  
12 a huge amount of urban forestry, healthy soils practices,  
13 to the extent that the State's really kind of never seen.

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

25           We've been in lots of conversations with the

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

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

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

23           CHAIR RANDOLPH: All right. Thank you.

24           Any other questions and comments?

25           Dr. Balmes.

1 BOARD MEMBER BALMES: Thank you.

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

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

20 There is a factoid I know from the Australian  
21 bush fire season 2019 to 2020. There was as much climate  
22 forcing emissions from that bush fire season as the entire  
23 year of man anthropometric generated greenhouse gas  
24 emissions. So it's a huge problem. You know, I believe  
25 it when I see it that wildfire -- you know, that we'll be

1 able to decrease wildfire risk to the point where forests  
2 are a sink rather than a source, because it would take --  
3 it will take billions of dollars and many years to manage  
4 the forest that way we need to. I mean, we need to start  
5 and I guess we have started, but it's like a baby step  
6 compared to what's really needed. The legacy of fire  
7 suppression is, you know -- decades of fire suppression is  
8 a big one and climate change isn't getting any better in a  
9 hurry.

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

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

22           CHAIR RANDOLPH: Yes.

23           BOARD MEMBER BALMES: Okay. So then as I've said  
24 several other times, I really think that we need to  
25 transform the agricultural sector in California -- or at

1 least start doing it the same way that we've transformed  
2 the transportation and energy sectors. I think that, you  
3 know, agriculture is incredibly important to the  
4 California economy. The agriculture sector has a lot of  
5 political power as Senator Florez knows, but we can't keep  
6 doing things the way we've been doing them and I don't  
7 think dairy digesters are the answer. You know, we need  
8 to have them -- a more sustainable path to agricultural --  
9 to agriculture in California.

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

19 And, you know, I'm no agricultural expert, so I'm  
20 the first one to say, but I'd like to hear specifically  
21 how -- why we can't change livestock husbandry in  
22 California. And we certainly can support organic farming.  
23 You know, just like electric vehicles are becoming more  
24 economically viable and maybe even be cheaper than an  
25 internal combustion engine vehicles. I think organic



1 agriculture can -- is also becoming more economically  
2 viable. And if we could get rid of synthetic pesticides  
3 as a part of that -- that -- we hear time and time again  
4 from folks in the rural areas of the state where  
5 agriculture occurs about their concern about pesticides.  
6 And I'm totally supportive of an effort to get rid of  
7 synthetic pesticides.

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

16 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

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

22 So on this particular sector, I think we all know  
23 that we have statutory targets to reduce methane emissions  
24 from the dairy and livestock sector. And in statute,  
25 we're directed to focus on incentives for reduction in

1 that sector. And we've been deploying as a state for the  
2 better part of 10 years now, a mix of strategies, and  
3 dairy digesters are one of those. And we've also been  
4 deploying these practices called alternative manure  
5 management practices. Some of that is -- involves  
6 conversion to pasture based.

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

17           We also have had many conversations. We held a  
18 workshop about a month or two ago on the status of the  
19 dairies in California. And one of the things that we  
20 heard, you know, presentations from USDA, CDFA about dairy  
21 product consumption. It's stayed pretty flat. It's  
22 pretty -- stayed pretty consistent on a per capita level  
23 over the last few decades. And that's driving the  
24 industry to produce milk. This is not unlike the  
25 conversation we have on the energy side. We have a demand

1 for a product that has these outcomes, in this case,  
2 methane emissions and dairy consolidation being driven by  
3 demand for the -- the dairy products.

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

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

1 the feed additives that could be deployed to reduce dairy  
2 and livestock methane emissions.

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

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

23           We've heard a lot of feedback about this. On one  
24 side, the benefits that it will provide in terms of  
25 pesticide reduction and, you know, increased -- or

1 decreased use of things like fumigants and others, but  
2 also a lot of concerns. Moving to organic ag is not a --  
3 an easy thing for many growers. There's a certification  
4 process. You have to change all of your practices to  
5 reduce your application of things like synthetic  
6 fertilizer and pesticide use. It requires looking at your  
7 nitrogen application and trying to understand where you're  
8 going to get your nitrogen, if not from synthetic  
9 fertilizers, so compost availability, water changes.  
10 Obviously cost impacts as you transition your production.

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

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

25           BOARD MEMBER BALMES: So thank you, Matt. I mean

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

14 CHAIR RANDOLPH: All right. Any other comments?

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

24 I guess my question is in our plan, do dairies  
25 have to re-increase its -- their consolidation in order to

1 reach any of the goals in the plan? I just want to just  
2 ask that.

3 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL: No.

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

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

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

13 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

14 No, the data that we have is showing that we're  
15 losing the total -- the total number of dairies in the  
16 state is declining.

17 BOARD MEMBER FLOREZ: Yeah.

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

22 BOARD MEMBER FLOREZ: Um-hmm.

23 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

24 -- of the dairies that do remain are  
25 consolidating.

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

18 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

19 So --

20 BOARD MEMBER FLOREZ: Thank you, Madam Chair.

21 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

22 Generally speaking, what we have within the  
23 Scoping Plan is an expectation that over time in  
24 California, dairies -- the total herd size in California  
25 will decrease over time. What we did for our analysis was



1 look at what the existing dairy population is, factor in  
2 historical decline rates, assume that that continues going  
3 for, look at what the methane emissions from the statewide  
4 dairy population would be, and then put -- we did an  
5 assessment of the mix of strategies between digesters,  
6 alternative manure management practices, or what we call  
7 kind of an accelerated herd size reduction strategy  
8 would -- would mean for methane emissions statewide. So  
9 we're not looking at any specific region or any, you know,  
10 specific dairy operation, but statewide.

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

13 BOARD MEMBER DE LA TORRE: Thank you.

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

1 what we need to do.

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

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

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

20           So thank you.

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

24           BOARD MEMBER DE LA TORRE: Right here.

25           (Laughter)

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

6 Thank you.

7 VICE CHAIR BERG: Thank you.

8 I also would like to see in healthy soils that  
9 we're looking at the endgame, and -- and -- and  
10 encouraging reductions, especially in the synthetic  
11 fumigants, the pesticides there. So as we're looking at  
12 the future, let's not have the Scoping Plan highlight  
13 using what we don't want them to use. So that would be my  
14 input on the pesticides.

15 CHAIR RANDOLPH: Okay. Any other comments on  
16 agriculture or pesticides?

17 Okay. All right. Short-lived climate  
18 pollutants. I had -- I also had a placeholder for carbon  
19 dioxide removal, separate from CCS, but I feel like we  
20 kind of covered that. So I think we're okay there.

21 Short-lived climate pollutants, methane, black  
22 carbon, other issues.

23 Board Member Kracov.

24 BOARD MEMBER KRACOV: Thank you, Chair.

25 On short-lived climate pollutants, the plan

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

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

21 Thank you.

22 DEPUTY EXECUTIVE OFFICER SAHOTA: Thank you,  
23 Board Member Kracov for pulling all of those pieces  
24 together, because they are all very well intertwined. And  
25 there's a couple things here, and I'm going to kick it to

1 Matt in a second. And I want to speak to stranded assets.  
2 Stranded assets come up in several of our programs,  
3 especially if we think of a rapid transition away from  
4 certain technologies today to tomorrow.

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

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

17 Now, this is very specific to trucks and RNG, and  
18 what is the state of RNG and what is the ACF Rule look  
19 like. So I think both Matt and Craig are going to weigh  
20 in here on those pieces, but I wanted to make sure that I  
21 reassured you that we absolutely understand that there is  
22 an investment here, but we also know that we need to keep  
23 making sure that there's trust, that as we move forward,  
24 private investment continues to be in their where the  
25 public priorities are.

1 DEPUTY EXECUTIVE OFFICER SEGALL: And I guess let  
2 me start on the truck side and --

3 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

4 Maybe let me go first and then we -- yeah.  
5 Thanks, Craig. So, you know, appreciate the question.

6 I do want to point out just, you know, the --  
7 what's driving this is the State's kind of two primary  
8 goals here, both established in 1383 as 75 percent  
9 reduction in organics landfill diversion by 2025 target.  
10 It's incredibly aggressive that we absolutely need to hit  
11 and a methane reduction target that we have in statute.

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

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

23 BOARD MEMBER KRACOV: The PUC and AB 1440  
24 procurement.

25 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

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

12           And we've got, as Rajinder mentioned, it's -- you  
13 know, the establishment of assets that are creating your  
14 energy, your compost, both of which are needed. So we  
15 reflected that in the Scoping Plan, that, you know, all of  
16 these infrastructure and assets are needed to help meet  
17 these targets. For us, it means an opportunity to be able  
18 to also look at RNG production from organic waste or from  
19 captured gases from landfills. And that RNG, you know, as  
20 we talk about the transition we need to make in the energy  
21 sector, we're having this conversation today about all of  
22 the new energy types that we need to deploy to displace  
23 the fossil fuel that we're using now, is opportunity to  
24 deploy, whether it's in some of transportation context,  
25 whether it's to convert it to hydrogen to use it for, you

1 know, our industrial facilities, whether it's for some  
2 sort of electricity. It's an energy source we can deploy.  
3 And we need to look at whether the technology endpoints  
4 are at -- in the various sectors and target the energy  
5 source to the -- to the best end uses.

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

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

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

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



1 initially, where we know we want to move toward  
2 electrification and for good reason.

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

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

13 BOARD MEMBER KRACOV: (Nods head)

14 CHAIR RANDOLPH: Okay. Board Member De La Torre.  
15 Oh, sorry.

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

1 that we approved, this Board approved, what was it, two  
2 years ago?

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

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

16           And we absolutely need these reductions by the  
17 2030 time frame. Short-lived climate pollutants are so  
18 incredibly important. As was said yesterday by a number  
19 of people from the public, as I've talked about numerous  
20 times about short-lived climate pollutants, not  
21 contributing to us getting to that 2020 target.

22           So HVAC is absolutely at the top of my list in  
23 this sector. We've talked about methane numerous times,  
24 so I'm not touching on that. Black carbon, you know,  
25 we've done stuff in that space to reduce fires, burning --

1 ag burning, et cetera, et cetera et, cetera. It could  
2 help if we could do something with the tire burning in  
3 Baja, California. That would be helpful, so maybe we can  
4 work with our colleagues south of the border on that  
5 space.

6 Thank you.

7 CHAIR RANDOLPH: Dr. Sperling.

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

19 So it's kind of a quandary, you know -- well,  
20 actually we need to develop the policies on the -- from  
21 the industrial sector, you know, to create a similar price  
22 signal for that. But at the same time, I think that the  
23 premise that we're working on is more of a  
24 performance-based cost-effective approach. And if -- we  
25 should create the mechanisms, so that if it makes sense

1 where these trucks that are located at these sanitation  
2 districts to put it in their trucks, it makes sense to me  
3 that we shouldn't be so direct about it as to say, no, you  
4 can't do that.

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

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

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

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

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

1 conversation about, oh, are we -- are we on track or are  
2 we off track?

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

16           Any other comments or questions?

17           Board Member Kracov.

18           BOARD MEMBER KRACOV: Yeah. Let me just step  
19 back for a second. I guess we're in the, you know,  
20 overall, and the miscellaneous section. So I do want to  
21 compliment staff. You know, the draft really is quite an  
22 accomplishment. You know, the list of measures, I think  
23 it's page 58 to 63, really is astonishing, truly. But it  
24 also demonstrates the getting to neutrality in 2045 is  
25 really difficult and I imagine, you know, you folks, the

1 modelers, the EJAC up at night, you know, staring at  
2 computer screens with cups of coffee, you know, trying to  
3 make the whole thing pencil out.

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

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

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

25           And Appendix D, which is the local actions, is

1 important because it gives the advice, the practical,  
2 workable guidance to the local jurisdictions on how  
3 they're supposed to take this Scoping Plan and apply it at  
4 the local level. I'd like staff to consider the role of  
5 some more uniform brighter line standards that's going to  
6 give certainty to the parties in these permitting  
7 decisions.

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

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

23           And, you know, we need to consult perhaps with  
24 the Office of Planning and Research on the role of the  
25 CEQA guidelines. There's just too much uncertainty out

1 there about how to analyze GHG impacts. And I think we  
2 should consider beefing up Appendix D to help resolve  
3 that.

4 Thank you, Chair.

5 CHAIR RANDOLPH: Could you --

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

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

22 CHAIR RANDOLPH: Board Member Riordan.

23 BOARD MEMBER RIORDAN: Thank you, Madam Chair. I  
24 just wanted to express my appreciation for all the work  
25 staff has done and will do in the future for taking these



1 refinements that some of us have asked for and making them  
2 a part of the final Scoping Plan.

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

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

18           Thank you.

19           CHAIR RANDOLPH: Thank you.

20           Board Member De La Torre is next.

21           BOARD MEMBER DE LA TORRE: Just one thing. It's  
22 kind of an assignment to staff, as we were thinking the  
23 Scoping Plan, because it is broad and this piggybacks on  
24 Board Member Hurt's comments. We need to be a  
25 clearinghouse in as many of the -- of the sectors as we

1 can be. So kind of give ourselves an assignment of being  
2 a hub for best practices out there across sectors and  
3 wherever it makes sense, and to our communications team,  
4 really hype that that stuff is there, so that whether  
5 you're local government, whether you in a rural area,  
6 whether you're -- you know, whatever. If you're  
7 interested in these things, these are the -- without  
8 endorsing specific companies, technologies, whatever, this  
9 is the stuff that works.

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

15 Thank you.

16 CHAIR RANDOLPH: Dr. Balmes.

17 BOARD MEMBER BALMES: Thank you.

18 And I want to start off by praising a  
19 particular action of the staff. And as people know, I was  
20 concerned that we would not work well with EJAC this  
21 year -- or this time. And I'm sure EJAC will say they  
22 didn't get everything they wanted. I know they would say  
23 that. But I appreciate Rajinder and Chanell trying to  
24 work better with EJAC this time around. And I think  
25 yesterday's presentation showed that there's benefits for

1 engaging EJAC. I know it's hard on both sides, both for  
2 staff and for EJAC, but yesterday's presentation was  
3 impressive -- long, but impressive, and very thoughtful.  
4 And I appreciate both sides of that interaction this time  
5 around, and I just hope we can do better next time.

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

24           And I pledge to work with the Research Division  
25 on that. And I think, you know, it may behoove us to get

1 some outside help, so it's not just falling -- I know -- I  
2 know that we worked with CDPH and OEHHA, but we might need  
3 to, you know, get some contractors who can really put a  
4 lot of time and energy into the data crunching and  
5 modeling that we need. But overall, it's -- I want to  
6 commend staff for an improvement.

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

12           CHAIR RANDOLPH: Dr. Sperling.

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

22           But I think we want to be thinking about which of  
23 these investments and which of these goals are going to  
24 get the most bang for the buck. You know, we're not --  
25 yes we're going to net zero, but some things are going to

1 be a lot more expensive than others. And maybe, you know,  
2 we do not want to destroy the economy of California,  
3 right? And so somewhere -- somehow, and I don't know --  
4 I'd actually be interested in what the staff thinks about  
5 this.

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

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

20 And so we can bring all of this information  
21 together. And we try to as part of the Scoping Plan as  
22 the rulemaking, and on the incentives side as part of the  
23 reporting out from the spending of the GGRF monies, we  
24 have that information today, but then we have priorities  
25 that are beyond just cost per ton per GHGs. There are

1 some things that are going to be more expensive in the  
2 early years, because you're still piloting and scaling the  
3 technology. So I think then you start to get into these  
4 questions -- like that number doesn't represent the full  
5 story.

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

14 CHAIR RANDOLPH: Board Member Hurt.

15 BOARD MEMBER HURT: So I want to start off by  
16 thanking the EJAC members, their long hard work to keep  
17 the lived experiences of the communities in the forefront.  
18 I want to definitely give a shout-out to all of you. And  
19 I want to remind folks that we're all in this fight  
20 together in surviving this climate crisis. And I really  
21 want our words around equity and being together in this  
22 climate challenge to be more than just theories. I want  
23 us to really understand practically what's happening. And  
24 so I have to uplift the metrics piece more and more about  
25 income, and race, and ethnicity, and making sure that

1 whether it's a dashboard, we really are being clear about  
2 the trade-offs and who is being harmed or who is going to  
3 have a harder time to get through these years ahead.

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

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

19 Clearly, people are suggesting different paces to  
20 meet the goal and in different means. And this is what's  
21 really hard for all of us. But I think as a baseline, I'm  
22 hopeful that the Scoping Plan will give something to  
23 everybody. And it clearly tells us that we need to be  
24 aggressive and ambitious, and I think we need to do that  
25 more. We need to thread the needle, so that the very

1 people we're trying to improve in health and clean air, we  
2 are also not harming them in job loss and economic  
3 vitality and preventing the creation of generational  
4 wealth to truly pull families out of poverty.

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

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

25           And so I'm looking for that with all the comments



1 that have been made by my colleagues in the new, or at  
2 least improved, Scoping Plan draft.

3 Thank you.

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

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

11 CHAIR RANDOLPH: Go. Do it now.

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

23 And so I'd really like to be sure that we're  
24 seeing that, because I think if it's kind of -- you know,  
25 not track changes, whatever, if it's not hidden, but it's

1 inside all -- the existing scenario, it's going to be hard  
2 to see, like what are the differences. So I know that  
3 there was that early chart with Alternative 1, 2 --  
4 Scenario 1, 2, 3. I just think there's got to be another  
5 one. And maybe there's another one after that of, you  
6 know, you pull together what we've said it turns into this  
7 other scenario. And then you've got another suggestion,  
8 because maybe some of those things don't work from your  
9 perspective. I just feel like we need to see it really  
10 clearly. So that's one suggestion.

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

23           And then getting to health, if I understand it  
24 correctly, and Dr. Balmes will correct me if I'm wrong, we  
25 have modeled the bene -- the health benefits of the

1 scenario that we have put forward and not the health  
2 benefits of some of the recommendations that we have made,  
3 that have been made by the public, that have been made by  
4 EJAC. So I think we need to see those described in terms  
5 of lives saved, illnesses avoided, all of the metrics --  
6 all of the criteria that you -- that you have.

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

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

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

22           If we make any changes that are modeling changes,  
23 we would have to redo the economic modeling. We'd have to  
24 redo the health modeling to see how that looks. And I  
25 guess this gets back to I've heard a lot of like clarify,

1 add additional kinds of information like on the income  
2 brackets and the impacts to household. We can do that,  
3 but that's not really changing the scenario. It's adding  
4 more information in.

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

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

25           DEPUTY EXECUTIVE OFFICER SAHOTA: So whether it's

1 VMT, with it's single passenger vehicles, or mass transit,  
2 we can figure out, between both Craig and I, what the fuel  
3 difference might be. We can take that fuel difference,  
4 look at the existing data that we have from the modeling  
5 of the scenarios and scale something to say if we're able  
6 to move this many people into transit, then we would be  
7 able to have this additional benefit. Is that an  
8 additional piece of information or are we changing VMT?  
9 Are we changing something in the modeling, the core  
10 modeling?

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

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

20 DEPUTY EXECUTIVE OFFICER SAHOTA: Yes.

21 CHAIR RANDOLPH: -- in the draft --

22 DEPUTY EXECUTIVE OFFICER SAHOTA: Yes. Yes.

23 CHAIR RANDOLPH: -- I mean, in the -- in the  
24 final, right? You know, if you, Board, if you make this  
25 tweak, you will see this benefit. And we can say, yes,

1 let's do that. If you make this change, we can see this  
2 benefit. We can -- you know, do you understand what I'm  
3 saying there?

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

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

13 DEPUTY EXECUTIVE OFFICER SAHOTA: Um-hmm.

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

16 DEPUTY EXECUTIVE OFFICER SAHOTA: Absolutely.

17 CHAIR RANDOLPH: -- to present specific --

18 DEPUTY EXECUTIVE OFFICER SAHOTA: Okay. That  
19 works.

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

23 I mean --

24 BOARD MEMBER FLOREZ: Okay. I'm just going to  
25 add to what Diane. It's following your comment. And so

1 when we -- when we started this today, there was a little  
2 bit of debate, I even think amongst Board members and the  
3 Chair said let's go through this by segment and sector. I  
4 had an idea about starting with process yesterday. And so  
5 now we end with process. I mean, this is kind of where  
6 we're going. So I think my thought to the staff through  
7 the Chair is I think what you're hearing, and I may be  
8 with, but I'm -- I think we're asking for maximum  
9 flexibility within an eye towards change.

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

23           I mean, that would be my preference. I don't  
24 know how other Board members feel, but I mean obviously  
25 I'm an EJ rep, so I think I have a bit of a -- of an edge

1 on what I'd like to see.

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

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

17           BOARD MEMBER FLOREZ: The draft, okay.

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

22           I think -- I think we need to be clear about sort  
23 of what -- what tweaks or changes in the modeling we need  
24 to see. And I think we've made pretty clear, you know,  
25 there's -- there's some things that we have identified.



1 So we want to make sure that we're giving enough guidance  
2 to staff that they know the work that they're supposed to  
3 do between now and the end of the summer and the -- and  
4 that is accompanied with the public workshops and  
5 listening sessions we're going to have --

6 DEPUTY EXECUTIVE OFFICER SAHOTA: Right.

7 CHAIR RANDOLPH: -- so they'll get more feedback.  
8 And I think we can discuss some of that feedback in the  
9 joint meeting and kind of see -- see where we are. I  
10 agree, you know, at the end of the day, we're going to be  
11 voting on the final plan. And as we have the conversation  
12 in the -- with -- in the joint meeting, if there are  
13 things where we might have questions or suggestions, you  
14 know, that can be a substantive conversation, but if we're  
15 any kind of fundamental changes that would require  
16 fundamental new analysis, we need to highlight now.

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

20 BOARD MEMBER TAKVORIAN: Well, I guess I'm not  
21 completely clear. I'm sorry. I guess I feel like, well,  
22 I don't think we have -- I mean, we obviously don't have  
23 complete agreement on what VMT goals should be there. So  
24 if we're looking at it being modeled at VMT per capita at  
25 reduced 25 percent below 2019 by 2030 and 30 percent by

1 2035, I want to see that model. And so I understand  
2 that's another discussion. We're not -- as far as I was  
3 concerned we didn't end that conversation here. We wanted  
4 more information.

5           The same thing on heavy-duty, we're ask -- I  
6 think that it's a good request to say we want to look at a  
7 different metric than the one that's in Alternative 3,  
8 which is a hundred percent heavy-duty sales are ZEV by  
9 2040. I'd like to see that by 2035, so -- and some have  
10 asked for 2030.

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

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

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

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

24           DEPUTY EXECUTIVE OFFICER SAHOTA: That's right.  
25 We can pull it out and share what that change would be.

1 BOARD MEMBER TAKVORIAN: Okay.

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

4 Okay. Anything else?

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

14 CHAIR RANDOLPH: Right. That makes sense to me.  
15 Okay.

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

1 CHAIR RANDOLPH: And you can clearly illustrate  
2 it as -- as that, right?

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

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

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

19 CHAIR RANDOLPH: Yeah.

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

22 CHAIR RANDOLPH: Okay.

23 DEPUTY EXECUTIVE OFFICER SAHOTA: -- for the  
24 September 1 joint meeting between the Board and the  
25 Environmental Justice Advisory Committee. And that way we

1 can share what we find and hear back from you all.

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

5 BOARD MEMBER TAKVORIAN: (Inaudible)

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

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

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

20 BOARD MEMBER FLOREZ: Yes.

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

23 BOARD MEMBER FLOREZ: Okay.

24 CHAIR RANDOLPH: We will have the joint EJAC  
25 Board meeting.

1 BOARD MEMBER FLOREZ: Okay.

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

5 BOARD MEMBER FLOREZ: Okay.

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

8 BOARD MEMBER FLOREZ: Okay. Thank you.

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

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

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

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

1 make sure I'm clear about the tools we have.

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

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

14 CHAIR RANDOLPH: Okay. Vice Chair Berg.

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

19 BOARD MEMBER BALMES: Yep.

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

1 would really encourage that.

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

7 VICE CHAIR BERG: Yes.

8 DEPUTY EXECUTIVE OFFICER SAHOTA: So, Matt.

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

21 But where I think we can engage respectfully with  
22 the sovereign tribes, especially the Yurok and the Hoopa  
23 that have a long experience with wildfire and cultural  
24 burning, not that they're the only tribes that do that,  
25 but I think in terms of forest management, we should



1 embrace -- we should ask our sister agencies that are  
2 involved with forest management to embrace a genuine  
3 partnership with the sovereign tribes that know a lot  
4 about this. You know, they were managing the forests for  
5 a long time, a lot better than we do.

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

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

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

25           And my last thought on EJAC is there's a lot of

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

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

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

20 My final thought is this has to -- this  
21 transformation that Board Member De La Torre absolutely  
22 nailed is about market acceptance. There's nothing in  
23 this plan that says this citizens of California have to  
24 accept this. There's no regulation that is going to make  
25 the citizens of California do this. This has to be about

1 market acceptance. And so we can put these markers down,  
2 but we could do it faster if the citizens got on board.

3 And so I'd like just us to take back, before we  
4 had smartphones, and those of us that, you know, maybe had  
5 BlackBerries, and quite frankly loved our BlackBerries --

6 (Laughter.)

7 VICE CHAIR BERG: -- and we hated the iPhones  
8 when they first came out. Those of us that bought one  
9 quickly got rid of it, because all the words jumbled up.

10 You -- we have to adopt here and we cannot, as  
11 Diane said, discount the fact that we have to connect with  
12 the consumers to change their behavior.

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

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

1 with us as a State government.

2 Matt.

3 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

4 Yeah. No, thank you for that. And kind of  
5 building on those points of -- about the tribes and the  
6 being sovereign nations. We did have a representative of  
7 the Yurok give some remarks at our opening Scoping Plan  
8 workshop back in June. We had a request out to the tribes  
9 for consultation. And then we also had a number of  
10 workshops with the tribes on the natural and working lands  
11 pieces of the Scoping Plan and a subsequent deep dive with  
12 the Yurok.

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

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

23 CHAIR RANDOLPH: Yeah. And -- yeah, I will  
24 absolutely be interested in coordinating with you and  
25 working with you all and make sure we -- we do make the

1 opportunity for consultation available, in addition to  
2 what we've already done.

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

7           (Off record: 12:49 p.m.)

8           (Thereupon a lunch break was taken.)

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1 chair Randolph. In February, staff shared an information  
2 update on the community air grants. This item is for the  
3 Board to consider approval of 2021 AB 617 community air  
4 grant to the Environmental Health Coalition to support  
5 accomplishment of the community emission reduction plan,  
6 or CERP, for the San Diego Portside environmental justice  
7 communities and ratification of a 2018 AB 617 community  
8 air grant to the Environmental Health Coalition to educate  
9 residents on air quality issues and health risks, provide  
10 leadership development, and support community-based  
11 research on local air quality in San Diego.

12 This item is presented to satisfy Board approval  
13 or ratification requirements in Government Code section  
14 1091, because one Board member is affiliated with  
15 Environmental Health Coalition. Approval by the Board of  
16 the 2021 grant will authorize staff to proceed with  
17 execution and implementation of the 2021 grant.  
18 Ratification of the 2018 grant will confirm that the grant  
19 met the procedural requirements of Government Code section  
20 1091 to be considered a remote interest.

21 This concludes my remarks.

22 CHAIR RANDOLPH: All right. Thank you.

23 We will now hear from the public who raise their  
24 hand to speak on this item. Will the Board clerk call any  
25 public commenters.

1 BOARD CLERK GARCIA: So we have no commenters at  
2 this time.

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

9 BOARD MEMBER HURT: I'll move approval.

10 BOARD MEMBER BALMES: Second.

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

14 BOARD CLERK GARCIA: Yes.

15 Dr. Balmes?

16 BOARD MEMBER BALMES: Yes.

17 BOARD CLERK GARCIA: Mr. De La Torre?

18 BOARD MEMBER DE LA TORRE: Yes.

19 BOARD CLERK GARCIA: Senator Florez?

20 BOARD MEMBER FLOREZ: Aye.

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

22 BOARD MEMBER HURT: Aye.

23 BOARD CLERK GARCIA: Mr. Kracov?

24 BOARD MEMBER KRACOV: Yes.

25 BOARD CLERK GARCIA: Mr. Riordan?



1 BOARD MEMBER RIORDAN: Aye.

2 BOARD CLERK GARCIA: Professor Sperling?

3 BOARD MEMBER SPERLING: Aye.

4 BOARD CLERK GARCIA: Vice Chair Berg?

5 VICE CHAIR BERG: Aye.

6 BOARD CLERK GARCIA: Chair Randolph?

7 CHAIR RANDOLPH: Yes.

8 BOARD CLERK GARCIA: Madam Chair, the motion  
9 passes.

10 CHAIR RANDOLPH: All right. Thank you.

11 The next item on the agenda is Item number  
12 22-9-3, California's Regional Haze State Implementation  
13 Plan.

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

22 California is home to 29 National Parks and  
23 wilderness areas that are known for their amazing views,  
24 including iconic National Parks such as Joshua Tree and  
25 Yosemite, as well as lesser known, but still stunning

1 locations like the Hoover and San Rafael Wilderness Areas.

2 Visitors from around the world come to California  
3 specifically to visit some of these beautiful places. In  
4 1970, Congress recognized the importance of these areas by  
5 affording them visibility protection under the Clean Air  
6 Act, and they are known as Class 1 areas.

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

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

18 Ms. Chang, would you please introduce the item.

19 DEPUTY EXECUTIVE OFFICER CHANG: Thank you, Chair  
20 Randolph.

21 As you mentioned, California's first Regional  
22 Haze Plan was adopted by this Board in 2009 and approved  
23 by U.S. EPA in 2011. Revisions to the Federal Regional  
24 Haze Rule in 2017 changed the metric used to track  
25 visibility conditions to focus on the subset of days that

1 had the most and least human caused impairment. For this  
2 Regional Haze Plan analysis shows that the most human  
3 cause impairment in California's Class 1 areas is  
4 attributable to ammonium nitrate. Strategies targeting  
5 the emissions driving the formation of ammonium nitrate  
6 are needed to improve visibility.

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

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

19           The iterative process laid out for regional haze  
20 planning allows states to make informed planning decisions  
21 supported by science and provides a mechanism to assess  
22 progress and adjust the control strategy. As emissions  
23 from the mobile source sector are reduced in the future,  
24 the pollutants driving visibility impairment will likely  
25 change. In future planning periods, CARB will take a

1 fresh look at visibility conditions, the emissions driving  
2 visibility impairment, and develop evidence-based plans to  
3 achieve meaningful improvements in visibility.

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

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

9 Thank you.

10 Rebekka.

11 (Thereupon a slide presentation.)

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

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

18 --o0o--

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

25 --o0o--

1           AQPSD AIR POLLUTION SPECIALIST FINE: With the  
2 1977 amendments to the federal Clean Air Act, congress  
3 established a national goal to remedy existing and prevent  
4 future visibility impairment resulting from human caused  
5 air pollution in specific large National Parks and federal  
6 Wilderness Areas where visibility was identified as an  
7 important value.

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

18                               --o0o--

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

1 visibility conditions.

2 --o0o--

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

7 --o0o--

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

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

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

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

1 more milestones ahead.

2 --o0o--

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

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

21 Through decades of monitoring and analyses, we  
22 know that many of the same pollutants driving  
23 non-attainment also are the dominant contributors to haze  
24 in Class 1 areas. Beyond mobile sources, California is  
25 pioneering efforts to identify and address emissions that

1 disproportionately impact air quality in many communities.  
2 California's integrated planning process is one that  
3 considers the host of air quality goals, identifies  
4 strategies necessary to meet those goals, and then creates  
5 actionable plans. For many states, the Regional Haze SIP  
6 is the only SIP that they must put together.

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

10                   --o0o--

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

13                   --o0o--

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

25           Deciviews represent the level of visibility



1 impairment. As shown in the scale at the bottom of the  
2 slide, visibility or the visual range improves as  
3 deciviews and light extinction decrease.

4 --o0o--

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

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

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

1 those adjustments.

2 --o0o--

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

5 --o0o--

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

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

11 --o0o--

12 AQPSD AIR POLLUTION SPECIALIST FINE: In today's  
13 presentation, I will spotlight three of California's Class  
14 1 areas. Redwood National Park is located along the  
15 northern most coast of California in a rural, remote area.  
16 Sequoia National Park is in the central Sierras adjacent  
17 to the San Joaquin Valley. The San Gabriel Wilderness is  
18 located inland from the Los Angeles metropolitan area.

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

21 --o0o--

22 AQPSD AIR POLLUTION SPECIALIST FINE: This slide  
23 shows a summary of the types of particles contributing to  
24 haze at the three spotlight sites.

25 --o0o--



1 CHAIR RANDOLPH: -- for those of us who are sort  
2 of air quality newbies. Could you -- just briefly, what  
3 are the sources of ammonium nitrate and ammonium sulfate?

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

16 Thank you for the question.

17 BOARD MEMBER BALMES: And wildfires also generate  
18 NOx too.

19 CHAIR RANDOLPH: Yes.

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

22 Like Redwood National Park, the Sequoia National  
23 Park data show that a ammonium nitrate accounts for most  
24 of the haze attributable to human-caused emissions from  
25 the U.S. The prescribed fire group again accounts for a

1 small share of haze on the most impaired days and ammonium  
2 sulfate accounts for most of the haze from international  
3 sources. Organic mass and ammonium sulfate again account  
4 for most of the haze from natural sources.

5 --o0o--

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

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

18 --o0o--

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

25 We know that emissions of nitrogen oxides, or

1 NOx, generally drive the formation of nitrates. Thus, the  
2 focus of the proposed plan is on ensuring that NOx  
3 emissions are reduced during this planning period and  
4 those reductions provide for improved visibility.

5 --o0o--

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

9 --o0o--

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

15 --o0o--

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

23 The yellow portion of the bar represents oxides  
24 of sulfur, or SOx, emissions which account for a very  
25 small portion of statewide emissions. As shown earlier, a

1 relatively small portion of human caused haze is  
2 attributable to ammonium sulfate which are particles  
3 formed from SOx emissions. Significant NOx emission  
4 reductions are the primary element of our long-term  
5 strategy in this Regional Haze Plan.

6 --o0o--

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

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

21 --o0o--

22 AQPSD AIR POLLUTION SPECIALIST FINE: Baseline,  
23 current, and 2028 reasonable progress goals are summarized  
24 on this slide. Note that the 2028 goals are at or better  
25 than the glide path.

1                   --o0o--

2                   AQPSD AIR POLLUTION SPECIALIST FINE: To  
3 supplement our focus on mobile sources, we also developed  
4 a process to screen stationary sources with the intent to  
5 ensure that reasonable controls were in place or would be  
6 put in place at larger stationary sources. The steps in  
7 this process are summarized on this slide and we'll  
8 provide an update on the controls at stationary sources in  
9 our 2025 progress report.

10                   --o0o--

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

14                   --o0o--

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

19                   --o0o--

20                   AQPSD AIR POLLUTION SPECIALIST FINE: Comment  
21 letters on the proposed plan were provided by staff from  
22 National Parks Service and the U.S. Forest Service. The  
23 Parks Service noted that they appreciated mobile source  
24 emission reductions that will be achieved through CARB's  
25 actions and the co-benefits for haze, but expressed



1 concerns that CARB is missing an opportunity to control  
2 emissions from stationery sources.

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

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

12                           --o0o--

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

17                           --o0o--

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

1 from this sector.

2 Further, due to our air quality challenges,  
3 California has stringent stationary source control  
4 programs that are continuing to evolve. Local efforts to  
5 reduce emissions from large stationary sources is ongoing  
6 and State efforts to implement a comprehensive stationary  
7 source emissions inventory has been initiated. CARB staff  
8 will provide an update on these ongoing efforts in the  
9 2025 progress report and will continue to engage with  
10 stakeholders on these efforts and the implications for  
11 regional haze moving forward.

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

18 Another commenter raised points about the  
19 significance of fire regimes and uncertainty in natural  
20 conditions estimates. We agree that there is uncertainty  
21 in the estimates for natural conditions and fire is an  
22 important planning consideration. Given the iterative  
23 nature of haze planning, there will be opportunity to  
24 incorporate new information concerning estimated natural  
25 conditions and emissions from fire into our future haze

1 plans.

2           The comments provided by stakeholders throughout  
3 the development of this plan are being thoroughly  
4 considered and will continue to play into regional haze  
5 planning in the future. Ultimately, the strategy laid out  
6 in this plan is based on the best available technical  
7 information that we have. Regional haze planning is  
8 iterative and for the development of each plan we'll take  
9 new look at visibility conditions, progress, and human  
10 caused emissions driving the formation of haze. This  
11 information will provide the basis of strategies developed  
12 to ensure that visibility continues to improve.

13           --o0o--

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

24           Thank you.

25           CHAIR RANDOLPH: Thank you.

1           Do we have members of the public who have signed  
2 up to speak on this item either in person or on Zoom

3           BOARD CLERK GARCIA: No commenters at this time.

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

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

13           Okay. Board Member Kracov.

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

23           On this one, I'll be voting yes. I did read, you  
24 know, from some of the commenters who asked for more  
25 controls on stationary sources. I mean, speaking for the

1 South Coast, we have the strongest stationary source  
2 controls probably in the world. So I'm just not sure how  
3 much, you know, more juice we can get from that lemon.  
4 We've already squeezed it so much.

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

19           Thank you.

20           CHAIR RANDOLPH: Thank you.

21           Any other comments?

22           Dr. Balmes.

23           BOARD MEMBER BALMES: I just want to thank staff  
24 for a good job both with the presentation but more  
25 importantly for the work on the Regional Haze SIP. Those

1 of us that like to go to National Parks really would like  
2 them to be cleaner and more visible. And I think that,  
3 you know, our contribution to the, you know, regional --  
4 Western Regional Haze Program is important. And, you  
5 know, I would move that we accept the staff  
6 recommendations.

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

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

11 BOARD CLERK GARCIA: Dr. Balmes?

12 BOARD MEMBER BALMES: Yes.

13 BOARD CLERK GARCIA: Mr. De La Torre?

14 BOARD MEMBER DE LA TORRE: Yes.

15 BOARD CLERK GARCIA: Senator Florez?  
16 Ms. Hurt.

17 BOARD MEMBER HURT: Aye.

18 BOARD CLERK GARCIA: Mr. Kracov?

19 BOARD MEMBER KRACOV: Yes.

20 BOARD CLERK GARCIA: Mrs. Riordan?

21 BOARD MEMBER RIORDAN: Aye.

22 BOARD CLERK GARCIA: Professor Sperling?

23 BOARD MEMBER SPERLING: Yes.

24 BOARD CLERK GARCIA: Ms. Takvorian?

25 BOARD MEMBER TAKVORIAN: Yes.

1 BOARD CLERK GARCIA: Vice Chair Berg?

2 VICE CHAIR BERG: Yes.

3 BOARD CLERK GARCIA: Chair Randolph?

4 CHAIR RANDOLPH: Yes.

5 BOARD CLERK GARCIA: Madam Chair, the motion  
6 passes.

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

11 (Laughter)

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

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

21 CHAIR RANDOLPH: All right. Thank you. Okay.  
22 The last item on the agenda for today is Item number  
23 22-9-4, 2021 Annual Enforcement Report.

24 If you are here with us in the room and wish to  
25 comment on this item, please fill out a request to speak

1 card as soon as possible and submit it to a Board  
2 assistant. If you are joining us remotely and wish to  
3 comment on this item, please click the raise button or  
4 dial star nine now. We will call on both in-person and  
5 remote commenters when we get to the public comment  
6 portion of this item.

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

13           CHIEF COUNSEL PETER: Thank you, Chair Randolph.  
14           Enforcement programs protect public health,  
15 especially in disadvantaged communities by helping bring  
16 noncompliant companies into compliance. Also, our  
17 enforcement efforts ensure emission reductions envisioned  
18 when regulatory programs were adopted, are actually  
19 achieved in practice.

20           The implementation of enforcement programs is a  
21 team effort across CARB. This year's report includes a  
22 thorough analysis of compliance rates across programs to  
23 evaluate their effectiveness and identify where  
24 improvements can be made to better achieve our goals. The  
25 report also describes actions we are taking to improve our



1 enforcement programs, especially in disadvantaged  
2 communities. There, we're redesigning our enforcement  
3 work to be more responsive to community needs. The report  
4 further discusses our work by program type and closes with  
5 a discussion of where our enforcement efforts are going  
6 for the remainder of 2022 and beyond.

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

9 Mae.

10 (Thereupon a slide presentation.)

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

14 --o0o--

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

1 moving in 2022.

2 --o0o--

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

6 --o0o--

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

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

22 --o0o--

23 ED AIR POLLUTION SPECIALIST COLCORD: Enforcement  
24 is a collaborative effort within and outside of CARB. In  
25 2021, we continued to focus our enforcement work in

1 disadvantaged communities. We conducted nearly 12,000  
2 inspections of diesel vehicles, equipment, and ships with  
3 80 percent of inspections in these communities. We  
4 conducted 12 mobile PEAQS deployments across the state,  
5 many of which were in these communities, screening nearly  
6 15,000 vehicles to identify those with high emissions for  
7 further enforcement follow up and ensure compliance, and  
8 diverted \$6.8 million in penalties to Supplemental  
9 Environmental Projects, or SEPs, benefiting disadvantaged  
10 communities. Lastly, we resolved 2,746 cases and  
11 citations for more than \$18 million in penalties.

12 --o0o--

13 ED AIR POLLUTION SPECIALIST COLCORD: Also, in  
14 2021, we assessed compliance rates in key programs to  
15 evaluate how well our enforcement programs are working and  
16 how they may be improved.

17 --o0o--

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

24 In past years, we have focused this analysis on  
25 two of CARB's key programs, the Truck and Bus Regulation,

1 and the At-Berth, or Shore Power, Regulation. Compliance  
2 rates for these programs are calculated industry-wide  
3 using independent data sources to assess compliance and  
4 focused enforcement efforts directly on noncompliant  
5 vehicles and fleets.

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

9 --o0o--

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

20 --o0o--

21 ED AIR POLLUTION SPECIALIST COLCORD: Using EDVS,  
22 compliance rates are calculated by comparing the number of  
23 violations found during inspections to the overall number  
24 of inspections conducted. These quantitative compliance  
25 rates are informative, especially when compared over time.



1 disadvantaged communities are high for most program  
2 communities are -- communities are still experiencing  
3 impacts from emission sources

4 --o0o--

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

9 I will discuss these efforts in the next few  
10 slides.

11 --o0o--

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

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

25 --o0o--

1 ED AIR POLLUTION SPECIALIST COLCORD:

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

8 Since the start of the program, we have  
9 distributed \$20 million in penalties to projects in  
10 disadvantaged communities. In 2021 alone, we allocated  
11 \$6.8 million in penalties to SEP projects. Last year,  
12 the program funded tree plantings in Fresno, as pictured  
13 on the slide, school air filtration systems across the  
14 state, and air quality education programs.

15 --o0o--

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

22 In November 2021, we conducted a three-day  
23 enforcement event in the Portside EJ Neighborhoods  
24 Community and the International Border Community. We  
25 conducted both facility and roadside inspections,

1 resulting in a total of 245 vehicle and equipment  
2 inspections and 20 citations issued.

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

6 --o0o--

7 ED AIR POLLUTION SPECIALIST COLCORD: Similarly,  
8 Enforcement Division conducted an AFI in West Oakland in  
9 August 2021 in collaboration with the West Oakland  
10 Environmental Indicators Project. West Oakland is an AB  
11 617 community heavily impacted by the ports, trucking  
12 activities, and industrial facilities.

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

19 --o0o--

20 ED AIR POLLUTION SPECIALIST COLCORD: To reduce  
21 emissions from oil and natural gas operations, CARB  
22 adopted the California Oil and Gas Regulation, which is  
23 enforced by CARB and by local air districts through  
24 memorandum of agreement. CARB also leverages resources  
25 through interagency collaboration, data, and technology to



1 help target inspections at oil and gas facilities with  
2 excess emissions and collaborates with other agencies such  
3 as CalEPA, CalGEM, U.S. EPA, and local air districts to  
4 address community concerns.

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

13 --o0o--

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

22 In an effort to address these impacts,  
23 Enforcement has begun developing a community-based  
24 approach that builds on the idea that part of achieving  
25 environmental justice is making sure we are partnering

1 directly with community members to truly understand  
2 community issues more holistically. We will collaborate  
3 with community members as partners to identify strategies  
4 that may help to solve the problems community members are  
5 experiencing and to document and report on our  
6 understanding of the issues, the results, and lessons  
7 learned from our enforcement work and the next steps that  
8 we think could be taken to address underlying community  
9 issues.

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

14 --o0o--

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

20 --o0o--

21 ED AIR POLLUTION SPECIALIST COLCORD: The Truck  
22 and Bus Regulation, results in some of the most  
23 significant reductions in harmful diesel emissions from  
24 heavy-duty diesel trucks. Achieving compliance over the  
25 years has been challenging, due to the high volume of

1 vehicles subject to these requirements. Despite the  
2 challenge, CARB been successful in increasing compliance  
3 rates to over 95 percent with 98 percent for the heaviest,  
4 highest emitting trucks.

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

16 --o0o--

17 ED AIR POLLUTION SPECIALIST COLCORD: Most excess  
18 emissions will be generated by a small fraction of  
19 high-emitting trucks. The Portable Emissions Acquisition  
20 System, or PEAQS, is a roadside emissions monitoring  
21 system used by Enforcement Division to screen for  
22 high-emitting vehicles and can be deployed as an  
23 unattended platform at stationary locations or as a mobile  
24 platform in conjunction with field enforcement staff. A  
25 streamlined pilot project was implemented beginning late

1 2021 during which 433 letters were sent to high-emitting  
2 vehicles detected by our stationary PEAQS units.

3 We are continuing to send out more noncompliance  
4 letters throughout 2022 as a precursor to identifying  
5 high-emitting vehicles in the Heavy-Duty Inspection and  
6 Maintenance Program. Enforcement staff also deployed  
7 mobile PEAQS units during 12 field enforcement events in  
8 2021, screening nearly 15,000 vehicles and issuing 224  
9 citations.

10 --o0o--

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

21 --o0o--

22 ED AIR POLLUTION SPECIALIST COLCORD: California  
23 ports are a significant source of nitrogen oxides and  
24 particulate matter emissions in the state. Two of CARB's  
25 regulations aimed at reducing emissions from these sources

1 through implementation and enforcement are the At Berth  
2 Regulation, and the Ocean-Going Vessels Fuels Regulation.

3 --o0o--

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

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

18 --o0o--

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

25 The yellow line indicates the percent of megawatt

1 hours reduced statewide by all fleets each year. Until  
2 2020, the regulatory requirement was met or exceeded on a  
3 statewide average, meaning the emissions reduction goals  
4 of the regulation were also being met. However, in 2020,  
5 the regulatory requirement increased to 80 percent while  
6 fleets were only able to reduce their power by 75 percent  
7 on the whole. We believe a number of factors contributed  
8 to this, including the new regulatory requirement and the  
9 year's unique impacts as previously mentioned.

10 --o0o--

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

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

7                           --o0o--

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

11                           --o0o--

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

21           But sometimes during emissions testing and  
22 investigation, CARB staff identifies issues that go beyond  
23 failing parts. Possible violations include failure to  
24 report or disclose information during or after  
25 certification or illegal software called a defeat device.





1 manufacturing warranty and durability requirements are  
2 met.

3 --o0o--

4 ED AIR POLLUTION SPECIALIST COLCORD: Due to a  
5 dramatic growth in wildfires and concerns about COVID-19  
6 transmissibility, California has seen an increase in sales  
7 of indoor air cleaning devices. Approximately, 1,500  
8 indoor air cleaning devices were newly certified in 2021,  
9 which is nearly double the number of devices certified in  
10 2020.

11 Enforcement staff have responded quickly to the  
12 increased number of complaints and referrals received from  
13 the public regarding these devices. In 2021, more than  
14 \$100,000 in penalties were assessed from three companies  
15 for selling uncertified indoor air cleaning devices in  
16 California.

17 --o0o--

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

23 --o0o--

24 ED AIR POLLUTION SPECIALIST COLCORD: In 2021, we  
25 continued to support districts through our more

1 traditional training and enforcement support programs. In  
2 addition, we are hearing concerns from communities about  
3 specific stationary source facilities and their impacts,  
4 and as a result, have begun taking a more proactive role  
5 in reviewing local permitting and policy decisions and  
6 coordinating with air districts on any needed follow up.  
7 We have also worked to increase our transparency by  
8 publishing results of our stationary source inspections in  
9 EDVS.

10 --o0o--

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

16 --o0o--

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

1 also expanded our online training offerings, launching  
2 three new trainings in 2021.

3 --o0o--

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

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

21 --o0o--

22 ED AIR POLLUTION SPECIALIST COLCORD: Enforcement  
23 staff inspect landfills for exceedances of methane in  
24 conjunction with local air districts. CARB currently  
25 holds MOUs with 23 air districts to implement and enforce

1 CARB's landfill methane regulation. This coordination  
2 among CARB and local inspectors is important to better  
3 understand the compliance rates of this and similar  
4 programs.

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

13 --o0o--

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

23 --o0o--

24 ED AIR POLLUTION SPECIALIST COLCORD: Finally,  
25 I'll discuss our current vision and future plans.

1                   --o0o--

2                   ED AIR POLLUTION SPECIALIST COLCORD: We continue  
3 to work to be more effective in our enforcement efforts  
4 and interactions with disadvantaged communities. We are  
5 using the results of our compliance analyses to enhance  
6 enforcement and programs with lower compliance rates and  
7 as CARB develops new regulations, we provide input to help  
8 ensure enforceability. We are developing our next  
9 generation of enforcement tools and expanding our work on  
10 stationary sources.

11                   --o0o--

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

16                   Thank you.

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

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

25                   So Cynthia, I have activated your microphone.

1 Please unmute and you can begin.

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

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

24 The current laws are not protecting us including:  
25 AB 1358, complete Streets Act; SB 375, land use and

1 greenhouse gas reductions, better transportation  
2 corridors, and statewide land use implementation; SB 535  
3 and AB 1550, which would direct funding to our EJ  
4 communities provided that these ground zero grassroots  
5 communities have the Capacity to apply; and until  
6 recently, AB 617, the Community Air Protection Program,  
7 which allowed a warehouse to be built recently in our  
8 community

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

20           BOARD CLERK GARCIA: Thank you.

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

23           MURIEL STRAND: Thank you. My name is Muriel  
24 Strand. I am a retired air resources engineer. And as  
25 such, I have been well acquainted with the excellence of

1 your compliance department. However, I am talking today  
2 about a gap in the compliance mandate that the Board has a  
3 legislative and regulatory gap, namely noise pollution,  
4 which I have long called the orphan form of air pollution.

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

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

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

19 BOARD CLERK GARCIA: Thank you.

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

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

24 BOARD CLERK GARCIA: Yes, we can.

25 TOM KRAZEN: Okay. My name is Tom Krazen and I'm



1 with CADWRA. CADWRA is Californians for Affordable  
2 Drinking Water and in Rural Areas. I'm also a water well  
3 driller. I'm a C-57 contractor.

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

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

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

25           And also, if I'm on a remote piece of property

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

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

14 CHAIR RANDOLPH: All right. Board Member  
15 Riordan.

16 BOARD MEMBER RIORDAN: Yes. I wanted to thank  
17 the staff for your presentation and also the work that you  
18 do. And I know four of you are but a small part of the  
19 enforcement effort that goes on here at CARB. I want to  
20 specifically say how much training is important to working  
21 with your local air districts. And I'm hoping that we  
22 continue in that vein, because I think it gives  
23 consistency across the state. And there are a number of  
24 districts that can really use your expertise because  
25 they're small and they don't have necessarily all the

1 expertise that we might have and you specifically might  
2 have. So those are the two things that I wanted to bring  
3 to your attention. And I do appreciate the report today.

4 CHAIR RANDOLPH: Dr. Balmes.

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

18 CHAIR RANDOLPH: Board Member Hurt.

19 BOARD MEMBER HURT: Thank you, Chair. Just a  
20 quick question. And I'm thinking about the community at  
21 this point. And I was really struck by the fact that you  
22 said that there are different agencies all with  
23 enforcement capability or authority. Is there like a  
24 document or a website page we could direct folks to to  
25 clarify the structure of enforcement powers, because I

1 definitely hear at the local air district that some people  
2 call in, and then it kind of gets kicked to CARB, and then  
3 it kind of gets kicked to U.S. EPA. And people get  
4 frustrated and that's -- we start losing trust again that  
5 there are really people interested in making sure people  
6 comply.

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

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

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

1           So thank you.

2           CHAIR RANDOLPH: Board Member Takvorian.

3           BOARD MEMBER TAKVORIAN: Thank you, Chair.

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

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

25           I would like to ask you if you have thoughts

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

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

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

24           And so it's a provision of that bill. And I'm --  
25 I know that the Air District is taking it really

1 seriously. It's a brand new board and they're very  
2 excited about having your thoughts about it. So I think  
3 that's really helping them to remake the air district.  
4 And I just -- this is going to age me just a little bit,  
5 but there was a CARB audit that happened in like 2003, or  
6 4, or something like that, and that's something that was  
7 in the library that we were able to take a look at, and  
8 has been useful all these many years. And I know this one  
9 will be as well.

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

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

23 BOARD MEMBER DE LA TORRE: Thank you, guys.  
24 You're absolutely stellar in what you're doing out there.  
25 I -- you know, we get so many -- we all get so many

1 compliments about what -- what you do on the day-to-day  
2 basis. I will repeat what two of my colleagues said about  
3 the AB 617 work, phenomenal. Exactly what we wanted to do  
4 there which is to replicate good programs in these places.  
5 And you're -- you're a big part of that.

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

19           And I know it says, and I know the process, they  
20 get a courtesy letter telling them that they were --  
21 because you can't do it from third parties, but do you put  
22 them on some list as a result of that or any kind of  
23 follow up for any kind of enforcement or does -- is the  
24 courtesy letter it, especially now that we have the Smog  
25 Check Program.



1 ED ASSISTANT DIVISION CHIEF QUIROS: Yeah, on the  
2 courtesy letter, we do. We do incorporate that. So we  
3 try to identify noncompliance and sort of triage the --  
4 prioritize, I guess, who we go after with our resources.  
5 And so yeah, the type of information gets included. We  
6 try to send the letter just to give them sort of a  
7 notification --

8 BOARD MEMBER DE LA TORRE: Uh-huh.

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

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

18 Thank you.

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

25 But following up on Board Member De La Torre, you

1 know, you might want to meet on this inspection and  
2 maintenance. I think you have a real opportunity with the  
3 new database that's being built to be able to tag easier  
4 and see if a truck that has a lot of smoke is also  
5 complying with the inspection and maintenance. And maybe  
6 that is then a more streamlined ability for you to be able  
7 to help people be in compliance and taking care of those  
8 repairs. It is badly needed.

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

18           And then my third point is that, you know, you  
19 have been developing these agency partnerships. I  
20 remember when the Truck and Bus Rule that we didn't have a  
21 partnership with CHP for example and we had to develop  
22 that. They had all these roadside inspections, but we're  
23 a little -- saying well, I don't know that we want to take  
24 on the extra work of enforcing CARB. We did a lot of  
25 joint work together. That was impressive. You know, we

1 might want to try that with some of the oil and gas that  
2 you're out and looking at these neighborhoods, these oil  
3 wells, making sure the leaks and some of the emissions.  
4 So that was just an observation.

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

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

20           BOARD MEMBER KRACOV: Yes. So thank you very  
21 much for the presentation. And, you know, excited about  
22 the focus on the disadvantaged communities and the 617  
23 work. It really seems to me to be a pretty elegant  
24 solution. You have the communities there attending the  
25 meetings. There can be a dialogue back and forth about

1 what issues, whether they're mobile or stationary are  
2 important to them. You've got the districts there. And,  
3 you know, we have decided that these are the priority  
4 communities for these kind of local actions. So us being  
5 present there and listening to the community.

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

13           I know we talk about the PEAQS devices there to  
14 monitor the emission from the mobile sources. And picking  
15 up on what Vice Chair Berg just had to say, you know,  
16 between the truck and bus phaseout, between, you know,  
17 I&M, you know, there's a lot of work to do in this space.  
18 And I think the enforcement group here is really going to  
19 be important in that, not to play gotcha with industry.  
20 We're trying to get folks in compliance, but I think the  
21 PEAQS -- and I know we're spending a lot of effort on  
22 getting those deployed perhaps in San Diego, but really in  
23 the San Joaquin Valley. Again, working with the harbor  
24 truckers, really with the focus on compliance and  
25 education.

1 I'd love to see one of those just camped out  
2 permanently on the 710 Freeway, you know, at the ports.  
3 Driving up and down that 710, the amount of trucks, the  
4 congestion, the need for compliance is just obvious for  
5 anybody that lives in Los Angeles.

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

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

1 as well.

2 And thank you for the presentation today.

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

5 Thank you.

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

10 DEPUTY EXECUTIVE OFFICER SEGALL: Correct.

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

18 So with that, thank you very much. Appreciate  
19 the presentation. And obviously we don't have a vote,  
20 because this is just an update. But thank you and looking  
21 forward to hearing the report next year as well. And now  
22 we have open public comment.

23 BOARD MEMBER TAKVORIAN: Chair.

24 CHAIR RANDOLPH: Oh, sorry.

25 BOARD MEMBER TAKVORIAN: I'm sorry.

1 CHAIR RANDOLPH: Oh, no, no. That's okay.

2 BOARD MEMBER TAKVORIAN: I should have asked you  
3 on the said. Not related. Thank you so much.

4 I just had one comment I wanted to make before we  
5 went to public comment, because I have to run to the  
6 airport. Would that be okay?

7 CHAIR RANDOLPH: Yes.

8 BOARD MEMBER TAKVORIAN: And it's -- I just  
9 wanted to really acknowledge CARB the Monitoring and  
10 Laboratory Division, the Air Quality Planning and Science  
11 Division, and the Research Division, you all may remember  
12 that in July of 2020 we had a horrific fire on the Navy  
13 ship, which burned for four days. And it was not well  
14 monitored and the response wasn't great. It really  
15 exposed. It was right there on the portside communities,  
16 West National City, Barrio Logan, the entire south bay was  
17 really inundated with the smoke.

18 So we asked would CARB please take a look at the  
19 protocol and the response, and they did. There's been  
20 multiple public meetings and they issued the report in  
21 May. It's excellent. We really, really appreciate the  
22 work that CARB did to really help us to come to a better  
23 place with response. We have a very industrialized  
24 waterfront in the south bay. And I know many other places  
25 have it as well. So hopefully, it's advanced our ability

1 to respond to these kinds of emergencies.

2 I just wanted to put it on record that we really  
3 appreciate it and it's part of us moving forward in a very  
4 effective way. So I just wanted to thank everyone and  
5 please pass that along to the -- to the folks who've done  
6 all this good work.

7 Thank you.

8 CHAIR RANDOLPH: Thank you so much.

9 Okay. Now, we have public comment on items that  
10 not on the agenda for the two-day meeting.

11 Clerks, please call the commenters.

12 BOARD CLERK GARCIA: Yes. We have three  
13 commenters who wish to speak at this time.

14 That's Todd Campbell, Sean Edgar, and John  
15 Bottorff.

16 So, Toddy, I have activated your microphone.  
17 Please unmute and begin.

18 TODD CAMPBELL: Thank you, Madam Chair and  
19 members of the Board. I wanted to congratulate you on  
20 concluding a very long two-day Board meeting, but I'm also  
21 very upset. I'm upset because I've complained about and  
22 have been very concerned about Craig Segall's constant  
23 discussion about a study -- and in-use study for low-NOx  
24 trucks that has not been concluded, has not been able to  
25 be peer reviewed. We have not been able to review the



1 data. We don't know really what exactly he's talking  
2 about in terms of what the emissions are with the low-NOx  
3 truck.

4 But as you know, I've talked to you about this at  
5 the toast of the Coalition -- at the Coalition for Clean  
6 Air feeling it's very unfair. I feel like it's -- you  
7 know, like when I was a council member in the City of  
8 Burbank, so when, you know, basically say to you when was  
9 the last time you beat your wife. It's really unfair to  
10 make comments and to create damage for an industry,  
11 especially one that's trying to clean up the air without  
12 being presented the facts without being presented the  
13 data.

14 So if we're going to continue to talk about it,  
15 share the data with us, give us the study so that we can  
16 comment. Let us review what you're talking about. From  
17 my understanding from the South Coast, you are  
18 overstepping and inflating a study that has not been peer  
19 reviewed and it's disgusting. So I would kindly ask this  
20 Board to make Mr. Segall make a choice, either stop  
21 talking about it until you release it to the public and  
22 allow us to review it or provide us with the study.  
23 Otherwise, it's super unfair to an industry that's trying  
24 to do the right thing and help the Air Resources Board and  
25 this State meet its air quality and climate change goals.

1           And with that, I'm sorry to end a meeting like  
2 that -- on that note, but it's -- it's enough. At this  
3 point, it's just -- it's gotten enough and it's incredibly  
4 frustrating for us to have to sit there and take it. It's  
5 been like a campaign by him, and, you know, whoever else  
6 on staff for almost a year now, and we still haven't seen  
7 the study. It's not fair. Something needs to change and  
8 I hope this Board demands that we be able to see what he's  
9 talking about.

10           Thank you.

11           BOARD CLERK GARCIA: Thank you.

12           Sean, I have activated your microphone. Please  
13 unmute and begin.

14           SEAN EDGAR: Hi. Good afternoon. How is my  
15 volume?

16           BOARD CLERK GARCIA: Sounds good.

17           SEAN EDGAR: Great. Thank you very much for this  
18 opportunity to speak a little bit about the Advanced Clean  
19 Fleets proposal. For the record, I'm Sean Edgar. I'm the  
20 Director of Clean Fleets. Our organization has been  
21 working with CARB staff for the last 22 years on  
22 implementing the Diesel Risk Reduction Plan. And I've  
23 been working on CalEPA in multimedia issues for 31 years.  
24 And so the conversation about satisfying multiple  
25 requirements to improve the environment is something that

1 our firm has worked on. And as part of the Edgar  
2 Institute, we also are privileged to represent the  
3 California Compost Coalition. And the conversation  
4 yesterday was very refreshing to hear that compost is  
5 valued, to hear that natural and working lands are valued.

6 And I'll just take a few minutes to  
7 concentrate -- and I appreciate Board Member Kracov and  
8 also Board Member Sperling punctuating that the waste  
9 industry is in a unique position to help on early  
10 reductions using renewable natural gas and has some early  
11 adopter strategies that we hope to continue in dialogue  
12 with the Board.

13 But just the key items just to refresh the Board.  
14 CARB has had no better friend than the solid waste  
15 collectors that our group works with. And what I mean by  
16 that is for well over 20 years, the solid waste industry  
17 have been pioneers in advanced technologies, huge, huge  
18 investment, especially in renewable natural gas projects.  
19 As I was reflecting on yesterday's discussion, if there is  
20 a -- you know, medical diagnosis as the Board was going  
21 through -- and Dr. Balmes did a good job talking about  
22 health effects, but if I were to try to dissect some of  
23 the Board testimony particularly yesterday, if -- if we've  
24 got the left hand in a way of the political spectrum  
25 fighting with the right hand of the political spectrum.

1           And I'm not sure whether CARB is in the position  
2 to have to do brain surgery or heart surgery, but the  
3 folks I work with I consider more like the big toe. And  
4 what I mean by that is it's things that you do not think  
5 of very often, until you've got a problem with it. So as  
6 the big toe, the solid waste industry consistently  
7 delivers emission reduction programs to you, because  
8 you're our customer. Your roll your carts out to the curb  
9 every week. We send a guy along in a really expensive  
10 truck to pick up your waste. And then more and more  
11 occasions, we're converting your waste into transportation  
12 fuel.

13           And so I'm excited of the discussion earlier  
14 today. I'm encouraged as we get to the ACF discussion.  
15 We've constantly reminded your staff that we merit a  
16 transition plan for renewable natural gas burning fleets.  
17 I was encouraged by the discussion earlier today, that  
18 that looks like that discussion should continue. And I  
19 engage in that conversation as soon as staff is ready.

20           Thank you.

21           BOARD CLERK GARCIA: Thank you.

22           After John, we'll hear from Suzanne Hume.

23           So John I have activated your microphone. Please  
24 unmute and begin.

25           JOHN BOTTORFF: Yes. Thank you very much. Chair

1 Randolph and Board members. My name is John Bottorff with  
2 CleanEarth4kids.org. I wanted to make a few points.

3 First, we must quickly move to energy that does  
4 not burn anything. Replacing air pollution from the  
5 burning of fossil fuels with air pollution from burning  
6 biofuels is not an option. We must transition to clean  
7 renewable energy very quickly. We must only invest in  
8 clean renewable energy. The work by researchers like Mark  
9 Z. Jacobson from Stanford make it very clear that we  
10 already have the technology we need to completely  
11 transition from fossil fuels. We just need to do it.

12 Technologies like direct air capture are not  
13 needed and waste money and valuable resources away from  
14 proven methods. Now, one thing I have not heard anyone  
15 speak of, is that it is not realistic that we can safely  
16 store large amounts of CO<sub>2</sub>, which is a dangerous gas.

17 Carbon dioxide is an asphyxiant that displaces  
18 oxygen. Even small exposure to excess CO<sub>2</sub> can cause  
19 coughing, shortness of breath, increased heart rate,  
20 dizziness, headache, nausea, lack of concentration,  
21 disorientation, and impaired cognitive performance. At  
22 higher levels, it can cause convulsions, coma, and death.

23 CO<sub>2</sub> is corrosive and will eat through the steel  
24 used in Petroleum pipelines. CO<sub>2</sub> pipelines would also  
25 have to run at significantly higher pressures than natural

1 gas pipeline, increasing the chance of leaks. Reusing  
2 pipelines would be a disaster in the making. The fossil  
3 fuel industry says CO2 storage and transport is safe and a  
4 great solution, because it makes them money and extends  
5 their monopoly on energy. This is the same industry that  
6 still insists fracking is safe. They demonstrated a long  
7 history of leaks from every thing they do, like the  
8 Huntington Beach pipeline. And, of course, we all  
9 remember the massive methane leak at Aliso Canyon, so many  
10 more leaks and spills, the same type of -- doing the same  
11 type of thing with carbon dioxide is a disaster.

12           We must also transform the agricultural sector.  
13 Some of you -- several of you mentioned that. I ask  
14 California to set high goals and push to meet them.  
15 Conventional farming relies on synthetic pesticides, which  
16 destroys all the organism in healthy soils, stopping the  
17 land from absorbing carbon. Healthy soils must be a major  
18 part of CARB's plan and that means stopping the use of  
19 synthetic pesticides. Considering the vast majority of  
20 synthetic pesticides come from fossil fuels, it also will  
21 be greatly reducing the use of fossil fuels and depends on  
22 it.

23           Please set a goal of 50 percent of all  
24 agricultural land being organically farmed by 2030 and set  
25 a goal of 70 percent reduction of synthetic pesticides by

1 2030. The time for playing it safe is long past. We are  
2 in a climate emergency and we must take bold and strong  
3 action quickly and immediately. Our window is closing.  
4 We must focus on human health and protecting lives instead  
5 of profits.

6 Thank you from CleanEarth4kids.

7 BOARD CLERK GARCIA: Thank you.

8 Suzanne, I've activated your microphone. Please  
9 unmute and begin.

10 SUZANNE HUME: Thank you so much. Good  
11 afternoon. My name is Suzanne Hume and I'm the  
12 Educational Director and founder of CleanEarth4kids.org.  
13 Thank you to the Board, and the staff, and everyone out  
14 there working for clean air for public health,  
15 environmental justice protection of our environment and  
16 taking action so our kids can have a livable future.

17 Today, we were hoping -- hoping to listen in on  
18 a conversation dedicated to public health, the public  
19 health section specifically, and listening to important  
20 benefits of reducing fossil fuel pollution, toxic  
21 chemicals and synthetic pesticides by 2030. In the plan,  
22 these are not fleshed out or stated clearly enough with  
23 health models at all. We must have this conversation.  
24 We're looking forward to attending that.

25 We must have the public health focused

1 conservations to -- about eliminating pollution and  
2 decarbonization, and stopping these toxic chemicals and  
3 pesticides.

4           These -- we're not just stalking about numbers of  
5 lives saved, we're talking about actual people here,  
6 children, moms, dads, aunts, uncles, grandmas and  
7 grandpas, and teachers like me. I was poisoned by  
8 pesticides used by an agricultural farm a hundred feet  
9 from where I lived and where people still live on three  
10 sides.

11           Legal is not safe in the United States. As you  
12 know, the U.S. only bans 15 pesticides China bans 51, and  
13 the EU bans 175 pesticides. As you know that between  
14 2011 and 2018, over 89 percent of our pesticide testing  
15 was waived, and they didn't have to do. For more  
16 information, we have it on Team 5 CleanEarth4Kids and  
17 Intercept has a nine-part article on the specifics of  
18 this.

19           So we've done a lot of research. I had some  
20 time. I had to leave my teaching job, because I was so  
21 sick. And there's a lot to talk about and do. But that  
22 piece that was missing in the public health section, I  
23 mean, it -- you can just do F7, right, and look for the  
24 word "pesticides", and you will be heart broken, because  
25 there's like hardly anything there.



1           So we know that, you know, how many millions of  
2 pounds in California, over 200 million pounds of  
3 pesticides were used in 2018. And we've got kids. You  
4 know, that it's legal in California for kids to work in  
5 agricultural fields. And CDPH is not doing what they need  
6 to do whatsoever. And you know how chemical insiders sit  
7 on local State and federal agencies and on boards, and  
8 it's really just tragic.

9           So I would ask everyone to please dig in and work  
10 to protect our kids and protect them from synthetic  
11 pesticides.

12           Thank you.

13           BOARD CLERK GARCIA: Thank you.

14           And that concludes the commenters for open  
15 comment.

16           CHAIR RANDOLPH: Thank you.

17           This meeting is now adjourned.

18           (Thereupon the Air Resources Board meeting  
19 adjourned at 3:03 p.m.)  
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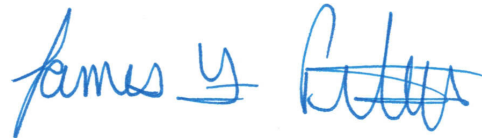
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I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

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  
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