

## DOCKETED

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CALIFORNIA ENERGY COMMISSION

In the Matter of:

2018-2019 Investment Plan        )  
Update for the Alternative        )  
And Renewable Fuel and         )  
Vehicle Technology Program       )

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ADVISORY COMMITTEE MEETING AND PUBLIC WORKSHOP

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

AUDITORIUM

2865 COPLEY DRIVE

DIAMOND BAR, CALIFORNIA

THURSDAY, MARCH 15, 2018

10:00 A.M.

Reported by:  
Gigi Lastra

Martha Nelson

APPEARANCES

COMMISSIONER

Janea Scott

GOVERNOR'S OFFICE

Tyson Eckerle, Governor's Office of Business and Economic Development

COMMITTEE MEMBERS

Brian Goldstein, Energy Independence Now

Joy Alafia, Western Propane Gas Association

Peter Cooper, California Employment Training Panel

Joe Gershen, California Advanced Biofuels Alliance

Claire Jahns, California Natural Resources Agency

Matthew Barth, University of California, Riverside

Analisa Bevan (for Steve Cliff), California Air Resources Board

Stephen Kaffka, California Biomass Collaborative,  
University of Davis

Bonnie Holmes-Gen, American Lung Association

Chris Shimoda, California Trucking Association

Justin Ward, California Fuel Cell Partnership, Toyota Motor North America

Irene Gutierrez (via WebEx), Natural Resources Defense Council

Ralph Knight (via WebEx), Consultant for Alternative-Fueled School Buses

Ellen Greenberg, California Department of Transportation

Eileen Tutt, California Electric Transportation Coalition

APPEARANCES

COMMITTEE MEMBERS

Joel Espino (via WebEx), The Greenlining Institute

John Shears (via WebEx), Center for Energy Efficiency and Renewable Technologies

STAFF

Charles Smith, Supervisor, Fuels and Transportation Division

John Kato, Deputy Director, Fuels and Transportation Division

Jacob Orenberg, Project Manager, Fuels and Transportation Division

Patrick Brecht, Assistant Project Manager, Fuels and Transportation Division

PUBLIC COMMENT

John Schott, ChargePoint

Bill Elrick, California Fuel Cell Partnership

Matt McClory, Toyota Motor North America

Naveen Berry, South Coast Air Quality Management District

Aaron Harris, Air Liquide

Wayne Leighty (via WebEx)

Emanuel Wagner (via WebEx written comment), Hydrogen Business Council

Steve Ellis, American Honda Motor Company

AGENDA

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1 shelter in place is necessary, such as in the  
2 event of an earthquake, please drop, cover you  
3 head and hold on to your chair.

4           So those are our housekeeping notes.

5           Again, good morning and welcome. I am  
6 Commissioner Janea Scott. We're just delighted  
7 to be here. We're really excited.

8           As you know, about two months ago  
9 Governor Brown issued a new executive order on  
10 zero-emission vehicles. And it calls for 5  
11 million zero-emission vehicles by 2030. And  
12 also, it's got an infrastructure goal in it which  
13 we, at the Energy Commission, are especially  
14 excited about, 250,000 charges by 2025, including  
15 10,000 DC fast chargers, 200 hydrogen stations.  
16 And it will really kick-start the transition to  
17 zero-emission transportation that the state has  
18 been working on. We really hope that this will  
19 help to accelerate the deployment of the  
20 infrastructure, and also to really leverage  
21 private dollars as we build this out.

22           And as you all know, transitioning to  
23 cleaner transportation is really important in the  
24 state of California and across the world. In  
25 California, 50 percent of our greenhouse gas

1 emissions are from the transportation sector,  
2 about 80 percent of our smog-forming nitrogen  
3 oxides which causes significant public health  
4 impacts, and about 95 of the diesel particulate  
5 matter here in the state. And that's why we're  
6 working so hard to transform our transportation  
7 system to one of zero-emissions to help us meet  
8 our climate goals, to help us meet our clean air  
9 standards, to help with petroleum reduction. And  
10 it's really exciting times.

11           We're delighted that there are additional  
12 dollars that will come to the Energy Commission  
13 through the Governor's budget for the zero-  
14 emission infrastructure. And so we'll talk with  
15 you about that with all of you all today.

16           I want to mention, also, that we will  
17 have some workshops specific to the charging  
18 infrastructure and to the hydrogen refueling  
19 infrastructure on May 14th to really delve down  
20 into what solicitations should look like, all of  
21 the sort of pre-solicitation type of workshop  
22 that the Energy Commission typically does. So  
23 just to give you all a heads-up, we warmly  
24 welcome your participation in that workshop.  
25 Again, it will be on May 14th.



1 I want to thank very much our Advisory  
2 Committee Members for being here today and  
3 lending their time and expertise to our program  
4 and to our investment plan.

5 And why don't we go ahead and start with  
6 introductions in the room. And maybe the easiest  
7 way to do that is to start -- of our Advisory  
8 Committee to start here on my right with Brian  
9 Goldstein, and then we'll just work our way down  
10 the row, and then we'll check to see who's in  
11 Sacramento.

12 So, Brian, please go ahead.

13 COMMITTEE MEMBER GOLDSTEIN: Good  
14 morning, everyone. It's Brian Goldstein,  
15 Executive Director of Energy Independence Now.

16 COMMITTEE MEMBER ALAFIA: Joy Alafia,  
17 President and CEO with the Western Propane Gas  
18 Association.

19 COMMITTEE MEMBER COOPER: This is Peter  
20 Cooper, Assistant Director at the Employment  
21 Training Panel of the State of California.

22 COMMITTEE MEMBER GERSHEN: Joe Gershen  
23 with the California Advanced Biofuels Alliance.

24 COMMITTEE MEMBER JAHNS: Claire Jahns,  
25 Assistant Secretary for Climate Issues at the

1 California Natural Resources Agency.

2 COMMITTEE MEMBER BARTH: Matt Barth,  
3 Professor at University of California, Riverside,  
4 Director of CE-CERT.

5 COMMITTEE MEMBER BEVAN: Analisa Bevan,  
6 California Air Resources Board.

7 MR. ECKERLE: Tyson Eckerle with the  
8 Governor's Office of Business and Economic  
9 Development.

10 COMMITTEE MEMBER KAFFKA: Steve Kaffka  
11 from UC Davis and the California Biomass  
12 Collaborative.

13 COMMITTEE MEMBER SHIMODA: Chris Shimoda,  
14 California Trucking Association.

15 COMMITTEE MEMBER WARD: Justin Ward with  
16 California Fuel Cell Partnership.

17 COMMISSIONER SCOTT: Excellent. And  
18 let's have the Energy Commission staff in the  
19 room please introduce themselves.

20 MR. SMITH: Charles Smith, Supervisor for  
21 the Fuels and Transportation Division's Program  
22 Integration Unit.

23 MR. KATO: John Kato, Deputy Director  
24 overseeing the Fuels and Transportation Division.

25 MR. ORENBERG: Jacob Orenberg, staff in

1 the Fuels and Transportation Division.

2 COMMISSIONER SCOTT: Good morning and  
3 welcome.

4 Let us turn now to -- we have a satellite  
5 location today. We are, as you all know, of  
6 course, here in the South Coast Air Quality  
7 Management District's building. Thank you so  
8 much for welcoming us and letting us have our  
9 meeting here today.

10 Our satellite location is in Sacramento.  
11 And I do believe we have some Advisory Committee  
12 Members who are in the room in Sacramento. So,  
13 if so, please go ahead and introduce yourselves.  
14 Okay, it sounds like we don't have anyone in the  
15 room in Sacramento, but I do believe we may have  
16 some folks on the WebEx from the Advisory  
17 Committee. So if you are participating on the  
18 WebEx and are a member of the Advisory Committee,  
19 please go ahead and introduce yourself.

20 COMMITTEE MEMBER GUTIERREZ: Hi. This is  
21 Irene Gutierrez from NRDC.

22 COMMISSIONER SCOTT: Good morning, Irene.

23 COMMITTEE MEMBER GUTIERREZ: Hi.

24 COMMISSIONER SCOTT: Any other Advisory  
25 Committee Members on the phone?

1 COMMITTEE MEMBER KNIGHT: Ralph Knight,  
2 School Bus Advisory in Napa.

3 COMMISSIONER SCOTT: Good morning, Ralph.

4 COMMITTEE MEMBER KNIGHT: Good morning.

5 COMMISSIONER SCOTT: And I believe we  
6 just have the two. If we get folks in the room  
7 in Sacramento, please be sure to send us a little  
8 note so we can be sure to acknowledge you. Thank  
9 you, Advisory Committee Members.

10 I want to note that we have blue cards.  
11 I didn't bring one down here with me. But if you  
12 are a member of the public and would like to make  
13 a comment -- oh, I do have one, here's what the  
14 look like. Patrick has them over here to my  
15 left. If you are a member of the public and  
16 would like to make a comment, please be sure to  
17 fill out a blue card, get it to Patrick. He'll  
18 bring them up to me, and that's how we know that  
19 you'd like to make a comment when we get to that  
20 point in time.

21 Also, you guys have done a fantastic job  
22 with the microphones. But I was asked to remind  
23 you to be sure to speak right into it when you're  
24 talking. And if you're not speaking, please turn  
25 it off.

1           And with that, let me hand it over to  
2 Jacob Orenberg.

3           Good morning, Jacob.

4           MR. ORENBERG: Good morning. Thank you,  
5 Commissioner, and good morning to everyone else.  
6 My name is Jacob Orenberg and I am the Project  
7 Manager for the 2018-2019 Investment Plan Update  
8 for the Alternative and Renewable Fuel and  
9 Vehicle Technology Program. The purpose of  
10 today's meeting is to discuss the recently  
11 released Second Revised Staff Report of the  
12 Investment Plan Update.

13           Before we begin, I do need to note that  
14 this meeting is being recorded and a transcript  
15 will be made available on the Energy Commission's  
16 website.

17           To start off, I'd like to thank all of  
18 our ARFVTP Advisory Committee Members for their  
19 dedication in helping us to develop the  
20 Investment Plan and the program, and for  
21 generously giving us their time and expertise.

22           I'd also like to thank our hosts at the  
23 South Coast Air Quality Management District for  
24 providing us with this venue for our meeting.

25           Our meeting today will follow the agenda

1 on this slide. Right now, we'll start the  
2 presentation on the development of the 2018-2019  
3 Investment Plan Update. At about 10:45, we'll  
4 start the Advisory Committee discussion on each  
5 allocation. And after each discussion, we will  
6 also have time for public comment.

7           Since we have a lot to cover today, and  
8 many interested stakeholders are present, we  
9 request that public comments be kept to three  
10 minutes or less. Also, please hold any questions  
11 until after this presentation is over.

12           At noon, we're planning to break for  
13 lunch and reconvene an hour later at one o'clock,  
14 at which time, we'll continue the discussion.

15           To provide some context for the ARFVTP,  
16 this slide shows some key statistics for the  
17 California transportation sector. Statewide, we  
18 have almost 29 million light-duty passenger cars  
19 and trucks on the road, as well as nearly 1  
20 million medium- and heavy-duty trucks. In 2015,  
21 California generated 440 million metric tons of  
22 carbon dioxide-equivalent to greenhouse gases,  
23 and approximately 50 percent of these emissions  
24 were from the transportation sector which  
25 includes emissions directly from vehicles, as

1 well as those from gasoline and diesel fuel  
2 production.

3           Many regions in California also struggle  
4 with poor air quality. And in 2016 the  
5 transportation sector consumed 13.9 billion  
6 gallons of gasoline and 3.3 billion gallons of  
7 diesel fuel.

8           To help remedy these problems the ARFVTP  
9 was established by a California Assembly Bill 118  
10 in the year 2007. The program was set up to  
11 develop and deploy innovative technologies that  
12 transform California's fuel and vehicle types to  
13 help attain the state's climate change policies.  
14 In addition, the program has complementary goals  
15 of improving air quality, increasing alternative  
16 fuel use, reducing petroleum dependence, and  
17 promoting economic development.

18           This slide outlines some significant laws  
19 and executive orders that the state has enacted  
20 to protect public health and wellbeing, and the  
21 environment. These include zero-emission vehicle  
22 and infrastructure deployment goals, greenhouse  
23 gas emission reduction goals, and air quality  
24 improvement goals. The development of the  
25 Investment Plan Update is guided by these

1 policies. And, in turn, the program's  
2 investments will help the state achieve these  
3 objectives. In fact, the investments made with  
4 the proposed funding that we're discussing today  
5 are expected to directly achieve some of these  
6 goals, once implemented.

7           The annual Investment Plan Update serves  
8 as the basis for all ARFVTP solicitations,  
9 agreement and other funding opportunities for  
10 each fiscal year. The document is vetted through  
11 aquifer public review process that involves  
12 multiple iterations of the document and meetings  
13 with our Advisory Committee, one of which, of  
14 course, we're holding today.

15           For Fiscal Year 2018-2019, we're now  
16 expecting a much larger than normal allocation of  
17 \$277.5 million dollars, and I will be discussing  
18 this in depth during the presentation. The  
19 allocations described in the Investment Plan are  
20 for general project categories and provide an  
21 overview of the status of the fuel or technology  
22 and its potential over the coming fiscal year.  
23 These specific requirements for what we will  
24 ultimately fund are determined by each fund  
25 solicitation and not by the Investment Plan.



1           To date, the Energy Commission has  
2 provided over \$753 million in funding through the  
3 ARFVTP. About 25 percent of this has been  
4 invested in biofuel production and distribution  
5 projects. Another combined 35 percent has been  
6 provided for electric charging infrastructure,  
7 light-duty electric vehicle incentives, medium-  
8 and heavy-duty electric vehicle demonstrations,  
9 and electric vehicle and component manufacturing.  
10 Twenty percent of this funding as gone to  
11 hydrogen refueling infrastructure and vehicle  
12 demonstrations, 13 percent to natural gas fueling  
13 infrastructure and vehicles, 1 percent to propane  
14 vehicles, and the remaining 6 percent to projects  
15 that either incorporate multiple fuel types or do  
16 not address specific fuel types.

17           To demonstrate its commitment to  
18 diversity, the Energy Commission adopted a  
19 resolution during the April 2015 business meeting  
20 to firmly commit to increasing the following:  
21 the participation of women, minority, disabled  
22 veteran and LBGT business enterprises and program  
23 funding opportunities; outreach to and  
24 participation by disadvantaged communities;  
25 diversity in participation at Energy Commission

1 proceedings; and diversity and employment and  
2 promotional opportunities.

3           The Energy Commission is also committed  
4 to taking steps toward broadening the pool of  
5 applicants to our various programs, especially  
6 underrepresented groups, disadvantaged  
7 communities, and small businesses. Workshops,  
8 such as these, are part of a continuing effort to  
9 encourage diversity and participation --  
10 participants for Energy Commission programs which  
11 will help to ensure equitable access to Energy  
12 Commission funding, create jobs and provide  
13 economic stimulus in underrepresented and  
14 disadvantaged communities, increase competition  
15 to ensure the best opportunities are identified  
16 and funded, and ensure that local needs are  
17 identified and addressed.

18           This is the schedule that we expect to  
19 follow for the remainder of the 2018-2019  
20 Investment Plan Update. Most recently, we  
21 released the Second Revised Staff Report on March  
22 5th. After reviewing and incorporating from  
23 today's workshop, we expect to release the Lead  
24 Commissioner Report in April, and then seek  
25 business meeting approval of the final document

1 on May 9th.

2           For this Second Revised Staff Report, we  
3 have made significant changes of the funding  
4 allocations and the Investment Plan. These  
5 changes were made to fulfill the goals and  
6 directives of Executive Order B-48-18 which was  
7 issued in late January. The order instructs  
8 state agencies to, among other things, spur the  
9 construction and installation of 200 hydrogen  
10 refueling stations and 250,000 electric vehicle  
11 charges by 2025. The Energy Commission, through  
12 the ARFVTP, has been the state's lead agency in  
13 deploying zero-emission vehicle infrastructure  
14 and is continuing in this role to implement the  
15 order.

16           To support these new goals the Governor's  
17 draft budget provides the Energy Commission with  
18 an additional funding in Fiscal Year 2018-2019  
19 that, if approved in the final budget, will be  
20 implemented through the ARFVTP. This includes  
21 \$235 million specifically for AV charging and  
22 hydrogen refueling infrastructure, \$25 million  
23 specifically for low-carbon fuel production, and  
24 \$17.5 million for advanced freight and fleet  
25 projects. In addition to these funding changes,

1 we revised the layout of the Investment Plan to  
2 better reflect these new priorities.

3           This slide shows the layout of the  
4 Investment Plan, which is divided into chapters  
5 based on market area. The remainder of this  
6 presentation will follow this outline, as well.

7           The first category we'll be discussing is  
8 electric vehicle charging infrastructure. And on  
9 this slide, we have the familiar graph developed  
10 by Veloz. This illustrates the progress the  
11 state and the nation have made with electric  
12 vehicle adoption. And for this slide, I've  
13 blocked off the past two years of progress, so  
14 what we're looking at is where we were in January  
15 2016 when we held the Advisory Committee meeting  
16 in Long Beach. At that point, cumulative  
17 California sales were at about 170,000 vehicles  
18 which are represented by the green line, and  
19 cumulative national sales were at about 400,000  
20 vehicles which are represented by the red line.

21           Now, moving to present day, you can see  
22 the rapid progress we've made over the past two  
23 years. During this time, cumulative California  
24 sales have more than doubled to over 360,000  
25 vehicles, and cumulative national sales have

1 nearly doubled to over 750,000 vehicles. And  
2 with this rapid increase of electric vehicles  
3 comes a corresponding increase in demand for a  
4 charging infrastructure. By 2025, California  
5 aims to have one-and-a-half [sic] zero-emission  
6 vehicles on the roads, and this goal increases to  
7 5 million ZEVs by 2030.

8           As I mentioned earlier, Executive Order  
9 B-48-11 directs states agencies to ensure  
10 California has 250,000 EV chargers by 2025,  
11 including 10,000 fast chargers, to support the  
12 electric vehicles that will be on the road. Many  
13 of these chargers will be installed by private  
14 companies and utilities. However, the state  
15 government will also need to invest in this  
16 infrastructure to achieve this goal. For this,  
17 the Energy Commission will be maintaining its  
18 lead role in state-funded infrastructure  
19 deployment and expects to provide these  
20 investments through the ARFVTP.

21           Using the specialized modeling tools, our  
22 staff analyzed the expected number of chargers  
23 that will be installed through existing and  
24 planned investments by other programs and  
25 companies, as well as the number of chargers that

1 will be needed in 2025. What we've determined is  
2 that the combined efforts of government,  
3 utilities and private companies aren't expected  
4 to result in enough chargers being installed  
5 under a business-as-usual scenario.

6 Our analysis shows that with current  
7 investment levels, California will have a  
8 shortfall of between 122,000 and 174,000 chargers  
9 in 2025. To make up for this shortfall,  
10 California will need an additional investment  
11 from all sources of between \$1 billion and \$3  
12 billion over the next seven years.

13 The \$134.5 million allocation we are  
14 proposing for Fiscal Year 2018-2019 will provide  
15 significant boost to charger deployment in  
16 California and help keep us on track to achieve  
17 the state's goals. However, still more funding  
18 will be needed in the future to keep pace with  
19 electric vehicle deployment. We expect that this  
20 category will primarily fund infrastructure for  
21 light-duty vehicles, such as passenger cars and  
22 trucks, but may also fund infrastructure for  
23 medium- and heavy-duty vehicles.

24 The graph on this slide which was  
25 prepared by the Air Resources Board for their

1 annual Hydrogen Evaluation Report provides  
2 context for California's hydrogen refueling  
3 station deployment efforts.

4           In this graph the solid vertical bars  
5 represent the estimates for the number of  
6 hydrogen vehicles which are expected to be on the  
7 road. The green horizontal bar represents the  
8 fueling capacity of the stations we've already  
9 funded, measured in the number of vehicles which  
10 can be supported. And the purple horizontal bar  
11 represents the station capacity from expected  
12 future investments under what was the business-  
13 as-usual scenario. With the funding we have been  
14 able to provide to date and the predicted future  
15 investments in a business-as-usual scenario, the  
16 Air Resources Board was projecting that the state  
17 would experience shortfalls in hydrogen refueling  
18 capacity in the early 2020s. This is also  
19 expected to impact vehicle deployment because the  
20 rate at which automakers can sell vehicles is  
21 dependent on the fueling station capacity and  
22 availability.

23           With this in mind for Fiscal Year 2018-  
24 2019, we are proposing a \$92 million allocation  
25 for hydrogen refueling infrastructure, assuming

1 that California codes are amended to allow this.  
2 We expect that this amount of funding will  
3 support the construction of over 40 additional  
4 hydrogen stations which, when built, will achieve  
5 the goal of an initial network of 100 stations.  
6 Not only will this provide the state with  
7 sufficient fueling capacity into 2022, but it is  
8 also expected to allow automakers to increase the  
9 rate of vehicle deployment and help the state  
10 meet its zero-emission vehicle deployment goals.  
11 Some of this funding will likely also be used for  
12 operation and maintenance expenses of these  
13 initial stations to support this early stage  
14 business until there are enough fuel cell  
15 vehicles on the road for the stations to be  
16 profitable.

17           In this version of the Investment Plan  
18 we've combined the manufacturing and workforce  
19 training and development categories into a new  
20 single category with an \$8.5 million proposed  
21 allocation. Based on the language in the draft  
22 budget, we expect that our manufacturing and  
23 workforce support for this coming fiscal year  
24 will be limited to infrastructure-related  
25 projects. While we expect that this funding will



1 be allocated in a manner similar to the previous  
2 separate allocations, combining these two  
3 categories into a single allocation will provide  
4 more flexibility to fund the most beneficial  
5 projects via dedicated manufacturing projects,  
6 combined workforce and manufacturing projects, or  
7 other infrastructure-related workforce needs.

8           This category will fund projects that  
9 expand in-state manufacturing facilities for  
10 zero-emission vehicle infrastructure, as well as  
11 provide workforce development support for these  
12 and other types of zero-emission infrastructure-  
13 related projects. These types of projects will  
14 create jobs and provide an economic benefit for  
15 the state while indirectly supporting other  
16 ARFVTP categories. We also expect to pursue  
17 opportunities with this funding that specifically  
18 benefit low-income and disadvantaged communities,  
19 and this will provide a more equitable economic  
20 investment throughout the state, as well as  
21 further the equity goals described in Senate Bill  
22 350 of 2015.

23           The advanced freight and fleet  
24 technologies category is also continuing to  
25 evolve. As in previous years, this category

1 still focuses on the needs of medium- and heavy-  
2 duty vehicles which are most commonly used for  
3 freight and in fleets. We define these as Class  
4 3 through 8 vehicles with a gross vehicle weight  
5 of over 10,000 pounds. The projects funded under  
6 this category may focus on freight and fleet  
7 vehicles with advance technology powertrains,  
8 infrastructure to refuel these vehicles, and non-  
9 propulsion projects such as intelligent  
10 transportation systems.

11           We expect that the Energy Commission will  
12 continue to work with the California Ports  
13 Collaborative to help -- and to help -- I'm  
14 sorry, and help to implement the California  
15 Sustainable Freight Action Plan with funding from  
16 this category. This fiscal year the Air  
17 Resources Board will be providing upwards of \$380  
18 million for advanced technology vehicles under  
19 their clean transportation incentives. And these  
20 incentives cover up to the entire incremental  
21 cost of a zero-emission vehicle. The Energy  
22 Commission and the Air Resources Board are  
23 collaborating to ensure that our funding efforts  
24 in this area are complementary and avoid  
25 duplication. For the Energy Commission's freight

1 and fleet vehicle projects, we are proposing a  
2 \$17.5 million allocation.

3           Moving on to low-carbon fuel production  
4 and supply. We're proposing a \$25 million  
5 allocation for Fiscal Year 2018-2019. However,  
6 unlike the other categories the draft state  
7 budget is proposing that this money come from the  
8 Greenhouse Gas Reduction Fund. This category is  
9 expected to provide funding support for the  
10 production of non-petroleum diesel and gasoline  
11 substitutes, such as biodiesel and ethanol, as  
12 well as for renewable natural gas and, for the  
13 first time, renewable hydrogen. We expect that  
14 the category will have a continuing focus on a  
15 waste-based and renewable feedstocks, such as  
16 woody biomass, wastewater and municipal solid  
17 waste, as these tend to have the lowest carbon  
18 intensity of any fuel.

19           As in previous years the funds in this  
20 category are open to multiple fuel types and  
21 development stages, including pilot demonstration  
22 and commercial-scale projects. We are also  
23 expecting to fund renewable hydrogen production  
24 projects from this category. And the increase in  
25 funding to this category compared to last year

1 is, at least in part, to support this new project  
2 type.

3           As we discussed in the previous workshop,  
4 one of the major changes to the 2018-2019  
5 Investment Plan is that we're not proposing  
6 additional funding for natural gas fueling  
7 infrastructure or vehicles. Right now, \$2.4  
8 million is available for natural gas vehicle  
9 infrastructure projects, and \$9.7 million is  
10 available for new natural gas vehicle projects.

11           The state is continuing to provide  
12 funding support for natural gas vehicles from  
13 several sources. The Energy Commission's Natural  
14 Gas Vehicle Incentive Project is still operating  
15 and is continuing to pay out incentives to  
16 reservation holders. In addition, in January the  
17 Energy Commission released a new funding  
18 solicitation that will provide up to \$10 million  
19 in grants to California air districts to fund  
20 incentives for natural gas vehicles, and we're  
21 currently reviewing proposals we received. And  
22 the Air Resources Board is providing incentives  
23 for natural gas vehicles with low-NOx engines  
24 through their Clean Truck and Bus Voucher  
25 Project.

1           This concludes the summary of the  
2 categories for this Investment Plan Update.  
3 Going forward, we will be seeking feedback on  
4 these allocations, the Investment Plan and the  
5 program in general from all sources.

6           In order to incorporate any comments into  
7 the Lead Commissioner Report, we're asking to  
8 receive them no later than Wednesday, March 21st.  
9 We prefer to receive comments through the Energy  
10 Commission's e-commenting system, and there's a  
11 link to that on this slide and in the workshop  
12 notice. We also accept comments via email and  
13 regular mail, and instructions for where to send  
14 these are also in the workshop notice.

15           We expect to release the Lead  
16 Commissioner Report of the Investment Plan in  
17 April and will likely be seeking approval for the  
18 final Commission report at the May 9th business  
19 meeting. The Energy Commission will also be  
20 hosting workshops this spring and summer to  
21 discuss plans for each funding allocation in the  
22 Investment Plan.

23           This slide shows a summary of all of the  
24 funding allocations we are proposing in this  
25 version of the Investment Plan. The Advisory

1 Committee discussion will begin momentarily,  
2 during which we ask for everyone's input about  
3 these proposed funding allocations and  
4 categories. I can also answer any clarifying  
5 questions about this presentation now. However,  
6 please hold off on any questions or comments  
7 about specific fuel types, technologies or  
8 allocations until the discussion or the public  
9 comment period.

10 Thank you.

11 COMMISSIONER SCOTT: Thank you very much,  
12 Jacob.

13 I want to acknowledge that we have been  
14 joined by Bonnie Holmes-Gen from the American  
15 Lung Association. Good morning and welcome.

16 Eileen Tutt from Cal ETC, good morning  
17 and welcome.

18 And also, Ellen Greenberg from the  
19 California Department of Transportation, good  
20 morning and welcome.

21 And in our room in Sacramento, we also  
22 have Joel Espino from Greenlining, so good  
23 morning and welcome, Advisory Committee Members.

24 Let us now -- and just a reminder, if  
25 you're a member of the public who would like to

1 make a comment, a member of the public here in  
2 the room, please fill out one of these blue  
3 cards. Be sure to get it to Patrick, who is to  
4 my left there waiving at you. And that's how  
5 we'll know that you'd like to make a public  
6 comment.

7           And then let me open this up to our  
8 Advisory Committee Members here in the room.  
9 Does anyone have a clarifying question for Jacob  
10 on his presentation?

11           Yes, please, Bonnie.

12           COMMITTEE MEMBER HOLMES-GEN: Thanks,  
13 Jacob, for the excellent presentation.

14           I'm just wondering if you have or you can  
15 share any information about the distribution of  
16 the funding? I know that we have maps online,  
17 but we've had ongoing discussions about, for  
18 example, the San Joaquin Valley and trying to get  
19 more projects going in the valley. I just  
20 wondered if you have some comments about either  
21 past or looking forward, how we're lining up  
22 funding to make sure that the hardest hit areas  
23 with pollution are getting some benefits here?

24           MR. ORENBERG: Thanks, Bonnie.

25           So in the Investment Plan in the

1 Executive Summary, and as well as in Chapter 2,  
2 there's a series of tables and graphs which  
3 illustrate the distribution of funding throughout  
4 the state in major counties and in Northern and  
5 Southern California, as well as there are some  
6 charts which show how much funding goes to each  
7 specific fuel or technology type. And for the  
8 actual grant solicitations and projects, all of  
9 our grants solicitations are competitively  
10 awarded in some manner. So we award them to the,  
11 frankly, to the most competitive and most needy  
12 projects. And I believe some of those may  
13 incorporate criteria, like you're discussing.

14           COMMISSIONER SCOTT: I happily opened  
15 right to the exact page. It's on page 22 of the  
16 report. So if you'd like to flip to that page,  
17 it kind of gives you a nice breakdown of that.

18           Yeah, Steve, please.

19           COMMITTEE MEMBER KAFFKA: Jacob, I'd like  
20 to ask a clarifying question about the funding  
21 source for biomass.

22           My understanding was that the Governor's  
23 budget proposed a supplement for biomass and  
24 biofuels. This looks like, basically, a swap of  
25 funding sources. Could you clarify what exactly



1 the state budget proposes and how you're -- what  
2 your thinking was about that?

3 MR. ORENBERG: Sure, Steve.

4 So in the state budget, the draft state  
5 budget, which may still change, there are a few  
6 line items for the ARFVTP, or rather for the  
7 Energy Commission for projects that will be  
8 implemented through the ARFVTP.

9 The major line item is \$235 million.  
10 This comes from multiple funding sources,  
11 including the normal ARFVTP allocation, the  
12 balance of funds in the AB 118 fund, and funds  
13 from the new Solar Homes Partnership. Now the  
14 draft state budget specifically limits that \$235  
15 million to infrastructure for zero-emission  
16 vehicles.

17 The other line items in the budget are  
18 funding for low-carbon fuel production and  
19 supply, and that is \$25 million. And, yes, I  
20 think calling that a swap between the ARFVTP  
21 funds and Greenhouse Gas Reduction Funds is a  
22 fair word to use. So we're no longer funding --  
23 well, for Fiscal Year 2018-2019, just this one  
24 fiscal year, we are not funding low-carbon fuel  
25 production and supply from the ARFVTP Fund. It

1 will be funded through the Greenhouse Gas  
2 Reduction Fund, if approved in that manner. Then  
3 the last amount is \$17.5 for advanced freight and  
4 fleet projects, and that is from the ARFVTP Fund.

5 Does that answer your question, Steve?

6 COMMITTEE MEMBER KAFFKA: Except for the  
7 part about the decision to call that a swap  
8 instead of a supplement. In other words, we had  
9 traditionally more or less spent around \$20  
10 million a year for that category from the ARFVTP  
11 Fund. If you were to add the \$25 million, that  
12 would be \$45 million. So instead, it seems --  
13 I'm just wondering what the thinking was about  
14 that?

15 COMMISSIONER SCOTT: That -- excuse me.  
16 So where we were previously, if you look on  
17 our -- on page 23, actually, it shows the  
18 previously proposed funding allocations, and then  
19 the currently proposed funding allocations. And  
20 I do think swap is probably the right word. It  
21 was at \$25 million. I think the calculus was to  
22 keep that at \$25 million, but now the funding is  
23 coming rather than from the ARFVTP Fund, it's  
24 coming from the Cap and Trade Fund.

25 COMMITTEE MEMBER KAFFKA: So is that --

1 is that the recommendation of Staff or is that a  
2 consideration of the Board, the Energy Commission  
3 Board? Because it's a significant kind of policy  
4 decision.

5 COMMISSIONER SCOTT: So -- and -- so,  
6 yes, this is our staff recommendation. That's  
7 why we're having our Advisory Committee meeting  
8 here, is to hear from everyone about what your  
9 best thoughts are on how you think we should  
10 allocate those dollars. So we'll look forward,  
11 when we get to that component, to continue the  
12 discussion there.

13 But, yeah, this kind of shows the staff's  
14 best thinking on how to put this together.

15 COMMITTEE MEMBER KAFFKA: Okay.

16 COMMISSIONER SCOTT: Other questions?  
17 Other clarifying questions?

18 Yes, Ellen, please.

19 COMMITTEE MEMBER GREENBERG: (Off mike.)  
20 Thank you. (Indiscernible.)

21 COMMISSIONER SCOTT: You need to turn  
22 your mike on.

23 COMMITTEE MEMBER GREENBERG: Thank you.  
24 So just following up on this point on the  
25 recommendation that funding be through the GGRF,

1 so what is the pathway for that to get approved  
2 and how does the timing relate to the timing of  
3 the Commission's action on the other  
4 recommendations?

5 COMMISSIONER SCOTT: Right. So all of  
6 this is proposed in the Governor's budget, which  
7 we support. And the Governor's budget needs to  
8 make its way through the legislature in its  
9 normal legislative process. Part of that is the  
10 greenhouse gas -- the allocations of the  
11 Greenhouse Gas Reduction Funds. So that, I  
12 think, will be something for all of us to keep  
13 our eyes on, but it's just the normal Governor's  
14 budget process that this will go through. Thank  
15 you. So as Jacob indicated, if there are  
16 changes, we may need to update the report to  
17 reflect those.

18 Other clarifying questions?

19 Let me check whether in Sacramento or on  
20 the phone, our Advisory Committee Members, if you  
21 have clarifying questions for Jacob, please go  
22 ahead.

23 Chris, do you have one? Yes, please go  
24 ahead, Chris.

25 COMMITTEE MEMBER SHIMODA: I just wanted

1 to make sure I didn't hear this incorrectly.

2           So did you say on the electric vehicle  
3 charging infrastructure allocation which  
4 traditionally supports light-duty, that there  
5 would be eligibility for heavy-duty projects if  
6 they met the other requirements, public access  
7 and things of that nature?

8           MR. ORENBERG: Thanks, Chris. Yes. And  
9 in the electric vehicle charging infrastructure  
10 category, we are planning to use some of that  
11 funding for medium- and heavy-duty vehicles. And  
12 they may not actually be publicly accessible,  
13 given the special needs of these vehicles for  
14 security or safety reasons.

15           COMMITTEE MEMBER SHIMODA: And just one  
16 more clarifying point.

17           We have a lot of sort of specialized  
18 equipment that may not be trucks themselves, but  
19 refrigerated trailers, for example. Do you think  
20 that that would be an eligible category, so long  
21 as it qualifies as a mobile source?

22           MR. ORENBERG: For that very specific  
23 example, I guess historically, that has not been  
24 an eligible project category. Going forward, I  
25 would encourage you to submit any comments to the

1 workshops that will be held to guide the  
2 development of this funding and the grants  
3 solicitations. But for that specific example,  
4 that doesn't -- it's inconsistent with what we've  
5 historically funded in this category and for  
6 electric vehicle charging infrastructure.

7           COMMISSIONER SCOTT: And I'll add to  
8 that, though. We will have that workshop on May  
9 14th --

10           COMMITTEE MEMBER SHIMODA: Yeah.

11           COMMISSIONER SCOTT: -- where we're  
12 thinking through how to spend the \$134.5 million  
13 that's allocated for electric charging  
14 infrastructure. So this is -- that would be a  
15 great place to have the discussion, to bring the  
16 data, bring the information for us to -- so that  
17 we can have it in our -- in our hat for  
18 consideration.

19           Other clarifying questions here in the  
20 room? Okay.

21           Let me turn back again then to our folks  
22 on the -- either in Sacramento or on the WebEx  
23 from the Advisory Committee. If you have  
24 clarifying questions for Jacob, please feel free  
25 to weigh in.

1           Okay, I'm going to take the silence as  
2 meaning they don't have any clarifying questions  
3 for you, so -- but if you do, please feel free to  
4 break in. Happy to answer questions.

5           Let's now turn to the discussion.

6           Do you want to kick us off, Jacob?

7           MR. ORENBERG: Oh, yes. One second.

8           So a very quick announcement. We're  
9 going to now begin the Advisory Committee  
10 discussion on electric vehicle charging  
11 infrastructure, after which we will have a public  
12 comment period specifically for that technology  
13 type. If you would like to provide public  
14 comment, please pick up a blue card and provide  
15 it to Patrick, who is helping to monitor by the  
16 WebEx conference.

17           Our four Advisory Committee Members  
18 participating remotely at the Energy Commission  
19 or other locations, your microphones or your  
20 telephones should be active, and you can  
21 participate at will.

22           For everyone else participating with  
23 WebEx, please use the raised hand feature if you  
24 would like to speak. We will then call your name  
25 and unmute you during the public comment period.

1                   COMMISSIONER SCOTT:   So Advisory  
2 Committee, thoughts on the zero-emission vehicle  
3 infrastructure, electric vehicle charging  
4 infrastructure allocation?

5                   Yes, please, Matthew.

6                   COMMITTEE MEMBER BARTH:   So one question  
7 I had, so, obviously, lots of chargers make sense  
8 in deploying that in an intelligent way.   But my  
9 question is more dealing with the grid stability  
10 and the fragility of the grid.

11                  So is there the intention to use some of  
12 that money for things like energy -- stationary  
13 energy storage, as well as microgrids and other  
14 things that could allow for, you know, more and  
15 better distribution of chargers across the state?

16                  COMMISSIONER SCOTT:   Um-hmm.   We  
17 certainly want to have a smart deployment of the  
18 charging infrastructure across the state.   We  
19 want to make sure -- I mean, there's a few  
20 component in this space, of course.   So with the  
21 Volkswagen settlement, with the work that the  
22 Public Utilities Commission is doing to roll out  
23 infrastructure, the NRG settlement, right,  
24 there's a lot of movement in this space.   We want  
25 to make sure that we're all coordinating well



1 together and accelerating expansion of the  
2 network versus sort of, oh, let's fight over who  
3 gets to charge up South Coast, for example;  
4 right? So we will be working -- we already are  
5 working together. And it is a very informal  
6 partnership, but we're working together on that.

7           We do have some vehicle grid integration  
8 components that we may include as part of the  
9 charging infrastructure on the microgrid, sort of  
10 stationary storage. That would not come through  
11 this program. That might come through our EPIC  
12 Program, though, which invests in kind of looking  
13 at the grid and grid stability.

14           So hopefully that answers your question.  
15 And it's something we're very mindful of, and the  
16 PUC is, as well. But you need about -- my  
17 understanding is you need 3 to 4 million  
18 vehicles, at least, before they really have to  
19 start worrying about too much impact on the grid,  
20 but the utilities are already thinking this  
21 through.

22           Yes, Steve.

23           COMMITTEE MEMBER KAFFKA: I don't know  
24 very much about the EV system, but I was struck,  
25 you mentioned that, I think the goal is like

1 10,000 charging stations in this year's  
2 allocation, and less -- is it less than 1,000  
3 would be fast chargers?

4           And so the question I would have is  
5 regular charges, I think, take several hours to  
6 recharge batteries. Fast chargers take maybe  
7 just an hour, but I'm not quite sure about that.  
8 So what's the thinking about the proportion  
9 between the fast and slow chargers? Because most  
10 people right now take five minutes to refuel  
11 their cars, and so that almost represents a very  
12 significant behavioral change. So I'm just  
13 curious about the thinking that -- about how that  
14 might come about?

15           MR. ORENBERG: So, Steve, I think I  
16 missed the numbers you were quoting, although I  
17 will point to the numbers in the Governor's  
18 executive order which called for 250,000 EV  
19 chargers by 2025, including 10,000 fast chargers.  
20 So we haven't specified in the Investment Plan  
21 how much of the funding will be going to fast  
22 chargers and how much will be going to regular  
23 chargers. Our EV team is currently doing some  
24 in-depth research into figuring out what the  
25 optimal deployment of fast chargers and Level 2s

1 might be. And items such as these will be  
2 discussed as the specific workshops, the first of  
3 which we're holding on May 14th, to figure out  
4 how much we might want to give to each area and  
5 what the requirements might be.

6           Also, regarding the fueling time, you  
7 know, each -- the fast chargers in Level 2s have  
8 very different purposes. And EVs have very  
9 different usage habits than -- for fueling than  
10 gasoline cars. You know, the fast chargers are,  
11 of course, supposed to be somewhat analogous to a  
12 gasoline pump. You can get to about 50 percent  
13 capacity in 20 or 30 minutes, whereas Levels 2s  
14 are meant for when you're parked overnight at  
15 your home or your multiunit apartment complex, or  
16 at work where you have four, six, eight or plus  
17 hours to charge and you can up to a full tank,  
18 just while the car is sitting there.

19           COMMISSIONER SCOTT: Eileen?

20           Oh, John, did you want to weigh in?

21           MR. KATO: No, no. It's okay.

22           COMMISSIONER SCOTT: Okay.

23           MR. KATO: I was trying to get Tyson's --  
24 I was going to try to queue Tyson of the broader  
25 holistic collaboration efforts that we are doing

1 with other agencies to ensure that how we deploy  
2 and what degree and the number of them are, it's  
3 well discussed and coordinated. I was trying to  
4 queue Tyson up to kind of talk of that level of  
5 coordination.

6 COMMISSIONER SCOTT: Great, Tyson, you  
7 want to weigh on -- weigh in on that, and then  
8 we'll go to Eileen?

9 MR. ECKERLE: Yes. I think that there's  
10 a lot of stuff happening in this space.

11 And I think, you know, first to all, I  
12 want to commend the Energy Commission for the  
13 rapid turnaround. This is a big change in a  
14 short amount of time. And Jacob, you've done,  
15 you know, great work, so -- and the whole Energy  
16 Commission staff.

17 But I think in terms of the holistic  
18 look, so when the Governor set those targets, it  
19 was based a lot on the analysis that's done in  
20 the Energy Commission using this EVI-Pro Tool  
21 that we developed -- that they developed with the  
22 Natural Renewable Energy Lab. And so really,  
23 that was kind of a ground-up model, looking at  
24 usage behavior.

25 And so when I think when you look at

1 plug-in charging, it is a behavioral change for a  
2 lot of people. But Level 2 chargers, for  
3 example, are an asset to the grid, kind of  
4 getting back to that question there; right? For  
5 that slow recharging it's also, usually, a little  
6 bit more affordable for the grid and for the  
7 consumer, in most cases; right? Whereas, DC fast  
8 charging is kind of more a convenience charge;  
9 you need it right then and there.

10           And so the balance we're trying to strike  
11 is how do you just get the electrons to as many  
12 places as possible where those cars are going to  
13 be? And so the workplace charging, for example,  
14 is a huge need, especially as we look at solar  
15 production during the day and the duck curve, and  
16 all that type of stuff, so I think that's part of  
17 the thing.

18           I think on the battery and the storage  
19 thing, you know, I think we're going to be  
20 learning a lot through time in terms of how to  
21 manage that and mitigate and like managing on a  
22 building load, for example.

23           COMMITTEE MEMBER BARTH: Yeah. And if I  
24 could add on, you know, it's a significant deal  
25 when you talk about demand charges; right?

1 MR. ECKERLE: Yeah.

2 COMMITTEE MEMBER BARTH: I mean, kilowatt  
3 hours is one thing. But the demand charge, when  
4 you have the Level 3 spike, it's huge and it  
5 really effects, you know, the utility rate, and  
6 then everything else that the infrastructure has  
7 to cover.

8 MR. ECKERLE: Yeah.

9 COMMISSIONER SCOTT: I'll note that  
10 that's a great point, and especially when we're  
11 looking at medium-duty and heavy-duty charging up  
12 and having fleets that are wanting to charge at  
13 the same time.

14 So I didn't mean to completely preclude  
15 storage from that. But I think what we would be  
16 looking at are -- you know, there's the largest  
17 mobile deployment of solar powered charges is in  
18 Fresno County, so there's one in each of 13 of  
19 the 15 cities. And it's got a solar panel. It  
20 charges a battery. And then when you plug in,  
21 you're plugged into the battery; right?

22 And so those types of solutions are  
23 certainly things that we would be looking at as  
24 we're rolling out the infrastructure.

25 Eileen?

1                   COMMITTEE MEMBER TUTT: Thank you,  
2 Commissioner Scott.

3                   I just want to commend the staff and the  
4 Commissioner, as well, for turning this around so  
5 fast. I mean, this is pretty impressive. And,  
6 of course, we're quite pleased to see adequate  
7 funding for infrastructure in this plan and the  
8 movement of money, so that there is sufficient  
9 funding for adequate funding.

10                  I just want to point out that, just to  
11 Steve's question or comment, most people, when  
12 you drive an electric car, if you drive an  
13 electric car, and I think probably a lot of us  
14 have, it really doesn't take any time to charge  
15 because you plug in, it takes you five seconds to  
16 plug in, and then you -- you're charging, your  
17 car is charging itself while you're working or  
18 doing what you would have done anyway in a  
19 location you would have been anyway. It's a very  
20 different kind of experience. And I'll just tell  
21 you that I think most people embrace it in  
22 general. So it's a change, definitely, but it's  
23 a change for the better. It's one of the  
24 positive things about electric vehicles.

25                  I'm glad to hear this, that we have

1 updated the amount of chargers needed as a result  
2 of the 5 million goal. And I just want to say  
3 that the utilities are really looking at how they  
4 can accommodate all these vehicles, including the  
5 medium- and heavy-duty space. And they're  
6 coordinating very closely with each other and  
7 with the regulators, so there's a lot of  
8 coordination going on external to government and  
9 external to government with government. So I  
10 just want to ensure everybody that not only are  
11 the utilities engaging and committed to this  
12 effort and this level of investment, but they're  
13 really working very closely with government to  
14 make sure that the grid stays safe, reliable and  
15 affordable.

16 COMMISSIONER SCOTT: Bonnie?

17 COMMITTEE MEMBER HOLMES-GEN: Thanks. I  
18 have a couple of batches of questions, but I'll  
19 just focus on one batch.

20 First of all, the Lung Association really  
21 strongly supports the allocation of this funding  
22 for electric vehicle infrastructure. And we're  
23 very excited to see this huge plug of new money,  
24 new resources and excitement that we're putting  
25 into electric vehicle rollout. So this is



1 really -- this is a wonderful day. I'm really  
2 happy to be here.

3 I did -- and we've talked a little bit  
4 about the intergovernmental-interagency  
5 coordination. I just wanted to raise the point,  
6 I know that we've discussed before, we all know  
7 the data that not enough people in California or  
8 across the country know about electric vehicles,  
9 know about the charging stations that are  
10 available, I mean, surprisingly small numbers of  
11 people are aware. And so I keep trying to think  
12 about how is not just this effort but all these  
13 efforts, and I like the way you've laid out all  
14 the funding pots and the coordination that's  
15 going on, how are we addressing that in bringing  
16 broader public awareness of this rollout of  
17 infrastructure?

18 And I guess that brings up local  
19 government coordination, broader awareness  
20 campaigns, and the issue of pooling and car  
21 sharing. And I see that that, you've addressed.  
22 You have a paragraph about mobility services, but  
23 we're all looking at the new *Three Revolutions*  
24 book and thinking more about this.

25 And I also know that there's funding

1 through VW on consumer education and awareness,  
2 and that hasn't really rolled out. I mean, it's  
3 rolling out, but I don't think we've seen some of  
4 those campaigns.

5 But these all seem to be critical  
6 elements of making sure that the public awareness  
7 is growing and the local leadership and  
8 coordination with the state is growing at the  
9 same time the funds are rolling out.

10 So I wondered if any of you could talk  
11 about this a little bit?

12 COMMISSIONER SCOTT: Sure. Sure.

13 COMMITTEE MEMBER GREENBERG: Thank you.

14 COMMISSIONER SCOTT: I think all of us  
15 around the -- at least all of our state agencies  
16 here around the table are very mindful of the  
17 awareness and wanting to raise awareness, help  
18 with education and outreach. And so we do  
19 things, like the tenth anniversary celebration  
20 that we had for the ARFVTP last week. We are  
21 working very hard to go like the ribbon cuttings  
22 and the groundbreaking and really try and call  
23 attention to, not just on the charging  
24 infrastructure, but I think the good work across  
25 the board that the state is doing to move this

1 forward.

2           We're also trying to be very creative in  
3 how we get the dollars out. So, for example, we  
4 have recently -- the Energy Commission has  
5 recently done a solicitation that's a Charging  
6 Challenge. And we asked communities to sort of  
7 define themselves, and then define for  
8 themselves, what is charging infrastructure  
9 rollout look like in my community, and put  
10 together a plan for us. And the best plans will  
11 win additional funds to do more detailed  
12 planning. And then that set of folks who run the  
13 funds to do the more detailed planning, in a like  
14 a year or so will come back and compete to get  
15 dollars to actually implement the infrastructure  
16 plan that they put together; right?

17           So this is a way that we're trying to  
18 capture the local imagination, capture folks how  
19 might not normally be thinking about this, but  
20 it's like, oh, this would be great, we can have  
21 it at our church, we can have it a school, we can  
22 have it a local library, at a mom and business,  
23 and really think through, what does charging look  
24 like for you and your community, and then we're  
25 going to help you get the dollars out there to

1 help you put that infrastructure in place.

2           So I think that's -- we're trying to be  
3 creative in the way that we roll the dollars out  
4 so it's not just a, you know, come to the  
5 Commission for a voucher and we'll hand that to  
6 you. So we're trying to raise awareness in that  
7 way, as well.

8           And then I think there are many folks in  
9 the room who have been part of an effort called  
10 Veloz. So we have the -- which is separate from  
11 what we're talking about here today. But the  
12 Plug-In Electric Vehicle Collaborative has  
13 transitioned itself into an organization called  
14 Veloz. And the entire idea of Veloz is to  
15 develop an education and outreach campaign so  
16 that more Californians will understand about the  
17 transition that we're trying to make, but really,  
18 just more basically, get excited about electric  
19 vehicles and to know that they're there. And if  
20 you're getting ready to buy a new car, this is  
21 something that you may want to consider; right?  
22 And we're just really working through that group  
23 to try and raise awareness.

24           So those are a few things that are going  
25 on. And I don't know, you know, Analisa or

1 Tyson, if there's anything you want to weigh in  
2 here? But those are some of the things that the  
3 Energy Commission is trying to do to really help  
4 raise awareness about this category.

5           You know, another idea that I have, so  
6 I'll just throw it out there for the staff, is  
7 we're going to have a little bit of dollars for  
8 school buses, which is also not part of this  
9 component. But as we roll out the charging for  
10 that, one thing that could be really fun is to do  
11 an art contest at the school. And whoever wins  
12 the art contest, they get to the wrap the charger  
13 in that piece of art, right, and you can come out  
14 and celebrate it. The kids get to celebrate it.  
15 The parents get to celebrate it.

16           How do you call attention -- how are we  
17 creative in calling attention to these types of  
18 things? And so we're thinking very much about  
19 that, as well. And feel free to weigh in or  
20 feel -- you don't have to if you don't want to.

21           COMMITTEE MEMBER BEVAN: Completely agree  
22 about the importance of raising awareness. And  
23 it's a topic that I keep bringing up as trying to  
24 find ways to spread the word.

25           In addition to the ideas and programs

1 that Janea was just talking about, the Electrify  
2 America Investment Plan, the first 30-month  
3 investment plan has funds allocated for public  
4 awareness and outreach in a brand-neutral, non-  
5 Volkswagen-featuring format that will be rolled  
6 out across the country, but also featured in  
7 California, that raises awareness, generates  
8 excitement, and also showcases infrastructure.

9           So we're hoping that that's a piece of  
10 it, but we absolutely recognize that that's only  
11 a small portion of what really needs to be done  
12 to raise awareness.

13           COMMITTEE MEMBER HOLMES-GEN: Thank you,  
14 go ahead. I just want to follow up in one  
15 second.

16           MR. ECKERLE: You can follow up. Go  
17 ahead.

18           COMMITTEE MEMBER HOLMES-GEN: Well, no.  
19 I just wanted to say that, you know, these are  
20 all great ideas, and I look forward to hearing  
21 more things that are happening.

22           You know, the Lung Association, other  
23 health organizations, we're doing it as much as  
24 we can and trying to envision, you know, creative  
25 and new ways that we can help in getting the word

1 out, too. So as we're looking at these creative  
2 local challenges and community programs, we'd  
3 love to find ways that we can work together with  
4 you on those.

5 MR. ECKERLE: I think I would just add, I  
6 agree completely with Commissioner Scott and  
7 Analisa, but that -- what I would add is that,  
8 you know, in terms of coordination going  
9 forward -- wait, I completely lost my train of  
10 thought right there. Hold on.

11 COMMITTEE MEMBER HOLMES-GEN: You'll get  
12 it back.

13 MR. ECKERLE: It's going to come back.

14 COMMITTEE MEMBER HOLMES-GEN: You'll get  
15 it back. Veloz? VW? Electrify America? Public  
16 awareness?

17 MR. ECKERLE: Local outreach.

18 COMMITTEE MEMBER HOLMES-GEN: Okay.  
19 Local outreach.

20 MR. ECKERLE: So, yeah, so in terms of  
21 local -- oh, the executive order, that's right.

22 COMMITTEE MEMBER HOLMES-GEN: Executive  
23 order.

24 MR. ECKERLE: Yeah. So a lot of the  
25 thinking behind the executive order was to kind

1 of create those guideposts that we can measure  
2 our progress against. And so I think what we  
3 know at the state is that we don't have enough  
4 resource within the state just to build the whole  
5 network out. It's going to need collaboration  
6 and coordination of like the South Coast Air  
7 Quality Management District, for example, with  
8 the private sector, with the IOUs and POUS.

9           And so a big part of this effort, you  
10 know, through this Investment Plan, but also the  
11 executive order, is trying to get that, you know,  
12 kind of that shared vision together to help build  
13 out the infrastructure. And so I think,  
14 hopefully, it's a forcing function for  
15 collaboration, but we still have a lot of work to  
16 do to reach out into those, you know, local  
17 governments and stuff. A lot of great ideas that  
18 the Commission has to do it, but I think that's  
19 our task between now and the end of this  
20 administration and beyond, is bringing more and  
21 more parties into this ecosystem.

22           Thanks for your patience with my mind.

23           COMMISSIONER SCOTT: Go ahead.

24           COMMITTEE MEMBER BEVAN: If I could add,  
25 I'm sitting here thinking about what you were



1 just talking about with the local infrastructure  
2 planning process. And I think that's a really  
3 positive way to approach public awareness, as  
4 well.

5           The recognition that implementation of  
6 infrastructure is not a one-size-fits-all, the  
7 same is true for public outreach and awareness.  
8 There can be common tools that come across from  
9 organizations, like Veloz or Electrify America  
10 and others, but the implementation of those at a  
11 local level will need to be matched to the  
12 specific community.

13           And I think all of us kind of choose a  
14 vehicle, partly on the research we do on the  
15 internet and what we see in ads, but a lot of it,  
16 too, is what we see parked in the parking lot  
17 next to use at work, what your coworkers drive,  
18 what your uncle drives, what your best friend  
19 drives. You find out about new technologies by  
20 word of mouth. And the outreach that is tailored  
21 to a community that provides opportunities to  
22 become familiar with the technology gives you  
23 access to people who have real-world experience  
24 with driving new technology, I think is key to  
25 growing this market.

1           And so coupling an infrastructure plan  
2 which meets a community's needs with an outreach  
3 plan, which also provides opportunities for one-  
4 on-one exposure to electric vehicles, fuel cell  
5 vehicles, I think will be key to success.

6           COMMISSIONER SCOTT: I have Peter, and  
7 then Brian. Then we'll turn to Ralph on the  
8 phone, followed by Matthew, and then Eileen.

9           So, Peter, please go ahead.

10          COMMITTEE MEMBER COOPER: Yeah. So I  
11 just want to remind the Advisors that, you know,  
12 I think workforce development and job training is  
13 a good way to bridge both the infrastructure  
14 needs, the long-term viability of increasing the  
15 number of charging stations and vehicles, as well  
16 as the community outreach and education. Because  
17 that way the workforce can see that this is a  
18 viable career pathway. And if you're looking at  
19 things like, whether it's an electrician that's  
20 needed for the infrastructure for the new  
21 charging stations, or you're looking at community  
22 planning that's needed by local government to  
23 figure out exactly where they're going to put the  
24 charging stations, those are all opportunities  
25 for both employers and the workforce and youth to

1 understand that this is an option as a way to go  
2 in the future.

3           So when I was looking at the plan, I was  
4 a little bit concerned, and I'll get to my  
5 comments about that later, that there's a huge  
6 amount of money going into the installation of  
7 the charging stations, which is great. But I  
8 want to make sure that there's also supporting  
9 job training that's needed to make that happen.

10           COMMISSIONER SCOTT: Brian, and then  
11 Ralph.

12           COMMITTEE MEMBER GOLDSTEIN: Well, thank  
13 you for the opportunity to participate. I echo,  
14 I think, the common sentiment in here, that it's  
15 amazing how quickly this was turned around and  
16 the impact that this can have so quickly. It's  
17 just, it's very exciting.

18           I had one question and a couple of  
19 comments.

20           So on the education and outreach topic,  
21 are there specific areas of this budget that can  
22 potentially include education and outreach? I  
23 don't think it's actually spelled out under the  
24 individual categories, but is that something that  
25 potentially could qualify under this budget?

1           And then I have a couple of comments to  
2 make after that, please.

3           COMMISSIONER SCOTT: Sure. So the Energy  
4 Commission does not typically invest in education  
5 and outreach. Mostly the direction from the  
6 legislature is to see this going into the --  
7 either into the vehicle, into the infrastructure,  
8 into standing up the foundation for these things,  
9 so that's why you don't see a ton of the -- or  
10 any of the money directed towards education and  
11 outreach. I think we all recognize very much how  
12 important that is.

13           And so we try to do that, again, in the  
14 ways that I mentioned when -- to Bonnie, right,  
15 which is to try to do the ribbon cuttings, to do  
16 the groundbreaking, to be creative in how we  
17 roll the dollars out. That's usually our best  
18 way to get the word out about the transition  
19 that's taking place. So you'll see that most of  
20 this -- or all of these dollars are really going  
21 to go into the infrastructure itself.

22           COMMITTEE MEMBER GOLDSTEIN: Okay. So  
23 the comments I'd like to make, and I'd like to  
24 echo some of the sentiment already that, you  
25 know, this Committee and the overall program has

1 really been inclusive of all fuel types. And  
2 it's really kind of one of the characteristics of  
3 the program over time. And I think we are  
4 keeping that in mind moving forward through  
5 education and outreach campaigns.

6 But, you know, as we promote electric  
7 vehicles, I want to make sure everyone realizes  
8 that hydrogen vehicles are electric vehicles. I  
9 know everyone in this room does. But as part of  
10 our outreach messaging moving forward, I think  
11 there's, you know, in sheer numbers, less  
12 advocacy on that topic. But I would hope that as  
13 a community, we can all keep that in mind and be  
14 inclusive of all electrification options and  
15 messaging there.

16 But another point I'd like to make is  
17 that I think a lot of our education outreach, and  
18 understandably so, is directed at consumers. But  
19 I think we should conceptualize as a community  
20 how to include metrics about the impacts that  
21 this program has had, such as job creation, tax  
22 revenue generation, GHG reductions, health  
23 impacts in terms of, you know, direct impacts on  
24 health in certain communities, and then the  
25 economic impacts of, you know, cleaner air and so

1 forth that has directly resulted from this  
2 program.

3           I think in doing that we'll ensure that  
4 people realize and can kind of, you know, return  
5 credit back to the policymakers that are making  
6 these decisions and say, hey, these are really  
7 impacting our communities. They're creating  
8 jobs. They're, you know, contributing to  
9 workforce training. They're making for healthier  
10 communities. And I think in turn, that will then  
11 lead the policymakers to want to encourage more  
12 of these programs and more of this funding.

13           So while a lot of our E and O is  
14 encouraging drivers to potentially buy the  
15 vehicles, I think we need to kind of bring some  
16 of the credit back to the policymakers and  
17 agencies that have made this happen so that we  
18 can then encourage, you know, more good work like  
19 this in the future.

20           Thank you.

21           COMMISSIONER SCOTT: I forgot if I had  
22 Ralph and then Matthew, or Matthew and then  
23 Ralph.

24           COMMITTEE MEMBER BARTH: I think Ralph,  
25 yeah.

1           COMMISSIONER SCOTT:   Okay.   So, Ralph,  
2 please go ahead.

3           COMMITTEE MEMBER KNIGHT:   Thank you,  
4 Commissioner.   I just wanted to go along with  
5 your comments about the possibility of using the  
6 schools to be able to do RAPs and things like  
7 that on the chargers.

8           The District here in Napa has completed  
9 ten school sites now with solar energy to take  
10 care of the plants' operation needs.   And at  
11 those different sites, we have installed two  
12 chargers at each site which are totally free for  
13 public use.   Staff and students both have been  
14 using the chargers, doing very, very well.

15           And also with the installation of the  
16 solar systems, they're also putting tools in  
17 there for the instructors to be able to use in  
18 class time for the education of the kids on what  
19 the solar is really doing to operate that school  
20 site.   We have one high school that is operating  
21 the total high school on less than \$100 per year  
22 at a school site towards the PG&E bill.   I mean,  
23 that's just monumental on how it can really help.

24           But I think, you know, currently, right  
25 now, we've got 20 chargers sitting out there at

1 different school sites that are open to the  
2 public or staff to be able to use, so it's made a  
3 big different here in Napa for sure.

4           COMMISSIONER SCOTT: It sounds great. We  
5 might have to follow up and come check those out.  
6 That's very exciting.

7           I have Matthew, and then Eileen.

8           COMMITTEE MEMBER BARTH: Yeah. I don't  
9 know if this falls directly in the scope of the  
10 conversation, but I wanted to bring up the issue  
11 of multiple charge networks. So we're going to  
12 deploy a lot of these EV chargers and things like  
13 that. And as you know, there's multiple charge  
14 networks. There's EVgo, ChargePoint, Blink, all  
15 these different things. I drive an EV and I  
16 carry around multiple apps, multiple, you know,  
17 cards and things like that.

18           I terms of deployment, are we just going  
19 to let the market decide how that gets allocated,  
20 or is there a plan to allocate it in a certain  
21 way, or what's the process in terms of how that  
22 would work?

23           COMMISSIONER SCOTT: In terms of --

24           COMMITTEE MEMBER BARTH: In terms of how  
25 things -- you know, okay, you're going to deploy



1 hundreds of these in a particular community, do  
2 you just simply say, okay, the different charging  
3 network companies would bid for those different  
4 things or --

5           COMMISSIONER SCOTT: Yeah. So I think  
6 one of the things that we will talk about in our  
7 workshop that will be on May 14th is what that  
8 should look like; right? How do we design -- the  
9 staff will already have great ideas about how to  
10 design the solicitations, but to get feedback  
11 from people about what would be the most useful  
12 thing for us to be deploying the dollars into?  
13 Do we want to -- I mean, it could be all a  
14 voucher program. It could be all competitive  
15 solicitations. It could be all sort of the  
16 community outreach kind of Charging Challenge,  
17 like I described. It could be a combination of  
18 those things.

19           So we'll really be wanting to hear from  
20 you all about what you think are kind of the best  
21 ways for us to creatively deploy this money to  
22 accelerate the uptake of the -- or accelerate the  
23 deployment of the infrastructure.

24           So we'll be -- so hopefully that answers  
25 the question. I think there's more details that

1 we need to think about. And I think some of the  
2 research questions, also, are there key pieces of  
3 data that we would like people to report back to  
4 the Energy Commission as a condition of the  
5 funding to make sure that we have the data and  
6 information we need to continue to be smarter, to  
7 continue to learn and, you know, update how we  
8 deploy the infrastructure.

9           So I think we'll be thinking about that.  
10 Well, I know the staff is already thinking about  
11 it a lot. I'm already thinking about it a lot,  
12 as well. But we'll have the discussion about how  
13 to do that, I think, in that workshop for how to  
14 put together the solicitations.

15           COMMITTEE MEMBER BARTH: Thank you.

16           COMMISSIONER SCOTT: You bet.

17           I have Eileen, and then Irene.

18           COMMITTEE MEMBER TUTT: Thank you,  
19 Commissioner Scott.

20           I just wanted to point out that the  
21 market education and outreach is particularly  
22 important in disadvantaged communities. They  
23 are -- it's -- it takes them some education, and  
24 I know Analisa can tell that you CARB's learned  
25 this, that is you want to implement, you know,

1 programs in disadvantaged communities, you have  
2 to invest in education and outreach in those  
3 communities.

4           And I can also, in my current efforts  
5 working with these communities, and I don't like  
6 the term disadvantaged communities, I'll just say  
7 that up front, it's hard for me even to say it,  
8 but in my experience working with these  
9 communities, it does take quite a bit of effort  
10 just to let people know that the money is  
11 available. And they have no idea how to access  
12 it. And in all honestly, writing a proposal for  
13 the Energy Commission can cost quite a bit.

14           And so we need to think about whether or  
15 not some of this money, and I think I'm going to  
16 call on this Advisory Committee to help in  
17 talking to the legislature about allowing some of  
18 these funds to be used for education and  
19 outreach, I would say broadly it's important, but  
20 very specifically in disadvantaged communities.  
21 You won't get this program money into those  
22 communities without some investment in education  
23 and outreach.

24           And I know Veloz, I learned yesterday,  
25 and I'm really glad about it, is planning on

1 doing quite a bit of outreach that benefits these  
2 communities. So I think that would be a great  
3 way to help us get word out and help these  
4 communities get access to this funding.

5 COMMISSIONER SCOTT: Let me see, John, if  
6 you want to weigh in a little bit about our Cal  
7 EVIP and the initial deployment in Fresno, and  
8 just kind of trying to address exactly what  
9 Eileen has just mentioned.

10 MR. KATO: Yes. So your point on the  
11 ability for rapid deployment and reaching out to  
12 targeted communities and the aspect of  
13 simplicity, so we are trying with a program  
14 called Cal EVIP. And we've having an initial  
15 rollout, kind of a test rollout, so to speak,  
16 targeting at the City of Fresno. And so we're  
17 working in partnership with the CEC. And what  
18 we're doing is developing a website, a hand-  
19 raising kind of tool eventually, kind of that  
20 simplistic avenue with suggestions from the  
21 Energy Commission on our original recommendations  
22 of site placement, but also feedback from the  
23 actual local community of where they would like  
24 to have it placed.

25 So we're trying to develop that interface

1 and ease of use to get the dollars to locations  
2 where the community sees that there's a need, so  
3 that's kind of in a nutshell.

4           COMMISSIONER SCOTT: Yeah. And this  
5 is -- it's much more simple. It's not a  
6 competitive solicitation to get chargers for  
7 Fresno. It is, if you meet these key criteria  
8 and put in a charger, you can come back and just  
9 get the voucher for that. So we are looking at  
10 ways to make this much more simple, as well. And  
11 I think we need a combination of both.

12           I'll look very much forward to the  
13 outcomes of the workshop on May 14th and follow-  
14 up workshops because I do think we need a little  
15 bit of a combination of both. When we're trying  
16 to deploy infrastructure to fill in the West  
17 Coast Electric Highway on I-5, that's probably  
18 going to need to be a competitive solicitation,  
19 whereas some of these things, like within Fresno  
20 and other cities around the state, being able to  
21 just put your charger in as long as it meets  
22 these requirements and then come back to get your  
23 voucher to cover that, I think we're going to  
24 need a combination of both of those things and  
25 other creative ideas to really move the

1 infrastructure.

2 I have, let's see, Irene, and then  
3 Bonnie.

4 COMMITTEE MEMBER GUTIERREZ: Hi. So I  
5 appreciate the work that staff has done on this  
6 revised report. And I really appreciate the  
7 additional funding going to electric vehicle  
8 charging infrastructure.

9 I guess echoing thoughts from some of the  
10 other Committee Members, I think one of the  
11 pieces that's really important in thinking about  
12 getting 5 million electric vehicles on the road  
13 is thinking how to reach more communities. And a  
14 piece of that that's really important, I think,  
15 is thinking about how to get infrastructure into  
16 multifamily dwellings and other places that  
17 people who rent and who might not have sort of an  
18 easy home plug-in site.

19 So I'm curious what thinking has been  
20 done around that at the Commission and thinking  
21 about ways to reach multifamily and folks who  
22 might not have sort of easy access to charging  
23 stations otherwise?

24 COMMISSIONER SCOTT: So I think -- this  
25 is Janea Scott.

1           I think some of that is going through our  
2 Cal EVIP Program and the outreach that goes  
3 there, trying to make this much more simple. If  
4 you want a charger, it needs to meet these few  
5 requirements, and then come in and get your  
6 voucher for it.

7           I think that we are also thinking through  
8 the Charging Challenge. I will hope -- I haven't  
9 seen the proposals -- we got a ton of proposals,  
10 though, is my understanding -- that these include  
11 multifamily buildings in the communities. I  
12 would hope that the community doesn't just have  
13 it like the library, but has it in multifamily  
14 buildings.

15           I think when you include the DC fast  
16 charging, it would be really interesting to see  
17 if there are some ideas about DC fast charging  
18 plazas where people would be able to go and  
19 charge up, so it would be kind of more like your  
20 gasoline model or your hydrogen refueling model  
21 where you go to a central place, are able to fill  
22 up quickly and then keep going.

23           So I'm excited to see what some of those  
24 solutions look like. There are some great  
25 curbside charging solutions that we're hearing

1 about from LADWP and Burbank. And so taking some  
2 of that, and also working with the multifamily  
3 buildings, to get just charging infrastructure in  
4 places, at workplaces where people are able to --  
5 even if you don't have access at home, hopefully  
6 there are multiple other places where you do have  
7 easy access to charging, and also trying to get  
8 more of the charging at the multifamily  
9 buildings.

10 And I think we'll be thinking -- I don't  
11 think, I know we'll be thinking about that in  
12 much more detail as we go through that May 14th  
13 workshop that kind of looks at how to design the  
14 solicitation to address exactly those concerns.

15 I have Bonnie, and then John Shears.

16 COMMITTEE MEMBER HOLMES-GEN: Thanks.  
17 Whoops, I think I'm on. Thanks, Commissioner  
18 Scott.

19 Just really wanted to second all this  
20 discussion around education and outreach,  
21 especially in disadvantaged communities. And I  
22 really appreciate the ideas that we're hearing.

23 And I think part of it is I'm just, I'm  
24 wondering, you know, number one, do you think,  
25 Commissioner Scott, that there -- I mean, there



1 has been in the past some funding directed toward  
2 education and outreach, specifically for local  
3 government engagement, but do you think that  
4 there could be or should be a specific allocation  
5 going forward, or do you think that it's better  
6 to integrate it? It sounds like you're always  
7 looking at ways you can integrate into some of  
8 the existing efforts. I'm just kind of curious  
9 if -- how you see best meeting that need from the  
10 Energy Commission perspective?

11           And I'm also wondering, we talked briefly  
12 about car sharing and ridesharing services, where  
13 would that discussion be happening, like on how  
14 to better integrate the -- those emerging  
15 activities with the infrastructure planning  
16 that's going on? I'm just wondering, where would  
17 that be happening? Because that does seem like a  
18 need that's fairly immediate.

19           COMMISSIONER SCOTT: Yeah. So I think  
20 that for education and outreach, the last time we  
21 checked in the with legislature, and admittedly,  
22 that's been a little while, they were not a fan  
23 of having these dollars go towards that. So  
24 we -- you know, Energy Commission is a  
25 legislative body. We take legislative direction.

1 And that's why you have not seen dollars going  
2 into this space.

3 I think that we all recognize how  
4 important it is to raise awareness about these  
5 options for consumers. So if the legislature  
6 were to indicate that they'd like to see that, we  
7 would be delighted to do it, I think. But that's  
8 kind of the reason you haven't seen the dollars  
9 in this program kind of going towards that. And  
10 I think that this was a feeling maybe from a  
11 while ago that, you know, if it's the OEM or the  
12 fuel provider, they can advertise these things  
13 themselves.

14 I think when we think about how fast we  
15 want to make this transition, 2030 is 12 years  
16 from now, it's just not very far -- it's not even  
17 a whole 12 years from now, right, it's 11 and  
18 some -- that it may make sense for everyone to  
19 work together and just move as fast as we can in  
20 this space.

21 So that may not be the most satisfactory  
22 answer, but I feel like the -- previously, the  
23 legislature was not a big fan of seeing dollars  
24 go that way, which is why you haven't seen them  
25 spent in that way. But if they were to do so,

1 again, as I said, we'd be delighted to take that  
2 direction.

3 I think for the e-mobility, we have a  
4 current -- no, no, no, the solicitation is  
5 closed. And I think we're currently reviewing  
6 the proposals that have come in on e-mobility.  
7 Some of them have gone out already, which is  
8 really exciting. We've got like the Bolt to  
9 College Program that CALSTART is helping us put  
10 together. And it's really just kind of these  
11 places where it's like the last mile, or you  
12 can't get to transit which means you can't get to  
13 school, so instead you put in these shared rides  
14 services that get people from where they --  
15 oops -- from where they are to where they need to  
16 be.

17 The budget description of these dollars  
18 does talk about e-mobility and e-mobility  
19 services, so we'll need to think about what  
20 portion of that could go to something like that  
21 versus just straight up rolling out the  
22 infrastructure. And I think that staff is  
23 thinking about that.

24 And I don't mean to keep referring us  
25 back to the May 14th workshop, but that's the one

1 where we're really going to kind of get into the  
2 details and dig into. Today is kind of the  
3 broader allocations and have we gotten the  
4 broader allocations right? The 14th will be,  
5 okay, now that we've got the allocations, how do  
6 we spend them?

7 So hopefully, that helps answer. Okay.

8 I have John Shears, and then Ellen.

9 COMMITTEE MEMBER SHEARS: Okay. Just  
10 testing the technology here. Can people hear me?

11 COMMISSIONER SCOTT: Yes, we can.

12 COMMITTEE MEMBER SHEARS: Okay. Great.

13 Good morning everyone. Sorry I joined late. The  
14 vagaries of finding out where it was I supposed  
15 to be able to hook up with everyone, and lack of  
16 parking.

17 So thanks again to the Energy Commission  
18 and staff for another great Investment Plan  
19 Update, especially given the last-minute changes  
20 that arose as a result of the executive order.  
21 So I want to thank the Commission and staff  
22 again.

23 COMMISSIONER SCOTT: John, you're fading  
24 out just a little bit. Are you able to get  
25 closer to the mike that you're speaking into?

1           COMMITTEE MEMBER SHEARS:  Yeah.  I just,  
2 I turned my head a little bit.

3           COMMISSIONER SCOTT:  Okay.

4           COMMITTEE MEMBER SHEARS:  That must have  
5 been what happened.

6           So, and I'm not sure if this has been  
7 covered, but I just want to express appreciation  
8 for the fact that -- both for the EV and the  
9 hydrogen fuel cell side, that there's a tip of  
10 the hat and an acknowledgment about, you know,  
11 coming developments in the medium- and heavy-duty  
12 space, so just in terms of acknowledging the  
13 technology prospects going forward.

14           I want to also, you know, echo Peter  
15 Cooper's concerns.  And I want to propose that,  
16 in fact, I've been thinking for the past little  
17 while that it actually might be time to work  
18 together with, you know, Peter and likeminded  
19 organizations in terms of developing a strategic  
20 plan, just so everyone has a clearer vision of  
21 how these monies would, you know, go through the  
22 employment training system.  Just, you know,  
23 because I look at this and all of the other  
24 related programs Analisa mentioned earlier, I  
25 think that was Analisa's voice that I heard, you

1 know, this is a great program for economic  
2 justice and economic development, although I  
3 still think there are implementation issues that  
4 need to be addressed.

5           And, you know, I've also -- again, thanks  
6 to Eileen, too, about raising the capacity  
7 issues, which is something that I've raised both  
8 here at the Energy Commission and over at CARB in  
9 terms of getting the money sort of to the  
10 grassroots in a lot of these challenged  
11 communities. But I would like to also highlight  
12 the fact that, you know, as Eileen mentioned, you  
13 know, there are the capacity issues of being able  
14 to pull together staff that have experience, you  
15 know, to be able to put together a proposal.

16           But really in a lot of these communities,  
17 it's even a step beyond that, which is the  
18 capacity to develop the capacity. So there's a  
19 need to develop seed -- a seeding system to --  
20 which, you know, can be linked as part of the  
21 outreach and public education, but to develop,  
22 identify, cultivate, you know, community  
23 organizers around these issues so that those  
24 communities can start developing their own  
25 ability to identify what opportunities they need

1 to pursue, and how to identify consultants and  
2 that, that can help them put together the  
3 proposals.

4           Vis a vis, the last solicitation,  
5 GFO-16 -- or 17-604, I think, which might have  
6 been the one Commissioner Scott was mentioning,  
7 I'm just curious as to what extent there are a  
8 lot of groups out there that, you know, made a  
9 run at putting together a proposal, given that it  
10 was scheduled over several holiday periods, but  
11 didn't -- couldn't get, you know, to the post to  
12 submit their proposals? And I have a feeling  
13 that there are probably a lot of groups that  
14 weren't capable of doing that.

15           And I'm also, you know, working on the  
16 ground with people that are working in  
17 communities to help develop projects around EVs  
18 and fuel cells. So, you know, and Joel's also  
19 involved in some of that work. So I just wanted  
20 to, again, highlight that this -- to me, I look  
21 at this as an important economic development  
22 opportunity, there's still implementation issues.

23           And I think we need to, you know, figure  
24 out how much flexibility the agencies have, you  
25 know, or as Eileen, I think it was, inquired,

1 whether we need to get that direction to the  
2 agencies from the legislature in order to be able  
3 to free up a bit of funding to start, you know,  
4 building the capacity to have the capacity, get  
5 those community organizers and involved and help  
6 the, you know, develop their own community  
7 programs, which is, you know, some of the work  
8 that we're involved in, Joel and I and partners,  
9 so thanks.

10 COMMISSIONER SCOTT: This is Janea Scott.  
11 Let me turn to our Deputy Director John Kato.

12 Do you know how many proposals we  
13 received? Well, we might have to do a little --  
14 let us dig in and we'll circle back to you, once  
15 we have the numbers from the folks who are  
16 overseeing that part of the program.

17 I have Ellen, and then Joel.

18 COMMITTEE MEMBER GREENBERG: Thank you.  
19 And thanks to John for reminding me that I, too,  
20 should have apologized for a late arrival, so  
21 apologies for the late arrival.

22 I wanted to just speak to a different  
23 aspect of awareness and to the opportunities that  
24 we each have in our own organizations. So within  
25 the state government, Tyson and the folks at GO-



1 Biz have really been leading a significant effort  
2 with the Interagency ZEV Group. My experience at  
3 Caltrans is to really be increasingly aware how  
4 important it is that the knowledge of the state  
5 of ZEV technologies on both the vehicle side and  
6 the charging infrastructure side and the outlook  
7 and the policy environment are information that  
8 really need to penetrate the organization much  
9 more deeply than they have. And that that will  
10 have, I think multiple benefits, both for our  
11 operations as a department, and also for the  
12 impact we have and our employees have, you know,  
13 through all their activities.

14 But it's very conspicuous to me how the  
15 knowledge is really kind of in a very thin layer  
16 in the organization and really needs to go much  
17 deeper. And we're planning, with participation  
18 from a number of you here, an event to try to  
19 really work on that education, so I do think  
20 there's an opportunity, just kind of for all of  
21 us, in our continuing work to try to address the  
22 level of knowledge in our own organizations.

23 COMMISSIONER SCOTT: Thank you.

24 I have Joel. And then I don't see any  
25 other tent cards up here or any -- oh, it's Joel,

1 and then Bonnie.

2 Joel, please go ahead.

3 COMMITTEE MEMBER ESPINO: Good morning  
4 everyone. This is Joel Espino. Thanks for the  
5 opportunity to comment.

6 I have a broader kind of opening comment,  
7 and then wanted to talk about two recommendations  
8 from my perspective. And I kind of want to  
9 preface those recommendations by saying, you  
10 know, as an equity advocate, I've been really  
11 trying to figure out in this particular plan,  
12 right, you know, what are the opportunities to  
13 squeeze out as many equity outcomes as possible;  
14 right? So really trying to figure out, what are  
15 the opportunities to create either principles or  
16 program requirements that promote equity?

17 And so to unpack that a little more,  
18 right, how do we leverage this investment that is  
19 a public investment from the state to maximize  
20 the benefits to neediest areas and people, right,  
21 of California while minimizing the burdens,  
22 right, in those needy areas?

23 And, you know, I think, as I mentioned in  
24 the last Advisory Committee, I'm newer to the  
25 Committee and so I'm happy to see that the Energy

1 Commission is really promoting this objective, as  
2 witnessed in the resolution, in the executive  
3 summary of the report. But I think, as I've been  
4 thinking more about how to do this right, to  
5 operationalize this objective of maximizing the  
6 equity outcomes of this Investment Plan, I think  
7 there's two kind of threshold things that the  
8 Energy Commission can do.

9           One of them is a tracking and reporting  
10 recommendation. And I don't know that I've  
11 brought this up in the past, but there needs to  
12 be more explicit tracking and reporting of the  
13 investments to neediest community and people. And  
14 one way to do that is to kind of map, right,  
15 using the disadvantaged community definition, as  
16 pursuant to SB 535.

17           I know that the current map on the Energy  
18 Commission has a filter for CalEnviroScreen 3.0.  
19 But as folks are aware, that CalEnviroScreen 3.0  
20 map has basically color coordination based on  
21 different cutoffs, right, 25 percent, 50 percent,  
22 25 percent, et cetera. So it's actually a little  
23 difficult, depending on the color screen, and  
24 maybe this is just me because I'm a little bit  
25 color blind in terms of red-green color

1 blindness, but I think that's not as helpful to  
2 kind of figure out where these investments are  
3 going.

4 I would recommend that there also be a  
5 filter added that is specific to the  
6 disadvantaged community census tracts, and that's  
7 a little bit different from the CalEnviroScreen.  
8 And so I'm happy to talk to Jacob and others more  
9 about what the different is there, but I think  
10 that that's an easy way that the Energy  
11 Commission can track and report out better.

12 And I know that there might be some  
13 feasibility issues in terms of, you know, some  
14 investments might be harder to track whether that  
15 benefit is to a disadvantaged community because  
16 maybe it's an incentive, for example, for a  
17 vehicle. And that's a totally understandable  
18 sort of implementation difficulty that the Energy  
19 Commission might have. But there are  
20 opportunities within the Investment Plan where  
21 there are sites, you know, like charging stations  
22 that can be communicated through -- whether  
23 that's in a disadvantaged community or not.

24 And then to the extent that there are  
25 consumer-facing, individual-facing programs that

1 the Energy Commission has, being able to track  
2 whether that -- you know, there's some income  
3 eligibility there, I think that that's one way to  
4 do it.

5           And I would say that this is becoming  
6 more of a need as we start to see more of these  
7 investor-owned utility programs have  
8 disadvantaged community requirements and they do  
9 track and reporting along those lines. We have  
10 programs that could transform into climate  
11 communities that does the same thing. SB 350  
12 Low-Income Barrier Study, I know that it's been  
13 highlighted in the Investment Plan. And part of  
14 the recommendations there are really to target  
15 this type of investment.

16           So there's a growing need to figure out,  
17 what are the different pots that the state has  
18 that have a targeted mechanism to disadvantaged  
19 communities, and figuring out, what are other  
20 programs that can maximize that opportunity? And  
21 I definitely see ARFVTP as one of those. So  
22 that's one recommendation.

23           And then the other recommendation is more  
24 around just kind of an assessment, like an equity  
25 assessment that needs to happen. You know, and

1 ideally, that would be someone like myself,  
2 right, on the Advisory Committee, but I think I  
3 need to have a little more information about the  
4 performance of these programs. And so really  
5 assess the investment categories that can create  
6 the most benefits for needy communities and  
7 figure out what those are.

8 I'd recommend starting with the EV  
9 investments; right? I think that that's an easy  
10 one, and the workforce investment opportunities  
11 that have been highlighted. And so within those,  
12 trying to figure out, okay, what are some program  
13 requirements? What are some principles that we  
14 can institute as the Energy Commission to ensure  
15 that we're maximizing the equity outcomes? And I  
16 think that there needs to be kind of an internal  
17 assessment that has to happen for that.

18 And then to the extent that there's gaps,  
19 right, that the Energy Commission for some reason  
20 can't fully maximize the equity outcomes of these  
21 investment categories, being able to list in this  
22 Investment Plan, what are those barriers? Is  
23 it -- it's, you know, we have funding restriction  
24 for this category that doesn't allow us to  
25 provide funding for outreach, right, or, you

1 know, whatever the other barriers are. I think  
2 as an advocate, seeing the list of things that  
3 are -- that the Energy Commission has barriers to  
4 implementing equitable outcomes, that's really  
5 important for us.

6           And it's really valuable because, you  
7 know, the other hat that I have is, you know,  
8 talking to other state agencies and the  
9 legislature, right, and trying to figure out, how  
10 do we remove these barriers to these types of  
11 programs? And so that's something that I think  
12 would be very valuable to folks interested in  
13 equity and trying to figure out how we can do  
14 more with this money.

15           And so the last thing I'll say, I just  
16 want to echo, obviously, the recommendations that  
17 have been made around the workforce investment  
18 and figuring out if there's a way to create a  
19 strategic plan to maximize equitable outcomes  
20 there, because I know that it's a specific goal  
21 that the Commission has, and that is -- that was  
22 in the slides and that is in the Investment Plan.  
23 And I'll just note that there are, I think, two  
24 or three of us from the Advisory Committee who  
25 are mission aligned on that and at least started

1 a conversation of how that could happen. And,  
2 unfortunately, we haven't been able to come up  
3 with a more concrete proposal, but we're very  
4 interested in working with the Energy Commission  
5 to figure out how we can develop that kind of  
6 strategy moving forward.

7 Thank you for the time.

8 COMMISSIONER SCOTT: Of course. Thank  
9 you. Thank you for these thoughtful comments.

10 I do want to say, some of the things you  
11 have laid out we have at least the foundation  
12 for. I think it would be great for us to go back  
13 and reassess if we need to tweak any of that,  
14 change it, update it. And we should certainly,  
15 if you're willing, walk through with you offline  
16 kind of what we have in place and get your best  
17 thoughts on what we may need to tweak or change.

18 I quickly conferred with my colleagues  
19 from ARB and GO-Biz, and the mapping layer that  
20 you talked about using the SB 535 definition  
21 instead of the CalEnviroScreen 3.0 definition is  
22 a GIS layer that we can absolutely get added to  
23 that map, so we will certainly do that.

24 And then I think, you know, we are always  
25 open to thinking -- so one thing, I believe, at



1 our April -- at the Energy Commission's April  
2 business meeting, we typically have each of our  
3 deputy directors from all of our programs come  
4 and report out on how we're doing on diversity,  
5 working with disadvantaged communities, getting  
6 our funding and other, you know, jobs, all of it  
7 for low-income communities, and so we'll have a  
8 report out on that.

9 I think we would be really interested in  
10 feedback, if we're hitting the right -- hitting  
11 the right topics; right? If we're not, there's  
12 something that needs to be added, I think we're  
13 definitely open to that, as well.

14 So what I'm going to ask our team to do  
15 is walk you through what we already have going  
16 on, and then think through what needs to be  
17 changed or added or updated, so we can certainly  
18 do that.

19 And I see that I have Steve Kaffka, and  
20 then Bonnie.

21 COMMITTEE MEMBER KAFFKA: I live in the  
22 Central Valley and I've spent a lot of time over  
23 the years in the San Joaquin Valley. And the San  
24 Joaquin Valley has arguably the worst air quality  
25 in the state. And I think it's also probably the

1 most difficult area in the state to delivery  
2 these kinds of benefits to.  
3 So I would suggest that there might be a specific  
4 mention or thought given to that most difficult  
5 problem area.

6           And also, one other criteria. There are  
7 a lot of low-income people there that, basically,  
8 buy used cars. And they have larger families and  
9 they have long distances to travel, and so it's a  
10 particularly difficult problem to address air  
11 quality. We might need to think of multiple  
12 pathways, besides the EV pathway. You know,  
13 medium-duty vehicles that have these low-NOx  
14 emission engines would be particularly valuable  
15 in the San Joaquin Valley. And the support the  
16 Short-Lived Climate Pollution Plan in that there  
17 are digester and methane reduction programs.

18           And so some integrated thinking addressed  
19 on a regional basis might be better than kind of  
20 pathway-specific or limited approaches to solving  
21 a very difficult air quality problem.

22           COMMISSIONER SCOTT: Bonnie, and then  
23 Peter.

24           COMMITTEE MEMBER HOLMES-GEN: Thanks,  
25 Commissioner Scott. This is really an excellent

1 discussion. And it might -- it might be  
2 beneficial to even plan a broader discussion with  
3 the Advisory Committee, maybe in the fall  
4 meeting, around this whole issue of how we are,  
5 you know, squeezing the most equity and benefits  
6 to disadvantaged communities out of this funding,  
7 and how a little more discussion about where the  
8 funding is rolling out and how -- what kinds of  
9 efforts we are making and could make to make sure  
10 that the funding is getting into areas that are  
11 suffering the most from pollution and other  
12 environmental threats.

13           So it might -- I would be in favor of  
14 trying to schedule that discussion in November, I  
15 guess, when -- I mean, I would love to have it  
16 earlier, but not wanting to generate a ton of new  
17 work for the staff. Maybe it could be integrated  
18 into another meeting that's already planned.

19           And I guess maybe related to that, the  
20 issue of heavy-duty charging came up. We  
21 discussed it briefly. And I just wanted to note  
22 that that's the issue of rolling out electric --  
23 electrification, fuel -- electrification of all  
24 kinds, including fuel cell, of course, in the  
25 heavy-duty arena is incredibly important to the

1 American Lung Association. And that's a huge,  
2 you know, area of local -- a huge concern to the  
3 local hotspots and local air quality and health  
4 concerns with really high rates of asthma and  
5 other respiratory illnesses, of course, near  
6 ports and trucking centers and freeways.

7           And we're really excited that there are a  
8 lot of new options, and we'll be talking about  
9 that more, I know, in the advanced technology  
10 portion. But, obviously, there's that -- there  
11 has to be that fit between the rollout of the  
12 chargers and the rollout of the fleets.

13           And I'm glad that there is funding that  
14 will be available through this pot. I'm just  
15 wondering, you know, the CEC has done their --  
16 contracted for the EVI-Pro. And there's been a  
17 lot of discussion about how many chargers do we  
18 need for light-duty, and where should they be  
19 placed? And I'm wondering, is the May meeting  
20 the beginning of trying to do that in the heavy-  
21 duty arena, or how is that all going to come  
22 together so that we have a statewide plan, not  
23 just for the light-duty, but also for the heavy-  
24 duty needs?

25           COMMISSIONER SCOTT: That's a really

1 great question.

2 COMMITTEE MEMBER HOLMES-GEN: Just a  
3 small question.

4 COMMISSIONER SCOTT: Yeah.

5 COMMITTEE MEMBER HOLMES-GEN: A small  
6 question.

7 COMMISSIONER SCOTT: I think -- and I  
8 have to be honest and say, I have not talked to  
9 Noel to see what his kind of rollout schedule  
10 looks like, but let us circle back with him to  
11 see what that is. And I know that people are  
12 just slightly off topic but waiting with baited  
13 breath for his report on how he did the light-  
14 duty infrastructure. That poor report has gone  
15 to San Diego and back to Sacramento with me, to  
16 San Diego, to Diamond Bar, and I'm hoping I can  
17 look at it on the plane on the way back tonight.  
18 So it is on my desk. It is written. Its ready  
19 to go. I just need a chance to read it right  
20 quick before we put it out. So if you don't see  
21 it on Friday, I will read it over the weekend and  
22 you will see it on Monday.

23 But I don't -- I haven't talked to him  
24 specifically about what does the rollout look  
25 like in terms of medium-duty, heavy-duty? It was

1 quite a lift, as you can imagine, to -- you know,  
2 and it's fantastic. He and Kadir did such a  
3 great job actually developing in house a model.  
4 And the model is fantastic because it has the  
5 ability to look more granularly at the  
6 differences between regions and cities. And it  
7 also has the ability to, once we have new  
8 information, and I'm sure he would cry if I  
9 describe it this way, but, you know, you just  
10 pull out the old information and plug in the new  
11 and run the model again; right? And so you can  
12 just -- you can update it quite handily, so very,  
13 very excited about that.

14 I think what we will be talking about on  
15 May 14th is really more, what is the solicitation  
16 design for that 134.5 look like versus sort of  
17 the overall broad statewide strategy.

18 One thing that we are working on through  
19 the ZEV Group that Tyson oversees through the  
20 Governor's Office, we're working together with  
21 Air Resources Board, with the Public Utilities  
22 Commission, with GO-Biz, the Energy Commission,  
23 Caltrans, DGS and others to really think through,  
24 what does that statewide plan look like? And I  
25 don't know that we have a time, though, on that.

1           COMMITTEE MEMBER ECKERLE:  Yeah.  So the  
2 next thing you'll see, at least on that, is that,  
3 you know, we're updating the ZEV Action Plan and  
4 then -- but it's going to be a near term.  
5 Everything is kind of driving towards our Global  
6 Climate Summit in September.  And so the update  
7 to the Zero-Emission Vehicle Action Plan will be  
8 more of a, you know, what are our priorities for  
9 this year?  But one of the things we're trying to  
10 do is, you know, get a picture, so everybody can  
11 understand fully kind of what the strategy is  
12 going forward, especially infrastructure  
13 deployment.

14           I think that just simply to point out the  
15 difference of the light-duty and the medium-duty,  
16 I was just kind of thinking, and forgive me for  
17 the analogy, but I think the light-duty sector is  
18 a little bit more like cats; right?  We're trying  
19 to figure out where the cats would go, and so  
20 that there's a place for them to land when they  
21 get there.  And I think the medium-duty and  
22 heavy-duty might be more akin to dogs, right,  
23 where you kind of know -- you can train it a  
24 little bit more in terms of the use pattern.

25           So maybe that -- it's the first time I

1 tried that out, and I'm looking around the room.

2 But, you know, so you can specifically  
3 plan the infrastructure on a specific use case  
4 and a specific, you know, group like, you know, a  
5 FedEx or a UPS or whatever the delivery. So, you  
6 know, I think that there's a slight difference in  
7 terms of approach, but they're both equally  
8 important to figure out.

9 Does that work?

10 COMMISSIONER SCOTT: Yes.

11 Peter, and then Chris.

12 COMMITTEE MEMBER COOPER: Yeah. I just  
13 want a chance, quickly, to respond to some of the  
14 comments from Joel.

15 And I appreciate, we were able to meet  
16 with Joel and with the State Workforce Board and  
17 some folks from the California Labor Federation a  
18 couple of weeks ago to talk about some of the  
19 equity issues. This is really on the forefront  
20 of the work of the labor agency, I have to say.  
21 In fact, the State Workforce Board has a deputy  
22 director that works specifically on climate and  
23 equity issues.

24 So I think that there are a lot of  
25 different moving parts that we're trying to get



1 our hands around right now. For example, and I  
2 don't want to get into this too much, but just to  
3 point out regarding the geographic definitions in  
4 the mapping. Every agency pretty much has their  
5 own mapping structure. And our program, for  
6 example, has high unemployment areas. Now these  
7 maps, our regions don't always match with other  
8 regions of, let's say, the Apprenticeship Council  
9 or the State Board or the Equity Screen, so there  
10 are all these different geographic definitions.

11 And I would welcome a meeting, I'd be  
12 happy to host it at ETP, to talk about the  
13 definitions of these regions and how we can move  
14 forward in this area so that everybody has a  
15 common understanding of what we're talking about  
16 and how we can report on some of how these funds  
17 are being used.

18 COMMISSIONER SCOTT: Yeah. For that  
19 meeting, I would also recommend that you invite  
20 the folks from Cal/EPA that put together the  
21 CalEnviroScreen, so that we're -- the state is --  
22 it's nice to have the one layer that the state is  
23 all -- you know, we have the same common metric  
24 to talk about. So we'll want to make sure, I  
25 think, that they're included in that

1 conversation, again, to make sure that it's the  
2 common metric, once we have the right one that  
3 we're all talking about together.

4 Chris?

5 COMMITTEE MEMBER SHIMODA: Yes. I think  
6 on the disadvantaged communities issue, I just  
7 urge a little bit of flexibility in our thinking  
8 about where the projects get sited for,  
9 specifically, the advanced freight and fleet  
10 technologies portion. Because, you know, I can  
11 tell you, these projects that are being  
12 discussed, probably more this year than I've ever  
13 seen before with our members, are sometimes  
14 outside of, I think, the 25th top percentile, you  
15 know, either located in or adjacent to.

16 And so one of the questions would be if,  
17 you know, you've got a 30-truck fleet, I'm  
18 talking about a specific one, third-generation  
19 family owned that wants to do 10 zero-emission  
20 trucks, are were really going to tell them, you  
21 know, we can't give you funding to be one of the  
22 first 100 to do this, you know, because of a  
23 restriction that we have?

24 And I know this really hasn't been an  
25 issue to date so far just because on the natural,

1 a lot of the projects have been located in or  
2 adjacent to but just maybe not 100 percent, but  
3 having some sort of flexibility for folks who  
4 really want to do good projects outside of --  
5 outside of those areas, because this is just very  
6 initial. And some of the same issues around  
7 equity, having to do with, you know, sort of  
8 luxury EVs versus, you know, other types of  
9 vehicles don't really exist in heavy-duty. These  
10 are all, you know, brand new.

11           And then just the other points, since the  
12 company names got raised, you know, I just say,  
13 as far as a statewide strategy on charging, I'm  
14 learning a lot about this now as we're having  
15 these initial discussions with these companies.  
16 And I think even within companies that you think  
17 are very similar, what you find are very  
18 different fueling strategies existing, and then  
19 also different vehicle types and, you know, sort  
20 of different visions of how they're going to  
21 deploy this technology for their different  
22 services.

23           And so it may be a little bit premature  
24 to think about like a comprehensive statewide  
25 strategy, apart from the stuff we've know about

1 for a long time which is where trucks congregate  
2 and, you know, things of that nature. But I just  
3 encourage, and we'd be happy to, obviously, help  
4 facilitate this, just staying really close to the  
5 fleets as they're developing their thinking in  
6 this. Because, you know, real time, they're  
7 saying, oh, well, we might be able to turn a 200-  
8 mile vehicle into a 400-mile vehicle if there was  
9 charging in a certain area. So I think it's  
10 just -- it's early to, you know, sort of unify  
11 the thinking on this. But, you know, we'd be  
12 happy to help facilitate dialogue in the next  
13 couple of years.

14           COMMISSIONER SCOTT: Great. And I think  
15 we're very mindful of the differences between the  
16 medium-duty and the heavy-duty cycle, how fleets  
17 charge up. And even on the light-duty side, I  
18 mean, the batteries are changing, how fast  
19 chargers can charge are changing, and that  
20 changes -- each one of those changes, changes  
21 everything; right?

22           And so that's why I'm so excited about  
23 the EVI-Pro model, because once we get that, you  
24 can plug it in and you kind of see what the  
25 landscape looks like again. So I think we're

1 very mindful. We're certainly happy to be  
2 flexible, be able to take in new information as  
3 it comes and then sort of adapt and pivot from  
4 there, be nimble from there.

5 Do I have any other -- I don't see any  
6 other tent cards here in the room.

7 Let me open back up to our Advisory  
8 Committee Members, either on the phone or in  
9 Sacramento, for any last comments on the electric  
10 vehicle charging infrastructure.

11 COMMITTEE MEMBER HOLMES-GEN: May I ask  
12 one more question?

13 COMMISSIONER SCOTT: Yes, of course,  
14 Bonnie, go ahead.

15 COMMITTEE MEMBER HOLMES-GEN: I'm just  
16 curious, is there -- are there questions asked of  
17 the -- in the solicitation of what kind of  
18 outreach would be done? I mean, when we're doing  
19 solicitations on chargers do we ask questions  
20 about the outreach effort and advertising and,  
21 you know, potential media? I mean, I know  
22 it's -- we don't want to create new hurdles, but  
23 I'm just wondering, you know, what kind of  
24 information do we indicate is important to us as  
25 we're -- as you're making the decision?

1           COMMISSIONER SCOTT: That's a great  
2 question. I don't have the granularity --

3           COMMITTEE MEMBER HOLMES-GEN: Yeah.

4           COMMISSIONER SCOTT: -- unfortunately on  
5 the solicitation. I know, for example, though,  
6 with our Cal EVIP, which is California Electric  
7 Vehicle Incentive Program or Project.

8           COMMITTEE MEMBER HOLMES-GEN: Um-hmm.  
9 Um-hmm.

10          COMMISSIONER SCOTT: And -- Project. And  
11 so it's -- for it to work you have to do  
12 outreach; right? And so that's why we're working  
13 so closely with CSE on this.

14          COMMITTEE MEMBER HOLMES-GEN: Yes.

15          COMMISSIONER SCOTT: What I don't know,  
16 though, are sort of the specifics of what -- how  
17 they're doing that outreach and that type of  
18 thing, so we can follow back up with you. I  
19 think when we do our broader solicitations, like  
20 please fill in State Route 99 with chargers,  
21 those don't really typically have, I don't  
22 believe, an outreach campaign around them.

23                 But I think -- and, you know, what I also  
24 don't recall is what type of outreach we put into  
25 our Charging Challenge. But in order to get the

1 chargers in key places around the community, the  
2 folks are going to have to talk to each other  
3 about the charging infrastructure and why it's  
4 important and why would they like to put it  
5 there, that type of thing. So that, although we  
6 didn't -- I don't think we put a requirement into  
7 that Charging Challenge, some of that will just  
8 happen organically because otherwise you're not  
9 going to be able to put the charger at the  
10 library if you haven't talked to the librarians  
11 about that, or put it in front of the mom and  
12 population business if you haven't talked to the  
13 mom and population business about that.

14           So we can -- but it -- so anyway, we  
15 should --

16           COMMITTEE MEMBER HOLMES-GEN: This might  
17 be something look at.

18           COMMISSIONER SCOTT: Yeah, it's a good  
19 idea, and we should think about what that looks  
20 like in some of the solicitations that we put  
21 together going forward.

22           Okay, so, oh, yes, Analisa.

23           COMMITTEE MEMBER BEVAN: I had one quick  
24 thought --

25           COMMISSIONER SCOTT: Of course.

1 COMMITTEE MEMBER BEVAN: -- about that.  
2 I was wondering if you could -- if you did  
3 include a request for information about outreach,  
4 if that could be included as a cost share? So  
5 that would be one way --

6 COMMISSIONER SCOTT: That's a good idea.

7 COMMITTEE MEMBER BEVAN: -- to leverage  
8 community dollars in the outreach and awareness  
9 side of things, focusing your money on the  
10 infrastructure.

11 COMMISSIONER SCOTT: Yeah.

12 COMMITTEE MEMBER BEVAN: Just a thought.

13 COMMISSIONER SCOTT: That's a great  
14 thought, too. I'm like I hope I -- I see people  
15 taking notes, so it's good.

16 COMMITTEE MEMBER HOLMES-GEN: That's a  
17 good idea. Yeah, it is a good idea.

18 COMMISSIONER SCOTT: We'll just check one  
19 last time on our -- on the phone or the WebEx.  
20 If you have a comment and you're from the  
21 Advisory Committee, please go ahead and speak up.

22 COMMITTEE MEMBER SHEARS: Yeah, just John  
23 Shears with a follow up regarding the report  
24 Commissioner Scott mentioned that Noel's leading  
25 up.



1           So are we to understand that, you know,  
2 part of the exercise in the report is to look at  
3 impacts on the distribution grid and various  
4 options for mitigating impacts for medium- and  
5 heavy-duty, such as using onsite storage, et  
6 cetera, to sort of deflect or avoid things like  
7 demand charges? Is the report working and the  
8 analysis working at that level?

9           COMMISSIONER SCOTT: I -- so I haven't  
10 read it. I don't think that's what's in the  
11 report. I think the report describes the EVI-Pro  
12 model and how it works. And then the information  
13 that you would get out of that model, I think  
14 would then look at some of the questions, John,  
15 that you're talking about. But the report itself  
16 literally just describes the model and how it  
17 works.

18           COMMITTEE MEMBER SHEARS: Okay. Thanks.

19           COMMISSIONER SCOTT: Um-hmm.

20           Anyone else on the WebEx or in the  
21 Sacramento room from the Advisory Committee that  
22 would like to comment on the charging  
23 infrastructure?

24           All right, we have one public comment  
25 from John Schott from ChargePoint. Is he still

1 here?

2 MR. SCHOTT: Yeah.

3 COMMISSIONER SCOTT: Oh, yeah, there you  
4 are. Please come on up to the mike, introduce  
5 yourself, and we look forward to your comment.

6 MR. SCHOTT: Thank you. John Schott with  
7 ChargePoint. Thanks, Commissioner Scott, and to  
8 the Commission staff for, again, putting together  
9 a great revision to the plan.

10 We absolutely support the increase from  
11 \$20 million to \$134 million for the 2018-2019  
12 ARFVTP Investment Plan to help achieve the goals  
13 that the Governor has set forth to deploy 5  
14 million ZEVs by 2030, and the 250,000 charging  
15 station goal that we've discussed, as well. It's  
16 a lot of money and it's a very exciting  
17 opportunity. We are absolutely confident in the  
18 Energy Commission's ability to manage and deploy  
19 these funds to create the programs to make this  
20 successful and to get this funding out into the  
21 marketplace quickly.

22 I also just want to assure everyone that  
23 ChargePoint is just one EVSC manufacturer in this  
24 market both in terms of personnel and product  
25 availability, is ready to meet the growing demand

1 for EV chargers, and that we are excited to play  
2 a significant role in achieving the 250,000  
3 charging station goal and leverage these programs  
4 for our customers.

5 Like the ARFVTP, ChargePoint also just  
6 celebrated our ten-year anniversary. And we have  
7 a growing workforce of more than 450 full-time  
8 staff and over 47,000 charging stations, 27,000  
9 of which are in California alone.

10 Just a comment on the appropriate funding  
11 mechanisms.

12 I know the plan discusses this. And,  
13 Commissioner Scott, you made some comments that I  
14 agree with fully about what appropriate funding  
15 mechanisms are for different types of technology.

16 For, you know, projects like, you know,  
17 corridors, fast charging corridors where there's  
18 a lot of money going out and there's sort of a  
19 strategic angle where you need to make sure  
20 you're covering corridors and providing adequate  
21 spacing, we agree that competitive solicitations  
22 are typically the best approach for that. But we  
23 do feel that a significant portion of this  
24 funding should go towards programs that are  
25 simple, like Cal EVIP, you know, rebate voucher

1 programs targeted at the end customer that can  
2 quickly get funding out into the marketplace.  
3 You know, the first-come, first-served approach,  
4 I think, is what it's called specifically in the  
5 plan.

6           And on the Cal EVIP Project and the first  
7 incentive project, which is the Fresno County  
8 Incentive Project targeted at the County of  
9 Fresno, fully supportive of that project. You  
10 know, that program as a whole was designed to be  
11 able to scale up to \$200 million, to handle \$200  
12 million worth of funding. And we now have a  
13 significant amount of that funding covered.

14           We're confident in the CEC, the Center  
15 for Sustainable Energy, and the Commission  
16 agreement and Manager Brian Fobble (phonetic) to  
17 properly manage that program to get funding out.

18           I also just want to -- I understand I'm  
19 out of time. Can I keep going or --

20           COMMISSIONER SCOTT: Sure, just one --  
21 just a couple more sentences.

22           MR. SCHOTT: Okay. The ENERGY STAR  
23 requirement, we are fully supportive of that and  
24 commend the Energy Commission for standing strong  
25 there. There have been a number of comments

1 submitted, both in support and against ENERGY  
2 STAR. We think it's -- you know, the point of  
3 that is to drive innovation. And you can see  
4 that other manufacturers are now in the process  
5 of getting their equipment certified, so it's  
6 having its exact intended effect.

7           Also, on medium- and heavy-duty electric  
8 vehicles, we do agree that there are some, you  
9 know, special circumstances there that are needed  
10 to be addressed through their own funding  
11 mechanisms. And the grant funding opportunity  
12 17603 for seaports, warehouses and distribution  
13 facilities was a great example of a competitive  
14 solicitation targeting a specific sector and  
15 getting infrastructure to those types of  
16 projects.

17           Last comment. I think it's time that we  
18 really appoint a representative from the EV  
19 charging industry. We have a very qualified and  
20 diverse Advisory Committee. But I think it's  
21 time that we consider somebody to represent the  
22 industry. I might recommend the Electric Vehicle  
23 Charging Association to represent the industry in  
24 a vendor-agnostic and neutral way. You always  
25 encourage us to, you know, put these in writing

1 and provide these comments. We have done that in  
2 the past, so we'd love to have that conversation,  
3 not just ChargePoint, but other manufacturers and  
4 EVSC companies, to figure out who best -- the  
5 right person would be to represent the industry.

6 So thank you very much.

7 COMMISSIONER SCOTT: Great. Thank you.  
8 And, yes, we always accept written comments, so  
9 please be sure to put all the details you like  
10 and send those into us in writing.

11 Do I have any folks on the phone or hand  
12 raisers who would like to make comment on this?  
13 Okay, I'm seeing, no.

14 So why don't we -- we said we would break  
15 for lunch at noon. I'm wondering if folks want  
16 to keep going a little bit and talk about  
17 hydrogen refueling infrastructure, or would you  
18 prefer to go ahead and break now and come back a  
19 little bit early and start the discussion then?  
20 Any --

21 COMMITTEE MEMBER HOLMES-GEN: We can go  
22 for a little bit.

23 COMMISSIONER SCOTT: Go for a little bit?

24 COMMITTEE MEMBER HOLMES-GEN: Yeah.

25 COMMISSIONER SCOTT: Okay. Great. So

1 let's keep going.

2           We will talk about hydrogen refueling  
3 infrastructure, which, as you can see, is at \$92  
4 million. Do I -- Justin?

5           COMMITTEE MEMBER WARD: Okay. I should  
6 probably turn that on. That helps.

7           So similar to kind of the spirit of  
8 discussion, even in the previous round, I do want  
9 to just thank CEC staff and everyone for the  
10 great effort to include the executive order  
11 information in this latest Investment Plan.  
12 Hopefully you guys are able to get back to normal  
13 sleeping and working hours now.

14           But I think this is a great effort and  
15 great opportunity. I think through this,  
16 California will continue to be a leader, to  
17 demonstrate leadership, and to be a pioneer in  
18 the mass adoption of fuel cell vehicles. The \$92  
19 million is a great step forward. And we're  
20 really hopeful and excited to see how this  
21 funding will encourage new and also experienced  
22 players to further expand infrastructure across  
23 the state.

24           Kind of moving forward and kind of  
25 looking at future investment plans, I'd kind of

1 like to encourage staff to strengthen maybe the  
2 methodology used as it relates to some of the  
3 vehicle deployment pieces. Maybe as kind of a  
4 really simplistic example would be to maybe  
5 assume some deployment ratio based on executive  
6 order goals for all technologies, and then you  
7 won't have to try to juggle how do you mix or  
8 balance actual numbers with predicted numbers and  
9 targets and all that other stuff. It gets to be  
10 a little bit hard to see in a kind of transparent  
11 way. But again, I do think there's been a lot of  
12 great success in the current materials.

13           A piece that I didn't actually have  
14 prepared for today was similar discussion to the  
15 previous topics related to education and outreach  
16 and kind of workforce training. I think a lot of  
17 that, those kind of comments carry forth, even  
18 through, into this, as well, so I'd like to just  
19 kind of further support also those comments  
20 towards education and outreach and workforce  
21 development.

22           COMMISSIONER SCOTT: Thank you.

23           Brian?

24           COMMITTEE MEMBER GOLDSTEIN: Well, Justin  
25 stole all of my thunder there, but I want to echo



1 his sentiment. I think it's, you know, amazing  
2 that we've worked as a community for so long to,  
3 you know, hit 100 stations. And here we are able  
4 to double that goal and envision how we can do  
5 that effectively in a short amount of time. In  
6 fact, the stations are coming onboard, you know,  
7 in a shorter amount of time than they ever have  
8 in the past. So we're, you know, really making  
9 leaps and bounds here.

10           And I also wanted to, you know,  
11 essentially kind of ask the question about  
12 Justin's comment to the Commission here and how  
13 we're looking at the number of stations in the  
14 context of the 2030 goal. And I think, you know,  
15 on the slides, we were looking primarily at the  
16 projected shortfall of stations, that we will  
17 have more cars by 2023 than stations to fuel  
18 them. And I know we're looking to, you know,  
19 overcome that shortfall.

20           But in the context of the 2030 goal of 5  
21 million ZEVs in total, you know, how are we  
22 collectively trying to assign a number of  
23 hydrogen stations that we would need in that time  
24 frame?

25           COMMISSIONER SCOTT: I know that Noel

1 used a percentage as he put this together. I am  
2 sorry, but I don't know off the top of my head  
3 what it was, so I'll have to -- I'm going to have  
4 to send him an email for all kinds of information  
5 to come back to you all with after lunch.

6 I don't know, Tyson, if you remember the  
7 number? I think what we used was the Air  
8 Resources Board scoping plan split that they are  
9 using between battery-electrics and hydrogen fuel  
10 cells, but I don't know what that split was.

11 COMMITTEE MEMBER ECKERLE: So I think the  
12 challenge is, so you're talking about 2030 --

13 COMMITTEE MEMBER GOLDSTEIN: Correct.

14 COMMITTEE MEMBER ECKERLE: -- which is an  
15 amount in the future. So the infrastructure  
16 goals are organized around 2025. And so within  
17 Noel's model, and I think the scoping plan, I  
18 think it's about 1.4 million would be -- have  
19 plugs, and then about 100,000 would be fuel cell,  
20 is kind of what the -- but I could be -- it might  
21 be 1.3 million. You'll have to go back and  
22 double check in terms of the --

23 COMMITTEE MEMBER GOLDSTEIN: And that's  
24 the 2025 number?

25 COMMITTEE MEMBER ECKERLE: For the 2025

1 goal.

2 COMMITTEE MEMBER GOLDSTEIN: Right.

3 COMMITTEE MEMBER ECKERLE: And that's  
4 kind of what the 250,000 station number is based  
5 around.

6 COMMITTEE MEMBER GOLDSTEIN: Okay. And,  
7 you know, I ask because looking back at the  
8 slides, when we're looking at the EV charging  
9 stations -- and you know, for the record,  
10 obviously we need all of the above technologies  
11 here. I'm, you know, certainly not advocating  
12 one at the expense of another. But it just seems  
13 like those station numbers are suggesting what  
14 the, you know, what the shortfall will be by 2030  
15 if we're looking at an entire BEV infrastructure  
16 or, sorry, an entire kind of BEV population by  
17 then. So it seems like we're looking at fuel  
18 cell electric vehicles in the context of a 2023  
19 or 2025 shortage and how do we meet that, rather  
20 than how do we hit a \$5 million overall -- or,  
21 sorry, 5 million overall electrification goal in  
22 2030?

23 COMMISSIONER SCOTT: Yeah, that's  
24 correct. The analysis is for the 1.5 million --

25 COMMITTEE MEMBER GOLDSTEIN: That's

1 right.

2           COMMISSIONER SCOTT: -- by 2025. And  
3 partly, that's because, as I mentioned, like on  
4 the battery technology, it's just, it's changing  
5 so fast. The charging infrastructure technology  
6 is changing so fast. The hydrogen refueling  
7 infrastructure is changing really fast. The cost  
8 of fuel cells are changing really quickly. And  
9 once you -- that's like literally every variable,  
10 right, so you don't have a constant to measure  
11 out past 2025, and then it just starts to get  
12 very fuzzy, and so we wanted to be as precise as  
13 we could, recognizing that all of these changes  
14 are taking place.

15           And so that's why it's keyed to the 1.5  
16 million in -- 1.5 million vehicles in the 2025  
17 time frame. We do need to do additional analysis  
18 to see what it looks like out from there. And,  
19 yes, I will let Analisa speak, as well. But  
20 it's -- the reason is because all of -- you know,  
21 so you know when you're doing an analysis like  
22 that, you want at least one of your variables to  
23 be the same. And in this instance, they're kind  
24 of all changing. So we wanted to take the best  
25 information we have now but not extrapolate it --

1 COMMITTEE MEMBER GOLDSTEIN: Sure.

2 COMMISSIONER SCOTT: -- that far out into  
3 the future. So we do recognize that there is  
4 additional work that needs to be done to --  
5 between the 1.5 and the 5 and what the  
6 infrastructure that looks -- that goes along with  
7 that looks like. And then you've got the  
8 autonomy, right, you've got the shared vehicles  
9 coming. It's just that all of the variables  
10 start to change.

11 Go ahead, Analisa.

12 COMMITTEE MEMBER BEVAN: Well, I was just  
13 going to say that we're doing the tools at ARB,  
14 as you know, that are analogous to the EVI-Pro  
15 for electric vehicles. We've got the tit and the  
16 that --

17 COMMISSIONER SCOTT: That's right.

18 COMMITTEE MEMBER BEVAN: -- to model how  
19 much infrastructure we need for hydrogen. And  
20 like with electric vehicles, we can play with  
21 those inputs to grow that, the population, and  
22 come out with a subsequent number of stations and  
23 their capacity and all those things.

24 COMMITTEE MEMBER GOLDSTEIN: I see. All  
25 right, well, thanks for the clarification.

1           And to the extent that, you know, the  
2 community can help, I understand that those are  
3 very dynamic variables in each of the different  
4 technologies. And it's really tough to model  
5 these things. But to the extent that that -- you  
6 know, there's a lack of that research, you know,  
7 let's let it be known so the community can kind  
8 of step in under all technologies and help try to  
9 remedy that or, you know, come up with the best  
10 variables and math that we can.

11           So thanks.

12           COMMISSIONER SCOTT: I think Steve was  
13 first, and then Peter.

14           COMMITTEE MEMBER KAFFKA: Okay. This is  
15 almost \$100 million investment by the state. And  
16 so I'm curious if staff or folks here on the  
17 Advisory board can explain how EVs and hydrogen  
18 fuel cell vehicles complement each other or, in  
19 fact, compete? And we have -- we're looking at  
20 about \$100 million investment for 40,000 vehicles  
21 under optimistic conditions, so it's a cost  
22 benefit question, as well, and especially given  
23 constraints in other parts of this budget.

24           COMMITTEE MEMBER BEVAN: So I'll see if I  
25 can address that.

1           The California Air Resources Board is  
2 depending on a complete transformation of the  
3 light-duty vehicle fleet to ZEVs out by the 2050  
4 time frame. And so we're supporting both  
5 electric vehicles and hydrogen vehicles, the  
6 expectation being that both technologies will be  
7 needed to meet everybody's needs, be it from a  
8 range and faster fueling perspective to a size of  
9 the vehicle issue, as well as cost. The  
10 expectation for the cost of fuel cell vehicles  
11 being competitive or even more cost effective  
12 than battery-electrics in some applications means  
13 that we need to be supporting both.

14           And the investment in the infrastructure  
15 is a very different picture. With a hydrogen  
16 station, you serve many, many more vehicles. So  
17 that initial investment looks large but serves a  
18 very large number of vehicles, compared to the  
19 electric vehicle infrastructure which needs on a  
20 per-location basis but doesn't serve as many  
21 vehicles per site.

22           COMMITTEE MEMBER ECKERLE: If could --

23           COMMISSIONER SCOTT: Tyson, go ahead.

24           COMMITTEE MEMBER ECKERLE: -- yeah, jump  
25 into this?

1           You know, earlier you had brought up the  
2 five-minute refueling that people are used to.  
3 That's another thing, you know, we're trying to  
4 get to 5 million yeses, and then ultimately 30  
5 million yeses throughout the marketplace. And I  
6 think it's -- you know, you look at the different  
7 consumer behaviors and having a solution for  
8 each, and you look at the multi-unit dwelling,  
9 for example, that's come up in the past in this  
10 conversation, as well, but I think that's another  
11 thing to keep in mind.

12           And also what the automaker are saying.  
13 You have, you know, Justin Ward over here from  
14 the Fuel Cell Partnership, but also Toyota, and  
15 you look at their product portfolio and what they  
16 believe. And so I think what we're trying to do  
17 at the state is give the zero-emission vehicle  
18 market holistically the best chance of success;  
19 right? And so any of those solutions that work,  
20 you know, I think that's what we're after.

21           COMMISSIONER SCOTT: I have Peter, and  
22 then John Shears.

23           COMMITTEE MEMBER COOPER: Okay. This is  
24 a pretty broad question, so bear with me.

25           But I was wondering to what degree the



1 report and the forecast take into account the  
2 impact of artificial intelligence in the  
3 deployment of all these -- the ZEVs and the  
4 hydrogen vehicles? What roll does AI play and  
5 how is it accounted for in the report?

6 COMMISSIONER SCOTT: Are you thinking  
7 about autonomous vehicles?

8 COMMITTEE MEMBER COOPER: Yes, and how  
9 that impacts some of the use of ride sharing.

10 COMMISSIONER SCOTT: Yeah. I think  
11 that's one of the -- and I'll let ARB speak to  
12 this, as well, because they may have a different  
13 answer within the scoping plan -- this is one  
14 thing that's one of the variables that I  
15 mentioned that makes this is a little bit tricky  
16 for us. I don't -- I think that we are, maybe  
17 safe isn't quite the right word, but we're safe  
18 at 1.5 million zero-emission vehicles. We have  
19 30 million passenger cars on the road here in  
20 California. And even if everybody started to  
21 share today, we're still likely to have several  
22 million vehicles on the road.

23 I think that we're very mindful of the  
24 fact that we are going towards -- we'd like to  
25 see much more sharing in how people travel, that

1 we'd like to see autonomous vehicles. It's the  
2 *Three Revolutions* that Dan Sperling has talked  
3 about. Many of the car companies speak about it,  
4 as well. They have an acronym called CASES  
5 (phonetic), which is also sort of connected  
6 autonomous shared and electric. So I think we  
7 all see -- or I think we all believe that that's  
8 kind of the direction we're going.

9

10           What I don't know is when do those --  
11 when do all of those things start to happen and  
12 how does that impact this?

13           And so I think with the first -- this  
14 isn't really the first wave of the rollout, this  
15 is, maybe I'd call it, the second wave or the  
16 third wave of the infrastructure that we're  
17 trying to get out to support this transition, but  
18 it does matter a lot; right? Because, again, if  
19 we have a bunch of autonomous cars that are  
20 running around doing our errands all right now,  
21 how they charge up, where they charge up,  
22 hopefully they're sharing our errands and not  
23 each of us has our own single car out there going  
24 around, we're mindful of those dynamics. We work  
25 hard to try to model those, but they're -- it

1 makes it a little bit fuzzy. Just, we don't have  
2 great answer there. I don't think we do, even  
3 though we're very mindful that this trend is  
4 coming and that we need to set up.

5           And so that's why the EVI-Pro model is  
6 set up the way that it is. Because once we have  
7 those variables and that information, we can pull  
8 it in and it changes what it looks like. It  
9 changes how many miles do you need between DC  
10 fast chargers on a highway? Again, that changes  
11 depending on how many vehicles you have. If 30  
12 million of them are electrified, you still might  
13 need one every 20 miles, it's just you don't need  
14 it every 20 miles because of range, for example.

15           So there's lots of kind of give and take  
16 in there that we're all thinking about, we're all  
17 mindful of, but I don't know that we have a  
18 specific -- you know, there's not a specific  
19 paragraph that says here's how that's in account,  
20 at least in this report. I don't know about the  
21 scoping plan or, Tyson, any of the GO-Biz  
22 activities.

23           COMMITTEE MEMBER BEVAN: Commissioner,  
24 I'm not sure I could anything more to that. That  
25 was very comprehensive in terms of we're -- we've

1 got our eyes open, our ears open, trying to learn  
2 as much as we can about how these vehicles will  
3 roll out and be used. We're just trying to make  
4 sure that they are zero-emission and having the  
5 least impacts to the environment. So that's why  
6 we're continually engaged in this, but we're  
7 learning and trying to keep options open.

8 COMMISSIONER SCOTT: Yeah.

9 Tyson or Ellen, anything to add?

10 COMMITTEE MEMBER GREENBERG: Yeah, if I  
11 could just, on this point, and then there's a  
12 connection back to an earlier comment that was  
13 made about kind of the whole emerging mobility  
14 environment.

15 So these issues which are, I think, very  
16 much kind of policy issues about how these  
17 emerging services, as well as technologies, are  
18 going to be regulated or, you know, shaped from a  
19 policy point of view, the cities are taking a  
20 great interest in this because they are already  
21 being so effected by the availability of ride-  
22 sharing services that in a lot of cases are  
23 shifting trips from walk, cycle and transit onto  
24 ride share. And there -- and our larger cities  
25 are seeing a significant increase in vehicle

1 miles traveled, so they're looking at different  
2 kind of policy waivers.

3           And a lot of that conversation is  
4 happening in the context of an organization  
5 called NACTO, which is the North American -- oh,  
6 maybe not North American, but it's the  
7 Association of City Transportation Officials, and  
8 it actually includes Canadian, as well as U.S.  
9 cities. And they have a document called  
10 Blueprint for Autonomous Urbanism. And they're  
11 focused there on autonomy, but they do address  
12 incentives for electrification. So that's one  
13 forum where this discussion is ongoing.

14           With respect to charging in particular, I  
15 mean, I think one of the sort of principal  
16 scenarios or future use cases is that the  
17 mobility companies would be owning fleets that  
18 would then be responsible in the fleet context  
19 for charging. So, you know, if these services  
20 are bundled together and you're seeing  
21 significant numbers of large fleets, that then  
22 would be another, you know, possible  
23 transformative factor in the demand for disbursed  
24 charging opportunities.

25           So I think it's certainly correct to say

1 there are, you know, many use cases that are  
2 being contemplated or envisioned and that those  
3 would then have, you know, kind of knock-on  
4 effects on charging demand and supply. And also,  
5 that all of us should realize that there's a big  
6 policy dimension here. And exactly what entities  
7 are going to be responsible for establishing  
8 those policies and regulating the providers, I  
9 think is still very much in play.

10 COMMITTEE MEMBER ECKERLE: I think it's  
11 all been said really well. I think it's an  
12 essential question within a lot of the agencies.  
13 I think the Office of Planning and Research is  
14 playing a leading role, as well, in coordinating  
15 this. And so I would encourage you, you know, we  
16 can always engage, and looking for more voices.

17 But I think that the point to keep in  
18 mind, and I think Eileen -- Ellen said it really  
19 well, but it's just that any investment we're  
20 making now in infrastructure is highly unlikely  
21 to be a stranded investment in the autonomous  
22 world; right? We're going to need distributed  
23 charging and fueling opportunities to make this  
24 happen.

25 COMMISSIONER SCOTT: I have John Shears,

1 and then Claire.

2           COMMITTEE MEMBER SHEARS: You know, on  
3 the AI front, I just wanted to add that a big  
4 part of it will be the availability of fifth-  
5 generation cellular technology, depending on the  
6 various models or in terms of the use of AI and  
7 autonomous are being explored by a multitude of  
8 companies. And whether that's introduced in  
9 conventional ICE-powered vehicles or EVs, you  
10 know, folks at the car companies, they'll go  
11 where the market pools on that initially. But  
12 clearly, where we all want to go is to avoid the  
13 VMT and increased emission issues is on the zero-  
14 emission front.

15           So that segues me back to what I wanted  
16 to originally comment on which is that my  
17 comments earlier, if it wasn't clear, I just  
18 wanted to make sure that I do make it clear that  
19 I'm not just talking about electric vehicles, but  
20 also fuel cell vehicles in terms of issues around  
21 training and equity and that, because there are  
22 opportunities to develop projects around fuel  
23 cell vehicles in challenged communities.

24           And then to maybe help answer Steve's  
25 question, if we take, you know, the state's

1 goals, what should be the world's goals towards,  
2 you know, 2050 where we have an 80 or a 90  
3 percent de-carbonized economic, essentially we're  
4 going to have an economic run with energy  
5 carriers, that being either electrons, so the  
6 electrical grid powered by near-zero or zero-  
7 emission renewables, or protons which, you know,  
8 we use in fuel cells. Batteries and fuel cells,  
9 it's all electrochemistry. And as we move  
10 forward the hydrogen economic is going to become  
11 an essential part of how the world operates, not  
12 just -- you know, and there's an opportunity to  
13 produce a lot of that hydrogen in the future from  
14 the electrical grid.

15           The economics now are maybe not always  
16 that attractive, although here in California we  
17 have this problem, fortunate problem called the  
18 duck curve where we have the shoulder (phonetic)  
19 months in the spring and fall where we have  
20 really mild days, we have huge amounts of solar,  
21 to the point where we're curtailing power  
22 production on the grid and we need to find  
23 beneficial load, you know, to use that, you know,  
24 free zero-carbon electricity. And one of the  
25 hoped-for beneficial loads would be a huge fleet



1 of electric vehicles, and also renewable hydrogen  
2 through hydrolysis for fuel cell vehicles.

3           With regards to the fuel cell vehicles  
4 versus battery-powered electric vehicles, it's  
5 all good in terms of whatever is developed around  
6 fuel cells is a scalable solution set. So as the  
7 market has developed around fuel cells and  
8 vehicles that use those, it's moved from things  
9 like forklift. So Walmart, for example, is a  
10 huge fan of using fuel cell-powered forklifts as  
11 opposed to battery-powered or CNG-powered  
12 forklifts. And, you know, how you scale the  
13 manufacture of the fuel cells through whatever  
14 market opportunities you have, that gives you  
15 opportunities to lower the cost through the  
16 scales of manufacturing, plus, you know,  
17 returning investment on R and D to get costs and  
18 efficiencies up.

19           If we take light-duty vehicles as an  
20 example, an explicit example of how you can scale  
21 from light-duty to heavy-duty, Toyota has their  
22 pilot project with the Ports of L.A. and Long  
23 Beach at San Pedro Pier called Project Portal,  
24 where they have a Class 8 heavy-duty truck that  
25 uses two fuel cells taken from Toyota's

1 commercially-available passenger vehicle, the  
2 Mirai. And you, basically, you can take two of  
3 those fuel cells and power a Class 8 heavy-duty  
4 freight-hauling truck with that. That's an  
5 explicit example of modular scaling.

6           The challenge for battery-electric  
7 vehicles, and, yes, Elon Musk and Tesla have  
8 announced that they're going to come out with a  
9 Class 8 battery-powered truck, a lot of us are  
10 still wondering how Tesla, and any other  
11 companies that would want to do a Class 8  
12 battery-powered truck, would get -- be able to do  
13 any kind of long haul travel with us, because the  
14 amount of batteries, the weight of the batteries  
15 that you would have to carry to power the trip,  
16 would take up most of your cargo space, plus the  
17 weight would parcelatize (phonetic) so much of  
18 the power that you're carrying in the batteries.

19           It's kind of like until battery  
20 technology evolves, and it's not to say that  
21 someday we might not have really fantastic  
22 batteries, at this point, fuel cell vehicles are  
23 sort of the path that we can sort of see going  
24 forward for longer travel medium-duty and longer  
25 travel heavy-duty applications. That's not to

1 say that battery-electric trucks might not have  
2 niches. And, in fact, there are examples where  
3 they're being used in short haul opportunities  
4 where you have predictable routes every day, so  
5 you know what your charging demands, et cetera,  
6 are.

7           So I just wanted to offer that and just,  
8 again, just say, go ZEV. So our organization  
9 supports electric and fuel cell vehicles.

10           COMMISSIONER SCOTT: Thank you.

11           Claire?

12           COMMITTEE MEMBER JAHNS: Thanks. I have  
13 two questions. The answer to the first may  
14 negate the second question.

15           But as I hear the, I mean, the technology  
16 of hydrogen, especially for single-passenger  
17 vehicles, and the rate of charging seems like it  
18 might lend itself to rural areas, as opposed to  
19 EVs. And so I'm wondering if there's opportunity  
20 to pair fuel production with charging stations  
21 through kind of small scale gasification plants  
22 and things like that?

23           COMMISSIONER SCOTT: I think that is  
24 something that we have been working on. It  
25 probably fits more in the renewable hydrogen

1 production and wanting to have some vehicles near  
2 that. I can let others -- you know, I don't know  
3 if Brian or Justin or others want to weigh in on  
4 that, but that is something that we are  
5 considering.

6           Right now with the light-duty stations,  
7 we're building them out kind of where the --  
8 we're working closely together with the OEMs and  
9 the fuel providers and to be -- make sure that  
10 we're rolling those out in the places where  
11 people are buying them. Right now, when we have  
12 32 stations only, you have to be very deliberate  
13 about where you can sell things, and then you  
14 have to kind of expand out in a sensible way.  
15 Once we have more stations that are much more  
16 ubiquitous, then I think that it really opens up  
17 to a much broader set.

18           But as we're kind -- of it's a little bit  
19 hand-in-hand, working together. We've got about  
20 4,000 fuel cell electric vehicles; 32 stations, I  
21 think, are open right now, 60 all right funded,  
22 and we're on our way to the first 100, which is a  
23 great backbone network. But if you think about  
24 that, you still need to kind of live near one and  
25 have that technology work for you, at least right

1 now, today.

2           Okay, I don't know if any of my hydrogen  
3 folks would like to weigh in on that? You don't  
4 have to.

5           COMMITTEE MEMBER GOLDSTEIN: I'm happy to  
6 comment on it.

7           COMMISSIONER SCOTT: Sure.

8           COMMITTEE MEMBER GOLDSTEIN: I'm not sure  
9 if the question was more focused on whether the  
10 stations would reach those areas, or the  
11 production. But, you know, one of the  
12 interesting things about renewable hydrogen  
13 production, it's certainly that the ARFVTP is  
14 already supporting, in the context of a Renewable  
15 Hydrogen Production Grant solicitation, is that  
16 the agricultural waste resources throughout the  
17 rural areas of California provide so much  
18 feedstock and have such a huge impact as far as  
19 the carbon intensity of the fuels that are  
20 created with them; right? So those resources are  
21 all located in rural areas, essentially.

22           And so we're really working to try to  
23 figure out how to bring renewable hydrogen from  
24 those resources into the urban areas, but they  
25 will certainly, you know, originate in some of

1 the more rural areas in the state. So I think  
2 that they would have, you know, first access,  
3 certainly, to the most renewable fuels that we're  
4 actually able to create overall in the state of  
5 California at this point. And I think it's just  
6 a question of, echoing Commissioner Scotts'  
7 comments, about kind of getting station  
8 saturation to the point where we can start to  
9 space out stations that would also hit those  
10 areas.

11 COMMISSIONER SCOTT: Did you have -- you  
12 said you had a second question, or I don't know  
13 if Justin wanted to weigh in at all.

14 COMMITTEE MEMBER JAHNS: It was combined.

15 COMMISSIONER SCOTT: Oh, okay.

16 COMMITTEE MEMBER WARD: Yeah, basically,  
17 just parroting what Brian had mentioned, so I  
18 think in the very beginning it was really  
19 important, as the stations were really first  
20 coming out, that they were matched well with  
21 where vehicles were being deployed. So I think  
22 there's been a great effort with that. And,  
23 again, I want to thank everyone at the Commission  
24 for supporting that activity.

25 But as we move forward in time, we're

1 going to see applications with the -- those kind  
2 of rural applications offer lots of opportunity.  
3 And we should not be afraid or shy from those as  
4 those opportunities come -- become apparent as we  
5 move forward.

6 COMMISSIONER SCOTT: Bonnie, and then  
7 Steve. I think, actually, Eileen was in the  
8 middle, so Bonnie, then Eileen, then Steve.

9 COMMITTEE MEMBER HOLMES-GEN: Yeah.  
10 Thanks, Commissioner Scott.

11 And I wanted to make sure that the Lung  
12 Association fully supports this \$92 million for  
13 hydrogen stations. And it's really incredibly  
14 important to keep these stations rolling out, and  
15 especially to get duplication in areas where we  
16 only have one station, and that's been a problem.  
17 So we -- the public needs to have confidence to  
18 buy the cars and know that there's multiple  
19 opportunities to fill their cars with -- to fuel  
20 the cars.

21 And I wanted to agree with Brian's  
22 comments, also, about the importance of getting  
23 the information, about, you know, what are the  
24 gaps in stations that we might encounter in 2022,  
25 given where we need to be to be on track for the

1 5 million EVs? That's an incredibly important  
2 goal, and especially given the long lead time to  
3 get the stations on line. It is important, I  
4 think, that we try to get that information as  
5 soon as we can and then, you know, gear up  
6 funding to support that need.

7           And finally, I'm really happy that now I  
8 know that the hydrogen -- or the fuel stations  
9 actually -- or hydrogen stations actually include  
10 their own education component. I was really  
11 happy to learn that when I went and fueled up a  
12 hydrogen car and I didn't know exactly how to do  
13 it, and learned that there's a nice little video  
14 right on the station which tells me how to do it,  
15 which I played about three or five times.

16           And I learned at the ten-year celebration  
17 that not only will stations have the videos on --  
18 physically on the station that you can watch, but  
19 some are coming out where they're going to have  
20 apps and then you'll be able to look at the how-  
21 to video on your phone, and other ways of  
22 learning.

23           So I was really happy to see those  
24 learning components. And it definitely helped me  
25 get over the initial concern about how in the



1 heck do I do this?

2 COMMISSIONER SCOTT: Eileen, and then  
3 Steve.

4 COMMITTEE MEMBER GREENBERG: I just -- I  
5 want to comment on something that John Shears  
6 said, and I think he probably agrees with me, but  
7 I don't know if I might have misheard it.

8 I would suggest that it's too early to  
9 decide which technology works better for any  
10 application and for any person. And I would agree  
11 with Analisa said, which is we need zero-emission  
12 vehicles. We don't need to pick a winner in any  
13 application. And we -- I believe that both of  
14 these technologies, and maybe there will be a new  
15 one, who knows, are needed in order to get to 100  
16 percent ZEV in 2050.

17 So I want to avoid any suggestion that  
18 one technology is preferable or better, I think,  
19 or in certain applications or for certain types  
20 of people. I think that that is definitely the  
21 case now. And that's why it's great that we have  
22 some diversity in different kinds of zero-  
23 emission vehicles, but it's not clear to me what  
24 the future is going to look like. And even in  
25 the -- in like the goods' movement sector, last

1 mile trucks may not exist in five, ten years.  
2 You know, we may have autonomous light-duty  
3 vehicles and drones delivering our goods and  
4 packages.

5           So I don't know, and I think the  
6 transition is going to happen much quicker than  
7 we thought, but I want to say we definitely  
8 support this funding for hydrogen fuel cell  
9 stations and we think it's very complementary to  
10 the charging stations.

11           COMMISSIONER SCOTT: Steve?

12           COMMITTEE MEMBER SHEARS: This is John  
13 Shears, who --

14           COMMISSIONER SCOTT: Sorry. Go ahead,  
15 John.

16           COMMITTEE MEMBER SHEARS: -- totally  
17 agrees. And I just want to -- yeah.

18           I didn't mean to imply superiority of one  
19 technology over the other, just to clump -- to  
20 take (indiscernible), just use the  
21 complementarity of the technologies, so --  
22 because they're both going to be evolving and  
23 changing and having different capabilities, along  
24 with supporting infrastructure and technology, so  
25 I totally agree with Eileen.

1 COMMISSIONER SCOTT: Steve?

2 COMMITTEE MEMBER KAFFKA: I just wanted  
3 to complement Brian for his shout-out to poor old  
4 biomass and just kind of say that we have these  
5 categories we are setting up, but in many cases  
6 there could be complementarity and overlap. And  
7 so I'd like to encourage the staff and the  
8 Commission not to be too rigid in thinking in  
9 silos and categories, because they can be  
10 complementary.

11 COMMISSIONER SCOTT: Great. I don't see  
12 any more tent cards here in the room.

13 Did anybody, any of the other Advisory  
14 Committee Members on the phone or on the WebEx  
15 would like to say something in response to the  
16 hydrogen refueling infrastructure allocation of  
17 \$92 million, please go ahead. Okay, I know  
18 they're not shy, so they would jump in if they  
19 had wanted to speak.

20 So with that, let's turn to our public  
21 comment on the topic. We will start with Bill  
22 Elrick, followed by Matt McClory.

23 MR. ELRICK: Thank you, Commissioner.

24 First, I want to say congratulations,  
25 after ten years. It's gone pretty darn fast. And

1 you've been really, really responsive to the  
2 Governor's executive order and we're really  
3 excited and happy to see the ZEV future that  
4 you're aiming this towards.

5           We're thankful for the \$92 million. We  
6 think that will help achieve or get to a closer  
7 point to the early milestones of 2025 and towards  
8 2030. I want to mention publicly, we're working  
9 on a new roadmap at the California Fuel Cell  
10 Partnership. We'll have it out, I'll say, by  
11 this summer to provide a little bit more  
12 guidance, input and direction on where the  
13 industry is going. It will work towards that 5  
14 million vehicle goal. We're aiming that  
15 direction, and also the transition to a  
16 sustainable, private industry-led marketplace  
17 which really is our final goal in all of this.

18           Looking at some of the conversation  
19 earlier, I think it's interesting, just I want to  
20 point out that there, in the slide you have, it  
21 was very helpful to hear the explanation and  
22 discussion about the 2025 goal versus 2030 and  
23 how you're approaching it. But even the slides  
24 show a little difference there, where 2030 is  
25 kind of in the back of your minds on the BEV

1 side. And 2023 is what you're showing on the  
2 hydrogen side. So I think being a little bit  
3 more aware of the 2025 goals and where we really  
4 want to be in the ZEV world is important.

5 I also want to point out, there was  
6 discussion earlier about the different kind of  
7 funding pots out there. Right now, I heard VW, I  
8 heard ratepayers and the PUC. Hydrogen is not in  
9 those, so we are really thankful for this program  
10 because that and the private match are what are  
11 creating the early market. And to that point,  
12 picking winners or losers, I'm glad we're not and  
13 the state has never looked two years into the  
14 marketplace and decided that future. Didn't do  
15 that for batteries back in the 2010-2011 period,  
16 or even in the '99 -- 1990s, so I'm glad we're  
17 looking at where we need to be, and that's  
18 important.

19 And then the last comment I really want  
20 to focus on is back to the privately-led  
21 marketplace that we're trying to achieve. One of  
22 the great things about hydrogen and the  
23 infrastructure we're developing, there's actually  
24 a business incentive, a business case at the end  
25 of this. Government's role is to help launch the

1 market and then move us through that valley of  
2 death into something where government doesn't  
3 have to play this kind of role again. Industry  
4 sees it in hydrogen. They're working towards it.  
5 Industry and CEC and the other state agencies are  
6 all working towards that, and I think that's a  
7 really, really important piece. Because that's  
8 our real goal at this, is creating not only a  
9 2050 future of ZEVs, but one that the government  
10 can focus on other things.

11           And so, you know, how we encourage and  
12 create a policy and business environment to make  
13 that transition is really important. And I think  
14 you've had it in the investment plans and the  
15 solicitations.

16           And I'll just say at ending that -- thank  
17 you very much for you, the staff and the  
18 Committee's hard work on getting us this far, and  
19 we look forward to the rest.

20           COMMISSIONER SCOTT: Thank you.

21           I have Matt McClory, followed by Naveen  
22 Barry.

23           MR. MCCLORY: Hello. Good afternoon.  
24 Matt McClory with Toyota North America. And I'd  
25 like to say on behalf of Toyota, we really

1 appreciate the opportunity to provide comment.  
2 And we thank the Commissioners and staff for the  
3 significant effort in a very short time to update  
4 the Investment Plan following the Governor's  
5 executive order at the end of January. So we  
6 really appreciate this opportunity to be here  
7 today.

8           We fully support the proposed increase in  
9 the 2018-2019 hydrogen allocation of \$92 million.  
10 And we recommend that this be used to maximize  
11 the ramp-up in the number of hydrogen fueling  
12 stations awarded in this term.

13           In addition to the concept that it's been  
14 done in the past, of pulling forward funding from  
15 future terms, it is important to frontload the  
16 build-out of the stations due to the lead time  
17 necessary to get them up and operational, and  
18 also to ensure that the stations come first to  
19 allow the sales of vehicles, because this is a  
20 key thing when we're talking to the customer and  
21 the dealership, is to explain to them where the  
22 stations are in order to make that decision.

23           We continually get the feedback from  
24 customers and from our regions that represent the  
25 dealers on intenders of fuel cell vehicles and

1 the feedback of, well, if there was a station in  
2 X-Y-Z area, I would be able to -- be able to  
3 purchase and so we'll wait, or they provide us  
4 this feedback. And so we want to make sure that  
5 we provide that feedback to the state to help  
6 guide in those decisions.

7           Toyota has now sold and leased over 3,300  
8 Mirai fuel cell vehicles as of early this week,  
9 and this is since our launch date in the end of  
10 2015. And this would not have been possible  
11 without the leadership and the support from  
12 California and the significant incentive policy  
13 that's available today. And we feel, also, that  
14 this is important to note that the collaborative  
15 process between automakers and the state was  
16 helpful in reaching this target.

17           The fueling data and the customer  
18 feedback from our customers in California shows  
19 that we now have the highest peak demand of  
20 anywhere on the planet for fueling, you know,  
21 higher than Japan, higher than Europe. And so  
22 this is really a tremendous accomplishment of  
23 where we're at today, but it's also showing -- it  
24 shows the potential growth for this technology,  
25 but it also illustrates the learnings of the



1 existing fueling network and the challenges of  
2 the limited supply chain, as I think some of us  
3 have experienced directly.

4           Based on these learnings, and to allow an  
5 expansion of fuel cell vehicles in the state,  
6 both for our current model, our next general  
7 vehicle model, as well as for all OEMs, it is  
8 critical to accelerate the build-out of these  
9 stations planned in this Investment Plan before  
10 the 2021 kind of target timing, so we want to  
11 make sure that there's this push. And we want to  
12 make sure that this is part of a statewide  
13 comprehensive network designed to balance  
14 coverage and redundancy. So this is kind of a  
15 bit of pivot from talking about capacity towards  
16 really talking about coverage and redundancy to  
17 make sure that the network is going to be robust  
18 and resilient.

19           So to realize this goal, we recommend to  
20 strengthen the coordination that we have today  
21 between automakers, station developers and the  
22 state to help develop the next solicitation, and  
23 implementation of new measures that would allow  
24 greater investment by industry towards this goal.

25           And so kind of three key points I want to

1 kind of highlight, is being able to recognize the  
2 input from the automakers to identify target  
3 locations of the market, of customers, to make  
4 sure that these are kind of consistent with the  
5 approach of where stations are going to be  
6 awarded, an increase in the number of stations  
7 proposed in a single award station and as part of  
8 an integrated network, and an increase in the  
9 peak fueling capacity. And we feel that this  
10 support would allow reductions in the fuel price  
11 to the customer, allow lower price -- lower  
12 equipment cost or reductions cost through the  
13 standardization of all purchases of standardized  
14 equipment, and also improve the customer  
15 experience.

16           So moving forward, and in closing, we  
17 welcome the opportunity to provide detailed  
18 guidance on draft concepts that may be generated  
19 for the next solicitation. And we appreciate the  
20 continued dialogue with staff to support the  
21 increase in zero-emission vehicles in the state.

22           Thank you.

23           COMMISSIONER SCOTT: Thank you.

24           I have Naveen Berry, followed by Aaron  
25 Harris.

1           MR. BERRY: Good afternoon, Commissioner  
2 Scott and the rest of the Advisory Committee.  
3 I'm Naveen Berry. I'm the Technology  
4 Demonstration Manager at South Coast AQMD, and  
5 just wanted to focus in on a clarification.

6           We heard earlier that the EVSC (phonetic)  
7 funding that's been allocated is available for  
8 medium- and heavy-duty, as well as light-duty  
9 vehicles. And I wanted to seek that  
10 clarification for the hydrogen portion of the  
11 funding as well. And if it's -- I understand it  
12 may be focused on light-duty. I wanted to  
13 request consideration for medium- and heavy-duty  
14 hydrogen refueling infrastructure in the South  
15 Coast, Northern California, as well. I think it  
16 will go a long way towards supporting the  
17 Sustainable Freight Action Plan, our local ports  
18 Cleaner Action Plans, and certainly the AQMD's  
19 Air Quality Management Plan.

20           So thank you.

21           COMMISSIONER SCOTT: Thank you. And,  
22 yes, we did mean to say that for -- there will be  
23 portions of that for medium-duty/heavy-duty on  
24 both the charging infrastructure, and also on the  
25 hydrogen infrastructure.

1           Aaron Harris. And that's the last blue  
2 card I have from the room.

3           MR. HARRIS: Hello.

4           COMMISSIONER SCOTT: And if you'd like to  
5 make a comment, please feel free to fill out one  
6 and come on up.

7           Hello.

8           MR. HARRIS: Thank you for the  
9 opportunity to speak with you. And, also, we at  
10 Air Liquide would like to really thank you very  
11 much for the hard work. To the multitudes who  
12 understand whose efforts led to both the  
13 executive order and now the Investment Plan, and  
14 again, I think we echo our complements and our  
15 appreciation for your hard work.

16           And I think what's interesting, thinking  
17 that while many consumers already have the  
18 prerequisites required to operate a battery-  
19 electric vehicle, it's clear that the allocation  
20 of funding, as well as the comments that we're  
21 hearing today, that there's a broader challenge  
22 to that wider deployment. And we, in the  
23 hydrogen infrastructure, understand that  
24 challenge up front because we understand that  
25 we've been facing that same reality day one on

1 our we deploy our hydrogen infrastructure. And  
2 we see a lot of complementary aspects to how we  
3 can collectively increase and move forward with  
4 the ZEV infrastructure.

5           So as an example, you may know that our  
6 installation for Air Liquide in Palo Alto will  
7 include two brand new charging stations as part  
8 of what the building codes require in Palo Alto.  
9 So as complements to understanding and seeing  
10 that, what's unique, to say, okay, well, I'm sure  
11 the building code forced you to do that. Well,  
12 actually, we're considering several of those  
13 similar complementary installations for our  
14 network in the northeast. And you may be aware  
15 that we're building several stations based on  
16 your hard work and efforts here in California in  
17 the northeast in a private effort by Air Liquide  
18 to continue to push the envelope for this.

19           So that said, I think one of the things I  
20 wanted to make sure we advocated is for Air  
21 Liquide, we see the executive order as a response  
22 to the Hydrogen Council's published report, which  
23 was published in November. It's called *Hydrogen*  
24 *Scaling Up*. And we think that -- well, I'd  
25 certainly advocate any of you to go to the

1 Hydrogen Council website, download the report and  
2 understand more about what the Hydrogen Council  
3 is doing globally. That report, which was  
4 published by McKinsey and Company, outlines \$230  
5 billion of investment globally across seven  
6 market segments that we fill by 2030,  
7 specifically 10 to 15 million cars and 500,000  
8 trucks, again, at a global level.

9           So now really part of our efforts within  
10 Air Liquide are trying to regionalize those. And  
11 regionalize, in the report, you'll recognize that  
12 there are three -- four regions called out,  
13 Germany, South Korea, Japan and California. So  
14 still, in that sub-nation status which California  
15 enjoys and I think relishes, and also works very  
16 hard within, we're recognizing that and we're  
17 looking forward to that.

18           So we hope that the Global Climate Summit  
19 with the regional efforts in support of ZEVs will  
20 continue to help align the synergies with BEV  
21 charging in these retail environments, along with  
22 the continued acceleration of hydrogen network  
23 planning, particular, as was just stated, I  
24 think, in the expansion of heavy-duty and medium-  
25 duty applications.

1           So thank you very much. I really  
2 appreciate it.

3           COMMISSIONER SCOTT: Thank you.

4           I don't have any other blue cards from  
5 the room. Do we have comment on the WebEx?

6           MR. BRECHT: (Off mike.) Yes, we do.  
7 I'm trying to figure out (indiscernible)  
8 questions.

9           COMMISSIONER SCOTT: Okay. So I hear  
10 that we have two comments on the WebEx. Please  
11 indicate if you'd like us to open up your lines  
12 so that you can speak, or if you'd like to type  
13 in your comment and then Patrick will read it for  
14 us.

15          (Colloquy)

16           COMMISSIONER SCOTT: Emanuel Wagner, if  
17 you are there, please speak up. We're ready to  
18 hear your comment.

19           I think he's un-muted on our end;  
20 correct?

21           Emanuel, if you are there, you are un-  
22 muted on our end. Oh, I'm sorry, you've actually  
23 been muted again. Hold on just one moment.

24          (Colloquy)

25           COMMISSIONER SCOTT: Okay, Emanuel, while

1 we try to double check you're un-muted, I hear  
2 that Wayne Leighty is un-muted.

3

4 So, Wayne, if -- please go ahead, and we're  
5 ready to hear your comment.

6 MR. LEIGHTY: Thank you, Commissioner  
7 Scott. Can you hear me?

8 COMMISSIONER SCOTT: Yes.

9 MR. LEIGHTY: Great. Thanks. I just  
10 wanted to briefly echo what I think has already  
11 been said very effectively by others, which is  
12 there's a powerful convergence of objectives  
13 happening here, which is very exciting.  
14 Accelerating and scaling up zero-emission  
15 vehicles per the Governor's executive order for  
16 California's emission reduction goals also  
17 enables some of what Bill Elrick and others have  
18 talked about; that scaling up enables the  
19 conditions, I think, for broader and larger  
20 customer adoption of the vehicles. Reducing the  
21 cost of the infrastructure for hydrogen refueling  
22 is something that I know very well and work on,  
23 and that's good stewardship, I think, of the  
24 private and public funds accomplishing more with  
25 every dollar. So I'm very excited that this kind



1 of scaling up can activate that potential.

2           And then building out the capacity and  
3 coverage I the refueling network, as Matt talked  
4 about, making the fuel more available, I think  
5 also will help customers see fuel cell electric  
6 vehicles as a good choice. And more and larger  
7 volume and more diversity of vehicle types coming  
8 helps us all find the ZEV that we want, whether  
9 it's a pickup truck or a minivan or a sedan.

10           So I'm very excited. Thanks for the  
11 opportunity to make a comment.

12           COMMISSIONER SCOTT: Thank you.

13           Let's see, is Emanuel Wagner un-muted?

14           MR. BRECHT: (Off mike.)

15 (Indiscernible.)

16           COMMISSIONER SCOTT: Okay. We see that  
17 you're typing.

18           So what I'm going to suggest that we  
19 do -- do I have any other public comment on the  
20 phone or the WebEx?

21           Why don't we then, we'll go ahead and  
22 break for lunch. Everyone, please come back at  
23 1:30. We will start at 1:30 sharp, and we will  
24 start by reading the comment that Emanuel is  
25 typing in.

1           Thanks everyone. So we're breaking until  
2 1:30.

3           (Off the record at 12:45 p.m.)

4           (On the record at 1:40 p.m.)

5           COMMISSIONER SCOTT: Welcome back to our  
6 critical mass back in Sacramento and on our  
7 WebEx.

8           And for our friends on the Advisory  
9 Committee in Sacramento, and also on the WebEx, I  
10 have been calling on you, just to make sure that  
11 you are recognized. But if you hear a pause and  
12 you'd like to say something, feel free to jump  
13 in, just as if you were here in the room with us  
14 at the table. We definitely want to hear from  
15 you, and so feel free to jump in if you don't  
16 want to wait for me to call on you. But I will  
17 also try to call on, just the way that we kind of  
18 recognize folks around the room so that we don't  
19 end up talking over one another. But, again,  
20 please do feel free to jump in.

21           What we're going to do, because we're  
22 losing Chris in just a little bit, is to start  
23 back after lunch. I'm going to ask Jacob to  
24 please read the comment from Emanuel Wagner on  
25 the hydrogen refueling. And when he's done with

1 that, we will then transition into the Advisory  
2 Committee discussion of advanced freight and  
3 fleet technologies. When we're done with that,  
4 we'll jump back up to the manufacturing and  
5 workforce, and then to the low-carbon, and then  
6 to natural gas vehicles.

7           So, Jacob, if you would please read our  
8 last public comment there on hydrogen, that would  
9 be great.

10           MR. ORENBERG: Thank you, Commissioner.  
11 This is from Emanuel Wagner, and I'm just reading  
12 this from WebEx into the record.

13           "On behalf of the California Hydrogen  
14 Business Council, I would like to thank the  
15 Commissioners and staff for the work and  
16 effort put into this second revised plan.  
17 The CHBC is supportive of the expansion of  
18 program funding to \$92 million for hydrogen  
19 infrastructure.

20           "As Bill Elrick mentioned, this additional  
21 funding will help create certainty for our  
22 business members, allowing them to make long-  
23 term investments into technology in  
24 California.

25           "It will also expand -- help expand the

1 supply chain, bringing more companies into  
2 the market. We see this as an opportunity  
3 that can increase competition among suppliers  
4 and help reduce the cost of fueling station  
5 components and, ultimately, the stations  
6 themselves.

7 "In consequence, California will continue to  
8 lead the development and deployment of  
9 hydrogen fuel cell technology and create  
10 high-tech clean energy jobs.

11 "We also support the allocation of program  
12 funding to renewable hydrogen production.  
13 Hydrogen producers can make very good use of  
14 excess renewable energy," I'm sorry,  
15 "electricity, thereby avoiding curtailment.  
16 Instead of curtailment, that electricity can  
17 be used to make hydrogen, a high-value  
18 transportation fuel that has no GHG emissions  
19 in its production and is fully zero-emission  
20 in its use. Adding funding for renewable  
21 hydrogen production facilities will diversify  
22 the fuel supply in the state and help reduce  
23 the cost of hydrogen at the pump.

24 "Thank you all for your time."

25 COMMISSIONER SCOTT: Great. Thank you,

1 Jacob, for reading that into the record for us.

2 And thank you, Emanuel, for your comment.

3 Let's now turn to the advanced freight  
4 and fleet technologies, which is a proposed  
5 allocation at \$17.5 million, and turn to the  
6 Advisory Committee discussion.

7 Chris, would you like to kick us off?

8 COMMITTEE MEMBER SHIMODA: Sure, and  
9 thank you for the accommodation.

10 Just wanted to support the allocation.  
11 You know, as I said in the earlier item, the hope  
12 is for both this solicitation and then some of  
13 what the Air Resources Board is doing later this  
14 month, that you will start seeing some actual  
15 truck fleet-based projects for this coming year.  
16 \$17.5 million sounds like a lot. Based on the  
17 cost of some of these projects, I can tell you,  
18 that's going to go fairly quickly if everything  
19 works out well.

20 The other side of this would just be --  
21 and I will take the advice, put this in written  
22 comments, but there are also these other  
23 equipment categories that are sort of trucking  
24 adjacent, such as refrigerated trailers that you  
25 have commercialized technologies for but a severe

1 lack of infrastructure at the facility side, that  
2 we'll definitely be interested in seeing some  
3 projects on that side, as well, so -- but we'll  
4 make sure to actual put that down in writing with  
5 some technical data that you guys can evaluate  
6 and consider.

7           COMMISSIONER SCOTT: Other Advisory  
8 Committee comments on advanced freight and fleet?

9           Yes, Steve?

10           COMMITTEE MEMBER KAFFKA: I seem to be  
11 somewhat worried that I'm one of the critics in  
12 your mass here, so -- but I'm wondering if this  
13 includes, as well, funds for advanced compression  
14 engines, for example, for medium-duty vehicles or  
15 short -- or hub-and-spoke systems that would run  
16 on compressed natural biogas? And that might be  
17 particularly, in my view, valuable in the Central  
18 Valley.

19           I've been part of the Short-Lived Climate  
20 Pollution Program and contributed to the dairy  
21 sector programs now that are attempting to reduce  
22 methane emissions from the dairy sector. We also  
23 could get biogas from waste straw (phonetic).  
24 But one of the things that will limit the success  
25 of those programs is a lack of demand, fuel -- in

1 other words, lack of vehicles that actually  
2 consume the biogas, so you have to have that, as  
3 well.

4           And so those vehicles certainly have some  
5 emissions, but they're much, much lower than they  
6 were. And they represent a significant form of  
7 short-term progress and mid-term programs for the  
8 San Joaquin Valley. So a combination of  
9 refueling stations and vehicles -- support for  
10 vehicles that would actually use those fuels  
11 would help advance the Short-Lived Climate  
12 Pollution Plan --

13           COMMISSIONER SCOTT: Um-hmm.

14           COMMITTEE MEMBER KAFFKA: -- which should  
15 be, I think, of concern to the Energy Commission,  
16 as well as simple vehicle numbers.

17           COMMISSIONER SCOTT: Absolutely. I will  
18 note that that is something that is of concern to  
19 us, as well.

20           One of the things we did try to do within  
21 the Investment Plan was put our investments in  
22 context with the broader set of investments that  
23 are taking place around the state. So on the  
24 biofuel side, and we'll get to that when we get  
25 to that discussion, there are dollars at CDFA and

1 other places. And on the advanced freight and  
2 fleet vehicle side, Air Resources Board has the  
3 Clean Truck and Bus Program that has, I believe,  
4 \$180 million. So we tried to put some of this in  
5 context because we, I think all of us, recognize  
6 how great the need is. And then each of us kind  
7 of has our component that we take on and work  
8 together.

9 And back to Chris.

10 COMMITTEE MEMBER SHIMODA: Yeah. And,  
11 you know, thankfully, biomethane is a drop-in  
12 fuel for, you know, a natural gas vehicle, so  
13 there's really no specialized, at least on the  
14 truck side, equipment that you need to run that.  
15 There are some other allocations. Right now, I  
16 know the VW money, there is a 0.02 ultra-low-NOx  
17 natural gas engine allocation there. It's split  
18 three ways, \$60 million proposed. You do have  
19 the allocation for ASHRIP (phonetic) coming up,  
20 as well as, you know, apparently \$10 million that  
21 we have not spent through this program.

22 So not saying that, you know, a natural  
23 gas project shouldn't necessarily be considered  
24 here. But I would just say, again, these zero-  
25 emission technology demonstration projects, when



1 you combine the cost of the vehicle plus the  
2 infrastructure plus some of the other facility  
3 upgrades that these operators are looking to do,  
4 the dollar amounts do add up pretty quickly, so  
5 just, you know, just a thought there.

6           COMMISSIONER SCOTT: This is a lesson  
7 learned, as well. We have a Ports Collaborative,  
8 the Energy Commission has a Ports Collaborative  
9 where we work with Port of Oakland, Port of  
10 Stockton, Port of Hueneme, Port of Los Angeles,  
11 Port of Long Beach and Port of San Diego. And we  
12 put together a demonstration project for electric  
13 infrastructure -- electric vehicles. And when we  
14 came back the feedback was we also need money for  
15 the infrastructure. The ports were surprised by  
16 how much the infrastructure cost. And so we're  
17 certainly open to that as we put these together.

18           And I don't know that we have a workshop  
19 set up for how -- what the solicitation design  
20 for this particular funding looks like yet, the  
21 way that we have the one on May 14th for the  
22 zero-emission vehicle infrastructure, but stay  
23 tuned on our listserv. We will certainly have a  
24 pre-solicitation workshop there.

25           I know the folks in the room have been

1 anxious to jump in, so let me just go back to  
2 Sacramento. If you would -- are in the Advisory  
3 Committee in Sacramento or on the phone and want  
4 to jump in, please do.

5 COMMITTEE MEMBER SHEARS: Yeah. I'm not  
6 sure where I was in the queue. This is John  
7 Shears.

8 I just wanted to explore -- you know,  
9 support the \$17.5 million. But I'm just  
10 wondering, too, to what extent there's any  
11 flexibility to tap into some of the \$22.65  
12 million for the EV fuel cell front given, you  
13 know, the -- how important these types of  
14 projects are to the communities around the ports,  
15 and the fact that, you know, as pointed out in  
16 the Investment Plan, the last solicitation,  
17 GFO-16-604 funded \$24 million for three projects,  
18 but was oversubscribed by 15.6 in terms of, you  
19 know, proposals that could have qualified?

20 So I was just wondering if we could get a  
21 little more elaboration around, you know,  
22 anticipated projects that could be in the  
23 pipeline and flexibility, you know, with the  
24 electric infrastructure and the fuel cell  
25 infrastructure money; i.e. there might be some

1 synergies there with the projects at the ports  
2 and that? But I'm not quite sure how you would  
3 parse that our budget-wise, so if there's any --  
4 been any thinking about that, how to approach  
5 that, or if that's something we would work out at  
6 these later workshops?

7           COMMISSIONER SCOTT: I think it's  
8 something we'll talk about in more detail at the  
9 later workshops. I will ask John Kato to speak,  
10 just for a moment, about the categories because  
11 there are times where we combine funding from  
12 different categories into one solicitation to  
13 make sure that we're kind of hitting a well-  
14 rounded space, and maybe that's all we need to  
15 say there.

16           But do you want to add anything to that?

17           MR. KATO: No, that pretty much what we  
18 look for is opportunities for synergies between  
19 categories where they make sense, with a holistic  
20 approach in all senses. So while they're  
21 somewhat siloed in the categories, we have a  
22 holistic approach in the solicitations.

23           COMMISSIONER SCOTT: Bonnie, and then  
24 Ellen.

25           COMMITTEE MEMBER HOLMES-GEN: Thank you,

1 Commissioner Scott.

2 I just wanted to call attention to the  
3 fact that the American Lung Association and the  
4 Union of Concerned Scientists put in a letter, a  
5 comment letter, in November. And one of the key  
6 comments was that we would like to see the  
7 identification of heavy-duty -- medium- and  
8 heavy-duty vehicle categories where  
9 electrification should be prioritized.

10 And I definitely see a lot of discussion  
11 about, you know, the ZEV strategy and the  
12 sustainable freight strategy and some of the  
13 electrification goals, but -- and I see that  
14 there is a discussion about the School Bus  
15 Project, which I really appreciate and we're very  
16 supportive of getting electric school buses out  
17 as quickly as possible.

18 And I wonder if you could just comment  
19 about that? The question is that, you know,  
20 we've made so much progress now that there are  
21 specific project categories that we think should  
22 be dedicated to electrification, including  
23 transit buses, delivery trucks and other short-  
24 and medium-range vehicle applications. And I  
25 just wanted to hear what the response is to that.

1                   COMMISSIONER SCOTT: I think that we have  
2 taken that under consideration as we are thinking  
3 through how to design these programs. On the  
4 school bus workshops, I know we're still in the  
5 middle of rolling those out and talking to people  
6 to understand the best way that we can utilize  
7 that funding across the school districts.

8                   And I think that we have not -- we're  
9 always open to whatever it is that we can get to  
10 transition to the cleanest vehicle, the cleanest  
11 fuel the fastest way that we can get there. And  
12 it's because I think of Matt Miyasato and his  
13 photo of a beaker and it's like, oh, no, we've  
14 got so much to do to meet the clean air  
15 standards, and that timing is coming really fast.  
16 And 2030 is also coming stunningly fast. So  
17 we're always kind of trying to think about what  
18 that best mix is. We usually kind of really get  
19 down into the details of that when we're  
20 designing the solicitation to make sure we're  
21 aiming the solicitation in the right way.

22                   So that's kind of the broad answer to the  
23 question. And I think that those discussions, I  
24 know it's taking place in the school bus  
25 workshops. I know it will take place in the one

1 that we're having on May 14th to talk in more  
2 depth about the charging infrastructure and  
3 hydrogen refueling infrastructure. And I can't  
4 imagine that it wouldn't also take place when we  
5 have the discussion about the advanced freight  
6 solicitation design, as well.

7 COMMITTEE MEMBER HOLMES-GEN: Well,  
8 thanks. I'm glad to hear that. I just wanted  
9 to, again, underscore the comment that given the,  
10 you know, the maturation of electric technologies  
11 and --

12 COMMISSIONER SCOTT: Um-hmm.

13 COMMITTEE MEMBER HOLMES-GEN: -- all the  
14 great progress that we've been discussing today,  
15 we've had a wonderful discussion here, that I  
16 think we're getting to the point where, from our  
17 perspective, we should be laying out those  
18 categories where we want to dedicate funding,  
19 because we have to get over this hump and get  
20 large numbers of vehicles and infrastructure out  
21 there to get to these goals that the Governor has  
22 set --

23 COMMISSIONER SCOTT: Um-hmm.

24 COMMITTEE MEMBER HOLMES-GEN: -- and to  
25 get to our 2050 greenhouse gas goals.

1 COMMISSIONER SCOTT: Ellen?

2 COMMITTEE MEMBER GREENBERG: I just  
3 wanted to request that staff circulate  
4 information about the May 14th workshop you've  
5 referenced.

6 COMMISSIONER SCOTT: Oh, of course,  
7 absolutely. So I'm giving you all a preview that  
8 that workshop is coming up on May 14th. As with  
9 all of our Energy Commission workshops, there  
10 will be a public notice that comes out, lets the  
11 rest of everyone know, if they're not paying  
12 attention to us today, so that they are able to  
13 come and to participate. And like all of our  
14 workshops, if you aren't able to be in Sacramento  
15 where that one will be held, you can always  
16 participate by WebEx or provide us with written  
17 comments within the comment period for us to take  
18 under advisement.

19 But, yes, there will a notice. It will  
20 probably come out in April. But I wanted to give  
21 folks here and how are listening a heads-up, so  
22 that they know that that's coming.

23 COMMITTEE MEMBER GREENBERG: Yeah.

24 COMMISSIONER SCOTT: And that's where  
25 many of the detailed conversations about how to

1 spend the allocation will take place.

2 COMMITTEE MEMBER GREENBERG: That's  
3 great. Thank you.

4 COMMISSIONER SCOTT: You're welcome.

5 Bonnie, am I back to you, or is that up  
6 from before?

7 COMMITTEE MEMBER HOLMES-GEN: (Off mike.)  
8 No, I think I'm okay.

9 COMMISSIONER SCOTT: Anyone on this side?  
10 You all are very quiet. Okay, I don't have any  
11 more tents up in the room.

12 So let me turn back to the Advisory  
13 Committee on the WebEx or on the phone. If you'd  
14 like to make another comment, please jump in.

15 Ralph Knight, I see that you'd like to  
16 speak. Please go ahead.

17 COMMITTEE MEMBER KNIGHT: Yeah, I just  
18 wanted to mention that there's a lot of fantastic  
19 things happening in the school bus world. We're  
20 seeing most of the major manufacturers now  
21 electrifying both special needs buses, the  
22 smaller buses, and large buses too. So there are  
23 choices out there now. We're publicizing it very  
24 heavily with all the districts to get involved.  
25 You know, I'm excited to see what's going on.



1           The Volkswagen money is really opening  
2 the door for the yellow bus. And I think that  
3 we're going to see a big push forward to try to  
4 get rid of all the older buses off the road as  
5 quickly as we can.

6           And I think the technology has improved  
7 itself in so many ways. You know, I every well  
8 remember the days in 1997 with 120-some-odd  
9 batteries in a battery pack that you had to deal  
10 with every day because one battery went bad in  
11 that pack. So, I mean, I know what electric buses  
12 come from, and I know where we're going now I  
13 think is a fantastic situation.

14           So I think we're going to see a lot of  
15 good movement in that. And there's a lot of  
16 public publications going out, pushing this  
17 towards some people for it. So I think that -- I  
18 think it's going to be a real positive situation.

19           COMMISSIONER SCOTT: Thank you, Ralph.  
20 And if you could send those publications to us in  
21 our docket, that would be fantastic. I think  
22 we'd love to see those, and I imagine the rest of  
23 the Advisory Committee would, as well.

24           COMMITTEE MEMBER KNIGHT: Okay. I will  
25 get those put together and do that.

1 COMMISSIONER SCOTT: Thank you.

2 Do I have any other Advisory Committee  
3 Members on the phone or WebEx who would like to  
4 speak to the \$17.5 million allocation for  
5 advanced freight and fleet technology? Okay.

6 I do not have any blue cards from folks  
7 in the room.

8 Do we have any folks on the phone who  
9 would like -- or WebEx who would like to make a  
10 public comment?

11 Okay, so there is no public comment for  
12 us on advanced freight and fleet technology.

13 So let's jump back up to the  
14 manufacturing and workforce development, \$8.5  
15 million proposed allocation within the zero-  
16 emission vehicle infrastructure.

17 Peter?

18 COMMITTEE MEMBER COOPER: Yeah. First of  
19 all, I want to thank the Commission for including  
20 the Employment Training Panel in your ten-year  
21 anniversary events. This was really exciting for  
22 us, for our staff, to be able to highlight the  
23 way that we've worked together with applied  
24 materials, as an example, and other manufacturers  
25 and employers in this sector. So I really enjoyed

1 it and I'd like to see more of it for the 15th  
2 and 20th year.

3 I do have a few comments about the  
4 workforce development section of the plan.

5 First of all, we're also excited about  
6 the huge increase in funding for EV  
7 infrastructure. And I think that ETP and the  
8 state workforce agencies can really support that  
9 work.

10 Together with that, we do recommend that  
11 there is an increase in some of the funding for  
12 workforce training; an increase of \$1 million  
13 would make sense to me for increasing from the  
14 previous \$3.5 million to \$4.5 million for the  
15 '18-19 fiscal years.

16 We've already had some interest from the  
17 electricians. The IBEW-NECA has training program  
18 called the EVITP. This is the Electrical Vehicle  
19 Infrastructure Training Program. And it's a  
20 collaborative, industry-driven program to provide  
21 training and certification for the installation  
22 of the charging stations. So that's pretty  
23 exciting and I'm hoping that's one kind of  
24 program that we'll be able to fund going forward.

25 One of the -- I also wanted to

1 highlight -- I was going to highlight some of the  
2 employers that we have funded recently in just a  
3 moment.

4           Before I get to that, I would like to  
5 also add that in the past the ETP has worked with  
6 local governments for planning around -- this is  
7 actually around drought, around the drought and  
8 training for their planning agencies. And this  
9 is something that we'll be exploring to see if  
10 there's some way we can work with local  
11 government for planning around EV infrastructure  
12 siting.

13           So those are kind of areas specifically  
14 related to the EV charging stations.

15           Some of the employers we recently have  
16 been funding in the manufacturing sector include  
17 Carma Motors, Applied Materials. We're working  
18 with GILLIG. And we're hoping that BYD -- we're  
19 developing a contract with them, in fact, also  
20 Faraday Future, Proterra. And we're continuing  
21 to look at both the manufacturing employers  
22 themselves, but also their supply chains.

23           So one of the things that we're doing in  
24 support of a ZEV Action Team is to work with the  
25 LAEDC to put together a symposium for

1 manufacturers in this sector to see what kind of  
2 workforce training they might be needing and how  
3 the state can support that, whether that's ETP or  
4 there's other -- what other state resources are  
5 available to them, so I'm looking forward to  
6 that, as well. And that's going to happen this  
7 summer, and I'll have more details for you on  
8 that.

9           We're continuing to support the expansion  
10 of the transit project that Santa Clara -- the  
11 VTA down there has. And I've brought that  
12 information to you before, but this time they're  
13 planning to work with L.A. Metro and AC Transit  
14 and the community college system to provide  
15 training for bus mechanics down there.

16           And one other area we're working on is  
17 looking at the manufacturers for the school  
18 buses. And so we've just had some preliminary  
19 kind of discussions with John Kato from your  
20 office about ways that we can work with  
21 manufacturers in the regions, working with school  
22 districts to see how we might be able to  
23 strengthen their ability to produce those types  
24 of school buses in the future. And those might  
25 come to fruition in contracts, so we're going

1 down that road, as well.

2           Just a few remarks regarding the Second  
3 Revised Staff Report.

4           We see that the manufacturing has been  
5 combined with the workforce for a total of \$8.5  
6 million. We don't really think that this is a  
7 good change from the perspective of how ETP is  
8 able to market the program because, as we've seen  
9 in the past, it's really important for employers  
10 to know that funding -- funds will be available  
11 before they start to enter into the process for  
12 developing a contract with us for job training,  
13 which can take a couple of months to get it to  
14 the point where it's approved by our panel.

15           So there's a little bit of uncertainty  
16 that's created in kind of my -- the way I'm  
17 looking at this, when you start to combine both  
18 the manufacturing and the workforce development  
19 sections. We would prefer that they are  
20 bifurcated and looked more similar to the way  
21 that they did in past iterations of the plan.

22           Let me see, a couple more remarks.

23           Yeah, so overall, you know, we're very  
24 supportive of the plan and the level of funding,  
25 but we do have concerns about the assurance that

1 there is enough money available for both the  
2 contracts that are in the development process  
3 with ETP, some of the manufacturers that I  
4 mentioned. We don't want to cut those off, too,  
5 and say we're going to just have funds to be  
6 supporting EV infrastructure. We'd like to do  
7 both, and we'd like to expand the pot of money  
8 for workforce training.

9           COMMISSIONER SCOTT: Thank you. And I  
10 did want to say, thank you, also, for coming to  
11 the tenth anniversary event. It was fantastic to  
12 have you there and be able to highlight all the  
13 things that we're doing to build a well-trained  
14 workforce in this clean transportation revolution  
15 that we've having, so it was great to have you  
16 there. And as you all know, we can't overstate  
17 the importance of a well-trained workforce, and  
18 so it's great to get to work with you all on  
19 this.

20           I see Eileen, and then Ellen.

21           COMMITTEE MEMBER TUTT: Thank you. I  
22 just wanted to suggest that this workforce  
23 training -- workforce development money is  
24 incredibly important, especially in the  
25 communities that we've been working with. And we

1 have three upcoming meetings that I know,  
2 Commissioner, I've invited you to. And  
3 hopefully, maybe, you can send staff to those  
4 meetings to talk to these communities about this  
5 opportunity. Because what I've noticed in  
6 working with our sort of community folks, they've  
7 suggested that they really want to embrace  
8 electrification in their communities because they  
9 see job opportunities in those communities. And  
10 they have -- I mean, job opportunities are  
11 scarce.

12           And so to the degree to which we can use  
13 this money and do some outreach and education,  
14 even if it's just -- you know, which would be  
15 absolutely -- I shouldn't say just. It would be  
16 great if staff could participate in those  
17 meetings and explain how communities can access  
18 this funding and how they can access the benefits  
19 that will be generated as a result of your  
20 investments in workforce development in  
21 particular.

22           But I think there are a lot of  
23 opportunities to kind of really enforce --  
24 reinforce the fact that electrification, whether  
25 it be fuel cell electrification or electricity



1 electrification, is going to create jobs. And we  
2 will try to and make every effort to push those  
3 jobs into the communities that most need them.

4 COMMISSIONER SCOTT: Thank you.

5 Ellen, and then Tyson.

6 COMMITTEE MEMBER GREENBERG: Thank you.

7 I just wanted to bring some attention to the fact  
8 that SB 1, the Road Repair and Accountability Act  
9 of 2017, does establish funding for  
10 transportation-related workforce education  
11 training and development by the UC and CSU  
12 systems. And I would hope that there could be  
13 come collaborative effort around bringing these  
14 different investments together, because it really  
15 does seem like an opportunity there.

16 So that's -- so we were talking about  
17 the, perhaps, somewhat confusing combination of  
18 manufacturing and workforce. And in SB 1 there's  
19 a somewhat confusing combination of research and  
20 workforce education training and development.

21 But there you go, such is the nature of  
22 things. But certainly there is funding for  
23 transportation-related workforce development, and  
24 it would be great to capitalize on that.

25 COMMISSIONER SCOTT: Thank you.

1 Tyson?

2 COMMITTEE MEMBER ECKERLE: Great. Thank  
3 you. I just wanted to point out how nice the  
4 symbolism is of including the manufacturing and  
5 workforce within the zero-emission vehicle  
6 infrastructure thing. I think, you know, the  
7 state is stepping out to do a lot to build this  
8 market. And there's no reason it shouldn't be  
9 developing here from, you know, an economic  
10 development and workforce development piece.

11 And so I think from the GO-Biz  
12 perspective, we very much enjoyed working with  
13 the Energy Commission in leveraging kind of those  
14 dollars that -- you know, for the businesses that  
15 come into GO-Biz looking for expansion  
16 opportunities or placement opportunities in  
17 California, it's a really important tool to be  
18 able to use the help and entice them to develop  
19 there, both on the workforce and the  
20 manufacturing side. So we appreciate this being  
21 in there.

22 COMMISSIONER SCOTT: Joel, and then John.

23 COMMITTEE MEMBER ESPINO: Thank you.  
24 Just really wanted to take the time to reiterate  
25 some points that Peter raised around really

1 leveraging this investment. And really just  
2 going back to what John had raised before the  
3 lunch break around the need for a strategic plan  
4 around how we can, again, squeeze out sort of the  
5 economic equity components of this money.

6 And I kind of just wanted to reemphasize  
7 that Greenlining is committed to figuring that  
8 out with the Energy Commission. And I know that  
9 there's other folks on the Advisory Committee who  
10 share that same intention. And so we're hoping  
11 to maybe circle up soon and then reach out to you  
12 all at the Energy Commission to figure out how  
13 best to engage that process, but wanted to just  
14 the opportunity to flag that for everyone  
15 attending the Advisory Committee today.

16 COMMISSIONER SCOTT: Thank you, Joel.  
17 We'll warmly welcome that, so please keep us  
18 posted. And to the extent that there are things  
19 that we ought to include in our docket, please be  
20 sure to send that along, as well. That way we  
21 have it on the docket, and not just the Advisory  
22 Committee can see it, but the interested public,  
23 as well.

24 I have John Shears, and then Eileen.

25 COMMITTEE MEMBER SHEARS: Yeah. Thank

1 you. So to just sort of follow up, you know,  
2 because part of my thinking in having a -- you  
3 know, working with ETP and the other workforce  
4 training and labor organizations, community  
5 colleges, et cetera, around developing a  
6 strategic plan is it would help, you know, like  
7 Peter was just saying, if we had another million  
8 dollars, so then, you know, staff would have to  
9 go back and figure out if they need to adjust it  
10 before the business planning meeting in May, it  
11 would help us all sort of see together, you know,  
12 what the road is on that side, what that looks  
13 like, what to help anticipate, so that we can  
14 support that side of the ledger.

15 I'm also thinking, you know, we could go,  
16 you know, and look up where all of these things  
17 are happening and kind of cobble together, you  
18 know, a rather messy picture of, you know, all of  
19 the efforts and the funding that's going on. But  
20 part of my thinking in like having a strategic  
21 planning process is that helps us sort of pull  
22 together a nice refined picture with a refined  
23 narrative.

24 And then that is also an important part  
25 of community outreach, and also capacity building

1 because there are probably tons of -- I just  
2 know, in the work that we do in the valley, the  
3 projects that I'm involved in, you know, we've  
4 been raising the visibility around a lot of these  
5 projects. We've recruited a lot of the mayors,  
6 you know, who really helped us in our advocacy  
7 with VW on their first investment plan. But at  
8 the same time, you know, it's hard for those  
9 people to sort of know where it is that, you  
10 know, they could go to sort of access resources  
11 and things like that.

12           So I think a process similar, you know,  
13 not necessarily, maybe, but, you know, something  
14 like a strategic planning process would really us  
15 to start shaping and filling out what the picture  
16 looks like on that side. Because that also would  
17 allow, you know, the manufacturers to also tap  
18 into, you know, the system and have  
19 apprenticeships and stuff that are partially  
20 funded from these programs. So just allow  
21 everyone to see what the big picture looks like  
22 and what we might need to do collectively going  
23 forward, so, thanks.

24           COMMISSIONER SCOTT: You're welcome.

25           I think Eileen did not have a comment; is

1 that correct? Okay.

2 I don't see any other tent cards up here  
3 at the table. We just heard from John and Joel.  
4 I don't know if others, Ralph or Irene or John or  
5 Joel, if you have any final comments on our  
6 manufacturing and workforce development proposed  
7 allocation at 8.5, please speak now.

8 Okay, with that, let's turn to our public  
9 comment on this, and that's John Schott from  
10 ChargePoint.

11 MR. SCHOTT: Hello. John Schott from  
12 ChargePoint. Thanks again, Commissioner Scott  
13 and the Advisory Committee for this opportunity.

14 We are supportive of this allocation for  
15 manufacturing workforce development. I know some  
16 of you got to see, who were at the ten-year  
17 ARFVTP anniversary, that we were able to lug our  
18 new DC fast charging platform up there. I just  
19 wanted to note that we will be manufacturing  
20 that. We are manufacturing that in Campbell,  
21 California, so we could certainly put this money  
22 to good use.

23 With respect to the 2017-2018  
24 Manufacturing Grant, I think a comment that I  
25 want to make regarding that and this is, you

1 know, what's really critical here is  
2 transparency. You know, unlike light-duty EVSC  
3 deployments, manufacturing in particular is a  
4 tricky subject and we can't just, you know, sort  
5 of create manufacturing projects on the spot. We  
6 need visibility and a better sense of when those  
7 programs are going to come out.

8           We've been looking forward to and  
9 anticipating the manufacturing grant funding  
10 opportunity under the 2017-2018 ARFVTP which we  
11 thought was going to be in December, then  
12 January. You know, I understand, things get  
13 delayed and it's hard to time that, you know,  
14 perfectly. But just having more transparency and  
15 visibility of that process would be appreciated.  
16 It was a Manufacturing Grant from the Energy  
17 Commission through the ARFVTP back in 2011 that  
18 allowed us to develop a program called OnRamp  
19 that allowed us to bring additional hardware  
20 manufacturers onto our network. So we're very  
21 excited about that opportunity.

22           And for, you know, workforce development,  
23 I just again want to, you know, mention, you  
24 know, we have a growing workforce, and not just  
25 directly with ChargePoint, but all of our

1 national O and M partners, and specifically in  
2 California, all these charging stations that  
3 we're going to be deploying, you know, will need  
4 to be maintained. You know, while they don't  
5 need regular service they -- you know, people  
6 bump into them. They get vandalized,  
7 unfortunately, from time to time. And we have a  
8 24/7 operation to roll a truck within 24 hours to  
9 any charging station to repair it so we can get  
10 those stations back up and running.

11           So, again, we support that allocation.  
12 We could put it good use. And I look forward to  
13 participating in those grant funding  
14 opportunities when they come out.

15           Thank you.

16           COMMISSIONER SCOTT: Thank you. And  
17 thank you so much for being part of our display  
18 for the tenth anniversary. Appreciate that.

19           I don't have any other blue cards in the  
20 room.

21           Do I have any comment on the WebEx? I'm  
22 seeing, no, I do not.

23           I want to jump back to Steve Ellis.  
24 Steven Ellis, if he is on the phone, he would  
25 like to make a public comment about the EV and



1 hydrogen refueling infrastructure. So if you  
2 could please open up his line.

3 Steve, go ahead.

4 MR. ELLIS: Great. Thank you, and good  
5 afternoon, Commissioner Scott and Advisory  
6 Committee. As I mentioned, my name is Steve  
7 Ellis. And on behalf of Honda Motor Company  
8 based in California, Torrance, California, we'd  
9 like to thank the CEC and state for its continued  
10 support of projects toward lower emission vehicle  
11 transportation, and specifically toward this  
12 Investment Plan allocation to advance cleaner  
13 transportation solutions. This is really for our  
14 customers, the taxpayers citizens of California.

15 The Honda Clarity is now out in the state  
16 and it's available as a large, five-passenger  
17 sedan in three powertrains, the Clarity Electric,  
18 all-electricity vehicle, the Clarity Plug-in, the  
19 plug-in hybrid, and the Clarity Fuel Cell. And,  
20 you know, over many years of our activity, we've  
21 moved from many demonstration projects to early  
22 commercial deployment. And now, you know, it's  
23 really commercial deployment of all three of  
24 these vehicles in the state.

25 You know, so in summary, really, we

1 support this big step up in funding toward  
2 infrastructure and low-carbon fuels and, you  
3 know, thank the state for leadership with the  
4 development of this and acceleration of this  
5 commercial hydrogen station network and EV  
6 charging network in the state of California.

7 So that's it, and thank you very much.

8 COMMISSIONER SCOTT: Thank you.

9 Okay, we will now turn to the Advisory  
10 Committee discussion of the low-carbon fuel  
11 production and supply at \$25 million. I'm going  
12 to start with Joe.

13 COMMITTEE MEMBER GERSHEN: I didn't even  
14 need to put my name tag up.

15 So, obviously, I didn't really want to be  
16 the sticky wicket here, but I guess that's  
17 partially my role.

18 I want to congratulate folks for the EV  
19 that's already made it to space. I think that's  
20 fantastic. And I'm sure it's captured the  
21 imagination of our friends and family in the  
22 Central Valley and other working-class  
23 communities around the state.

24 So notwithstanding that accomplishment,  
25 on behalf of the California Advanced Biofuels

1 Alliance that I represent here, I want to thank  
2 Commissioner Scott and staff for their work on  
3 the Investment Plan Update. But at the same  
4 time, we also are very disappointed to learn  
5 about changes that will ultimately severely  
6 disadvantage our industry.

7           The ARFVTP budget is projected to  
8 increase this next year from, as you say, \$100  
9 million to \$277.5 million. In an all-of-the-  
10 above scenario, all alternatives would share  
11 equally, but that's not the case with your  
12 proposed budget.

13           In previous versions of the Investment  
14 Plan Update, alternative fuel production was  
15 allotted \$25 million for in-state production.  
16 This latest version of the plan eliminates  
17 funding created by AB 118 and AB 108 and  
18 backfills it with Greenhouse Gas Reduction Funds,  
19 which are not guaranteed and will need to be  
20 reallocated every year.

21           While the legislation that established  
22 the ARFVTP was technology-neutral, your proposal  
23 to transition biofuels funding to an annual  
24 budget allocation is clearly intended to favor  
25 one technology over another. This runs blatantly

1 counter to the intent and spirit of the program.

2           Despite our suggestion -- your suggestion  
3 in Chapter 5 that you may consider funding  
4 opportunities for biodiesel or other related  
5 terminal blending infrastructure, GGRF funds  
6 cannot be used for this purpose, so that  
7 suggestion is really hallow.

8           As I'm certain you are aware, the \$25  
9 million in GGRF funds recommended in the  
10 Governor's budget was intended to be in addition  
11 to our portion of ARFVTP funding allocations. It  
12 was not meant to be used to move our money into  
13 another category. As such, we insist that the  
14 \$25 million from the program funding be  
15 reinstated and the \$25 million allocated in the  
16 Governor's Cap and Trade Expenditure Plan be  
17 included in the Investment Plan as new monies  
18 available to the industry to expand in-state  
19 production.

20           I would like to remind you that biofuels  
21 provide roughly 90 percent of carbon reduction  
22 benefits under the Low Carbon Fuel Standard. And  
23 yet, with this new Investment Plan the amount of  
24 funding available to this sector is less than  
25 one-tenth the amount of the total budget. By

1 refusing to allocate the ARFVTP budget among all  
2 the alternatives that are required by statute,  
3 you are picking a very expensive and speculative  
4 alternative. The proposed reduction in funding  
5 is unjustified and must be reconsidered.

6           The media and legislature should know  
7 what you're doing, especially in an election  
8 year. We strongly disagree with this new plan.  
9 The alternative fuel production category should  
10 be allotted the \$50 million that it was intended  
11 to receive and certainly has earned based on  
12 performance metrics.

13           The \$25 million from the ARFVTP portion  
14 should be invested in biodiesel storage and  
15 blending infrastructure, as well as feedstock  
16 development that could easily double blending  
17 levels of low-carbon biodiesel in the state  
18 within 18 months.

19           The \$25 million from the Cap and Trade  
20 Expenditure Plan should be invested in projects  
21 that increase in-state production of biofuels,  
22 including the Biofuels Initiative proposal.  
23 Since biodiesel already provides 20 percent of  
24 the carbon reduction in California's  
25 transportation sector, we ask you, what other

1 category could reduce another million metric  
2 tons, at least, of greenhouse gases in the same  
3 period for such a small investment.

4           We have valued the open dialogue and  
5 relationship that our industry has developed with  
6 the Energy Commission, but also feel that this  
7 plan undermines that relationship. The  
8 Commission is legally obligated under the law to  
9 pay attention to the metrics, as many on this  
10 Advisory Committee have been suggesting for many  
11 years, and stand up to ideologues who continue to  
12 favor technologies that are barely moving the  
13 needle when it comes to actual carbon reduction.

14           The same optimism about technology  
15 improvements for electricity grid efficiency,  
16 battery storage, raw materials sourcing and price  
17 should be extended to biofuels technology  
18 improvements, and all of the above strategy  
19 demands no less.

20           We appreciate that some funding should go  
21 to other modalities that might show some promise  
22 in the future, but the climate is changing more  
23 and more dramatically every year, right before  
24 our eyes. And rather than minimally fund low-  
25 carbon fuels that have consistently demonstrated

1 90 percent contribution to carbon reduction and  
2 will continue to do so into the foreseeable  
3 future, you actually strip away what was fairly  
4 allotted to us. This is counterproductive, and  
5 the people of California will suffer immediate  
6 damage for the sake of speculation about future  
7 technology improvements.

8           The California Advanced Biofuels Alliance  
9 and its members look forward to working with the  
10 Commission and its staff to rectify this issue in  
11 a manner that focuses on technology neutrality  
12 and lowering carbon emissions used -- using the  
13 most cost effective means possible.

14           We hope you will do the right thing and  
15 stand up for programs that are consistently  
16 outperforming everything else by many orders of  
17 magnitude. You need to reinstate the \$25 million  
18 for biofuels from original program funds and add  
19 to that total the \$25 million from Cap and Trade.  
20 Any action short of this will be a step backwards  
21 for a state that has gained worldwide attention  
22 and credit for its progress in fighting climate  
23 change. We intend to carry this message  
24 throughout the legislature.

25           Thank you.

1 COMMISSIONER SCOTT: Thank you.

2 Other Advisory Committee Members?

3 Claire?

4 COMMITTEE MEMBER JAHNS: Thanks. And I  
5 do -- I think it was appropriate to include this  
6 category in the ARFVTP plan, despite the fact  
7 that the funding is coming from another source.  
8 Because as you noted, it is really foundational  
9 to have an all-of-the-above energy strategy.

10 And it did also note up front that  
11 there's a willingness to reconsider this plan,  
12 should the funding amounts change in the future,  
13 which I think is an important note to point.  
14 Because if any of us in the room have dealt with  
15 GGRF funds, we know that often we don't know --  
16 we don't know what's going to happen until the  
17 legislature sings, if you will.

18 And I guess one question is, since the  
19 funding source is switching over, that's going to  
20 continue to be administered by the Energy  
21 Commission?

22 COMMISSIONER SCOTT: Yes.

23 COMMITTEE MEMBER JAHNS: Okay.

24 COMMISSIONER SCOTT: Yes.

25 COMMITTEE MEMBER JAHNS: And do you think



1 it will -- that program will look a lot like what  
2 the ARFVTP-funded category has funded in the past  
3 and what's sort of described here as future  
4 ARFVTP funding plans --

5 COMMISSIONER SCOTT: Right.

6 COMMITTEE MEMBER JAHNS: -- might fund?

7 COMMISSIONER SCOTT: Sure. So we have  
8 not yet, of course, had the pre-solicitation  
9 workshop that kind of really digs into how we  
10 would spend the \$25 million. But I envision that  
11 it will look very similar to the way that we have  
12 been spending the allocations towards the low-  
13 carbon fuel production and supply previously.

14 COMMITTEE MEMBER JAHNS: Okay. And  
15 nothing about -- is there anything about the  
16 funding source that would suggest any type of  
17 project that had been previously funded would be  
18 ineligible for funding because of the Cap and  
19 Trades requirement?

20 COMMISSIONER SCOTT: I don't think so.  
21 That's a terrific question. The Cap and Trade  
22 Program has different requirements than the  
23 ARFVTP program, so we just need to make sure that  
24 we are hitting the Cap and Trade requirements as  
25 we set up the funding for this. But all of these

1 fuels are low-carbon fuels that have great carbon  
2 benefits when compared to conventional diesel or  
3 conventional gasoline. So I anticipate that with  
4 those carbon reductions, we shouldn't have any  
5 trouble funding the same types of things that we  
6 funded previously.

7           COMMITTEE MEMBER JAHNS: I think this  
8 actually represents kind of a unique opportunity  
9 to bring and elevated discussion of biofuels into  
10 the GGRF world. I know that that's something  
11 that we've looked at to some degree for forests  
12 and CAL FIRE's funding. Could this fund  
13 bioenergy? Could it fund biofuels? And I think  
14 kind of figuring out how the LCFS might be  
15 treated under the GGRF program, and vice versa,  
16 there could be just some interesting lessons  
17 learned there that we could extend outside of  
18 both of those funding programs, potentially, in  
19 the future.

20           COMMISSIONER SCOTT: Thank you.

21           I have Steve, and then Joy.

22           COMMITTEE MEMBER KAFFKA: Thank you. I,  
23 too, as I mentioned earlier, was concerned about  
24 what appears to be a loss of ARFVTP funding for  
25 biomass-related and biofuels-related

1 transportation fuels in the state.

2 I wanted to -- I mean, in the report  
3 itself, it mentions that there was a seven-and-a-  
4 half times larger demand for funds in the last  
5 year that focused on this category that was able  
6 to be funded so that there are currently large  
7 numbers of ideas and opportunities for expansion  
8 of these types of projects.

9 It should be noted that there's many co-  
10 benefits that basically are hard to account for  
11 in the same kinds of metrics as other metrics.  
12 So, for example, the Short-Lived Climate  
13 Pollution Plan, methane reduction and compressed  
14 natural gas biogas from the dairy system has a  
15 number of co-benefits for sustainability and  
16 distribution in the state which is of concern.  
17 And it's the fuel demand or the potential demand  
18 for compressed natural gas fuels of this type  
19 that facilitate the capture and reduction of  
20 methane most effectively.

21 And you could talk about the same kinds  
22 of issues associated with woody biomass. You  
23 have open burning of dead trees, removal -- tree  
24 removals in the state now because the old biomass  
25 energy system is kind of worn out and broken

1 down. So alternatives of conversion of that kind  
2 of material into transportation fuels provide  
3 other opportunities to produce black soot and  
4 other kinds of carbon emissions in the valley  
5 which is already has the worst air quality issues  
6 in the state. Right now the most promising  
7 pathway, it looks like conversion of that kind of  
8 woody biomass to ethanol which, of course, would  
9 be an ultra-low-carbon fuel, lower even than the CI  
10 (phonetic) reductions from EVs.

11           And there's a number of the biofuels that  
12 have those ultra-low-carbon categorizations, and  
13 there could be more if this category was, I  
14 think, brought up to the level that we had  
15 originally anticipated. So there are a number of  
16 things here.

17           And I just would also try to say one more  
18 time that it's important that we be creative and  
19 flexible in our thinking, so biomass might  
20 provide hydrogen, it might provide ethanol, it  
21 might provide biodiesel, it might provide other  
22 kinds of secondary compounds. It would have  
23 byproducts. It might have a bioproducts -- lead  
24 to a bioproducts industry that also benefits from  
25 having fuel. I know that the Air Board is going

1 to have a bioproducts industry meeting. I've  
2 been asked to help with -- in June, I think, this  
3 coming year. And all these things are part and  
4 parcel of having this very diverse feedstock  
5 material around, and subject to all kinds of  
6 transformation pathways.

7           So I think it shortchanges the citizens  
8 of the state and opportunities for the future,  
9 particularly employment in rural areas and other  
10 kinds of co-benefits if we don't adequately, or  
11 at least in part, improve the funding that's  
12 available here.

13           COMMISSIONER SCOTT: I have Joy, and then  
14 John on the phone, and then Eileen.

15           COMMITTEE MEMBER ALAFIA: Thank you,  
16 Commissioner. I probably can't state any better  
17 the remarks that Joe gave, so I'll just kind of  
18 just add onto that and say a little bit about how  
19 it's impacted the renewable propane industry.

20           And this group, along with the Low Carbon  
21 Fuel Standards and other programs, has really  
22 been the main driver for California to push for  
23 renewable propane. And by the way, we are  
24 pushing the rest of the country to consider  
25 renewable propane. Without inclusion in programs

1 like this, that market will disappear. Those  
2 investments -- investors will disappear. So I  
3 just would like to at least have the group  
4 consider not only California but national impact  
5 that this decision can have without returning  
6 back to the proposed -- or increase to the  
7 proposed \$50 million.

8           And I like the comment that was shared  
9 earlier about looking at the area specific for  
10 impacts, such as the San Joaquin AQMD versus just  
11 a specific pathway. And I think the same can be  
12 applied here, that there are some great benefits  
13 that biofuels offer to San Joaquin AQMD.

14           And what we've also talked about is  
15 maximizing synergies and opportunities for  
16 coordination. So when you look at renewable  
17 diesel and the funding that's allocated  
18 potentially through the low-carbon fuel  
19 production component of this, renewable propane  
20 is a co-benefit, if you will, of that process, so  
21 there's a great opportunity to maximize that  
22 synergy. We are looking at inclusion in the Low  
23 Carbon Fuel Standards, as well, and that's  
24 trending for the next iteration, so just being  
25 able to take advantage of that opportunity.

1           And then lastly, looking at including  
2 things like dimethyl ether, which is -- it  
3 transports a lot like propane. It's a great fuel  
4 source. It's from wastestream, a carbon  
5 intensity of negative 237 Co2 equivalents per  
6 gram per megajoule. So we would like to see  
7 opportunities for those types of energy and fuel  
8 sources, as well.

9           Thank you.

10           COMMISSIONER SCOTT: Thank you.

11           I have John Shears, and then Eileen.

12           COMMITTEE MEMBER SHEARS: So I thought I  
13 was going to be able to get away without having  
14 to say it at this workshop, but this is an  
15 example of the challenges with a program that  
16 includes the kitchen sink, everything, along with  
17 the kitchen sink.

18           You know, I understand that before the  
19 executive order, you know, the first draft, staff  
20 draft, or revised staff draft in January had \$25  
21 million, and this is basically a swapping of the  
22 \$25 million per the Governor including it in the  
23 executive order and the budget. But, you know,  
24 given what we're looking at over at CARB and the  
25 Low Carbon Fuel Standard and all the hard work

1 CARB staff has had to do in terms of, you know,  
2 how to address the years 2020 through 2023 where  
3 before Christmas they were considering  
4 plateauing, you know, the requirement for  
5 reductions and carbon intensity. And then with  
6 the release of the initial ISOR (phonetic) Report  
7 Initial Statement of Reasons on March 6th,  
8 they've smoothed the ramp and kind of avoided the  
9 plateau. But certainly we're, you know,  
10 anticipating challenges.

11           You know, as Commissioner Scott was  
12 saying earlier, 2030 is coming up awfully fast.  
13 So I'm just -- I'd just like to explore the  
14 funding in this area a little further. You know,  
15 I understand it's, you know, more than last  
16 year's funding, and a million more than the 2016-  
17 2017 Plan had included, but given the, you know,  
18 demand, as Dr. Kaffka related, plus the  
19 challenges in wanting to position the LCFS in  
20 the, you know, in the best position to meet the  
21 2030 -- meet and exceed the 2030 goals, I'd just  
22 like to sort of revisit this line item a little  
23 further.

24           COMMISSIONER SCOTT: Okay. I have  
25 Eileen, followed by



1 Bonnie.

2 COMMITTEE MEMBER SHEARS: I should  
3 also --

4 COMMISSIONER SCOTT: Oh.

5 COMMITTEE MEMBER SHEARS: -- I should  
6 also just sort of emphasize that globally, in  
7 terms of transportation emissions, and it applies  
8 here just as much as anywhere, but the  
9 International Energy Agency has pointed out, you  
10 know, that besides the other two legs of the  
11 transportation stool, as we refer to it here in  
12 California, vehicle technology and VMT reduction,  
13 we really have to accelerate the decarbonization  
14 of the fuel pool. And biofuels are going to have  
15 to play a role, especially, you know, more maybe  
16 for heavy-duty and for air travel going forward.  
17 So certainly, I think we need to talk, just maybe  
18 discuss it and revisit it with a little more  
19 focus, just this part of the program a little  
20 more thoroughly, so, thanks.

21 COMMISSIONER SCOTT: Okay. Eileen, and  
22 then Bonnie.

23 COMMITTEE MEMBER GREENBERG: Yeah. I  
24 just want to say that I do think that the plan  
25 and the investments have been sort of moving in

1 this direction throughout the years, and in part  
2 because we've been asking, as the Advisory  
3 Committee, for metrics about the benefits and  
4 the -- of these different programs. And this  
5 state has made a very strong and clear commitment  
6 to zero-emission vehicles, so it's not too  
7 surprising to me that we're now saying we want a  
8 majority of this money to go towards zero-  
9 emission technologies. That is very consistent  
10 with the way the investment plan has been moving  
11 and the way, certainly, the way the policies have  
12 been moving.

13           So I just want to make it clear that I  
14 think that there is -- I think it's important to  
15 have this money invested I'm biofuels. And I  
16 think the \$25 million is -- I'm not suggesting  
17 that it also should be moved or anything like  
18 that, but I don't think that we are picking one  
19 technology, so to speak. I think we are picking  
20 a standard and that standard is zero, and we have  
21 to get there. So the idea that we would be  
22 investing more and more of the total pool of our  
23 state resources into the future, it seems to make  
24 a lot of sense to me.

25           So I actually am very supportive of the

1 direction this updated Investment Plan has taken,  
2 also very supportive of the Governor's executive  
3 order and the budget, so I just want to make that  
4 really clear. And I don't -- I do think it is  
5 setting a standard and then investing in that  
6 standard. It is not picking a particular  
7 technology. As we had in earlier discussion,  
8 there are a quite few technologies, actually,  
9 that are competing in the zero-emission space.  
10 And I think, fortunately, we've gotten to a place  
11 where we're saying all these zero-emission  
12 vehicle technology types are complementary, and  
13 making sure we invest in all of them and not just  
14 one or the other.

15 Thank you.

16 COMMISSIONER SCOTT: Thank you.

17 I have Bonnie, and then Brian.

18 COMMITTEE MEMBER HOLMES-GEN: Thanks,  
19 Commissioner Scott. I wanted to also comment on  
20 the Lung Associations position on the mix of --  
21 the mix of funding allocations in this plan, that  
22 we are supporting the staff recommendation for  
23 all of these categories. Of course, there's --  
24 we would love to see more in the electric  
25 infrastructure and hydrogen categories. But

1 given the limited resources, we are supporting  
2 the staff recommendations.

3           And I would agree with Eileen's mention  
4 of the Governor's executive order, and that's a  
5 preeminent goal now in our minds how we're going  
6 to get there. And with all the progress we've  
7 made, we still have a huge lift. And we've  
8 talked about -- we spent the whole morning, I  
9 think, talking about that lift, what we have to  
10 do, and the public outreach and awareness and the  
11 infrastructure and the expansion of all of the  
12 facilities and infrastructure and leadership that  
13 we need to make that goal happen.

14           So I do think that this whole plan,  
15 including, you know, this allocation, is setting  
16 us more on that direction toward the zero-  
17 emission goal that we think is a priority. And I  
18 think these allocations are in line with the  
19 legislative priorities that have been laid out.

20           I would like to mention, though, I think  
21 there is a need for some more discussion,  
22 exploration of the synergy in this category  
23 between the biofuel production and use and the  
24 Low Carbon Fuel Standard, and I think this has  
25 been brought up. I'm curious how the staff would

1 respond, but it seems like there's kind of an  
2 assumption that the biomethane that is produced  
3 would be used in natural gas vehicles, and that's  
4 certainly one use of biomethane. But because,  
5 especially because of new pathways that are being  
6 opened up in the Low Carbon Fuel Standard for  
7 credits, there's some very important pathways for  
8 using biomethane to produce electricity and  
9 hydrogen for use in vehicles. And so I think I'm  
10 not sure that that's all reflected in this  
11 discussion, and I would really like to see that  
12 reflected in here.

13           And going back to the Governor's  
14 executive order and our focus on the future in  
15 2030, I think we want to see how we can use all  
16 the components of this program to help us move  
17 toward the goal. And if we can do to help  
18 demonstrate these new pathways and to help  
19 incentivize and spur more use of these pathways  
20 from biomethane to electrification and fuel cell,  
21 I think that would be very much in line with the  
22 goals that we need here in this with these  
23 expenditures.

24           So I just wanted to ask if there could be  
25 more investigation and discussion of the

1 integration with the LCFS, the new LCFS proposal  
2 and the pathways for biomethane?

3 COMMISSIONER SCOTT: The new LCFS  
4 pathways are kind of hot off the presses.

5 COMMITTEE MEMBER HOLMES-GEN: Yeah.  
6 Yeah.

7 COMMISSIONER SCOTT: So --

8 COMMITTEE MEMBER HOLMES-GEN: Yeah, I get  
9 that.

10 COMMISSIONER SCOTT: I know. I think  
11 that, though, that's something maybe Analisa and  
12 your team can work with Jacob and his team to see  
13 if we can get, you know, at least a paragraph  
14 that recognizes the brave new world under the new  
15 LCFS pathways into the report between now and  
16 when it comes to the full Commission for  
17 consideration in May. So I see Jacob is taking  
18 notes there. We'll follow up on that.

19 I do think that it is -- we are still  
20 investing in a portfolio here. It's -- rather  
21 than the more even keel portfolio that I think  
22 that you have seen previously in response to the  
23 Governor's executive order and the budget, you  
24 see the focus and the priority on how do we  
25 achieve the zero-emission vehicle infrastructure

1 goals that he laid out for this state and for  
2 this agency to take a lead role on.

3           So it's -- we've still got freight.  
4 We've still got low-carbon fuels. We've still  
5 got manufacturing and workforce development. But  
6 it is, as Joe and others have pointed out, tilted  
7 towards that zero-emission vehicle  
8 infrastructure.

9           So let me turn next to Brian, and then  
10 Analisa.

11           COMMITTEE MEMBER GOLDSTEIN: Hi. I  
12 think, you know, Bonnie summed up my thoughts  
13 really well, and so I'm going to try not to dwell  
14 on the point.

15           But I think, you know, recognizing that,  
16 we are clearly going towards zero-emission  
17 transportation future. I think we still have to  
18 acknowledge, there's a stepping-stone approach  
19 and, you know, a decarbonizing or reducing the  
20 carbon impact of some of the fuels that are  
21 already being used, and exploring ways to use,  
22 you know, bioproducts, like agricultural waste to  
23 then become a feedstock for zero-emission fuels,  
24 like hydrogen, I think it's still a really  
25 important path that we need to look into and to

1 try to fund. Because, frankly, you know, 100  
2 percent renewable hydrogen, it needs a little  
3 push right now as far as, you know, the economics  
4 of setting up the production facilities and the  
5 distribution. The impact, you know, once we get  
6 there, is massive. We've seen carbon intensities  
7 in the, you know, negative 270, negative 280  
8 range using, you know, dairy biogas to produce  
9 hydrogen.

10 But I do really -- I understand and  
11 respect the balance that, you know, \$277 million  
12 seems like a huge number, but when we look at,  
13 you know, what Volkswagen committed to putting  
14 into their program, I think the announcement was  
15 just \$25 billion, Tesla has put \$17 billion into  
16 there's, I realize that we have to make some  
17 compromises in, you know, trying to accommodate  
18 each of the different goals of the program.

19 But I just wanted to voice some support,  
20 at least for continuing to explore routes to  
21 produce fuels, like renewable hydrogen, and to  
22 try to give the market the little push that it  
23 needs, whether it comes from this category or  
24 whether it just comes from this group of  
25 stakeholders working with the Greenhouse Gas



1 Reduction Funds to try to make sure that it's  
2 getting some attention there.

3           So I just wanted to, you know, voice  
4 support for those fuels and try to figure out a  
5 way that we can all work together to get there.

6           Thank you.

7           COMMISSIONER SCOTT: Thank you.

8           Analisa, and then Tyson.

9           COMMITTEE MEMBER BEVAN: So CARB  
10 understands and supports CEC's proposal for the  
11 \$25 million coming from GGRF. When taking into  
12 account all of the state, local, federal programs  
13 that support low-carbon fuels, the LCFS in  
14 particular is an increasingly important program  
15 for driving down carbon intensity and clearly  
16 relies on biofuels and, in turn, provides  
17 financial incentives through credits.

18           And I'll take back the request to provide  
19 more about the pathways for your upcoming  
20 documents.

21           That said, the scoping plan provides  
22 us -- points us to aggressive goals and our SIP  
23 (phonetic) really points us to reaching health-  
24 based air quality standards that require  
25 significant actions today in ZEV infrastructure

1 to reach the goals that have been set out, so,  
2 thanks.

3 COMMISSIONER SCOTT: Thank you.

4 Tyson, and then Bonnie.

5 COMMITTEE MEMBER HOLMES-GEN: Oh, sorry.  
6 I'm good for now.

7 COMMISSIONER SCOTT: Okay.

8 Tyson?

9 COMMITTEE MEMBER ECKERLE: Well, this has  
10 been a great discussion and an important  
11 discussion.

12 I think, Analisa, you just summed it up  
13 really well. And I think what Eileen had said,  
14 you know, the standard, in fact, is zero, and so  
15 we're trying to get there as quickly as we can.

16 I think that the challenge is we have a huge  
17 gap to fill to get to that, you know, get to our  
18 2025 infrastructure target. And then 2030, you  
19 know, really isn't that far away; right?

20 And so -- but I also want to emphasize, I  
21 think that, you know, there are a lot of good  
22 points that came up about thinking holistically.  
23 You know, Claire brought up the point, you know,  
24 through the GGRF program, and then, you know, in  
25 terms of the other sources of funding that we can

1 leverage for biofuels. But really that  
2 connection into that zero-emission future  
3 through, you know, hydrogen and electricity, I  
4 think is a great opportunity that we want to keep  
5 pushing for.

6 COMMISSIONER SCOTT: Thanks.  
7 Steve?

8 COMMITTEE MEMBER KAFFKA: Recently, the  
9 Low Carbon Fuel Standard scaled back its  
10 expectations for 2020 compliance, partly because  
11 of concerns that there wouldn't be sufficient  
12 credits and that the price impacts of sustaining  
13 those levels would, perhaps, cause significant  
14 political harm to the program.

15 The LCFS is the most important  
16 transportation fuel program, I believe, anywhere  
17 in the world.

18 I was invited last year to talk to the  
19 European Commission about the LCFS by some  
20 industry folks in Europe. And it's quite clear  
21 that the transparency and the objectivity of  
22 using a performance standard was a far better  
23 program than the Europeans had managed to  
24 implement, and it warrants (phonetic) a more  
25 important model.

1           So the way that -- we still have a very  
2 difficult objective of a 20 percent reduction by  
3 2030. And as Joe mentioned and others have  
4 mentioned, at least it takes us aloft. It's a  
5 slow process of achieving those gains. And in  
6 the short to midterm, by midterm, I mean by 2025  
7 to 2028, biomass-derived fuels, however they are  
8 transformed, including either to hydrogen or  
9 natural gas or to ethanol or to dimethyl ether,  
10 are going -- often have, perhaps, the most  
11 significant greenhouse gas reduction potentials  
12 than other pathways, including electrification.  
13 So there has to be -- in all life, there have to  
14 be tradeoffs. Near-zero isn't so bad if you gain  
15 huge carbon benefits.

16           So I would recommend, again, I want to  
17 reiterate that I think that that the demand is  
18 there. And the AB 118 program has been a  
19 significant lever to stimulate in-state  
20 production of biomass-related fuels in the state  
21 and with all the co-benefits of local employment.  
22 And so I want to ask staff to reconsider that  
23 allocation.

24           COMMISSIONER SCOTT: Bonnie?

25           COMMITTEE MEMBER HOLMES-GEN: Thank you.

1 I just wanted to comment that there's probably a  
2 need for some additional information that I  
3 believe ARB is working on now regarding some of  
4 the GHG and air quality and other benefits of  
5 some of the pathways that we've discussed briefly  
6 that need to be included in here, the pathways of  
7 biomethane to electrification and hydrogen  
8 because I think when these pathways are  
9 evaluated, there will be more information on all  
10 the full benefits of using these fuels in  
11 electric vehicles. And I think, you know, when  
12 you combine the GHG reduction of using a  
13 renewable fuel in the electric and fuel cell  
14 vehicles, then you do get lower emissions, you do  
15 get greater benefits than in other technologies.

16           So there's just, there's a lot of data or  
17 a lot of information being tossed around about  
18 which is cleanest. And I don't think we have all  
19 the information in here. And I know, because  
20 I've sat on another workgroup regarding dairy  
21 biomethane, that there's a lot of digging that's  
22 still going on.

23           And so I was just trying to politely say,  
24 we might need a little more information here  
25 before we say what's cleaner.

1 COMMISSIONER SCOTT: Okay.

2 Joel? Joel on the phone, followed by  
3 Joe.

4 COMMITTEE MEMBER ESPINO: Yes. Thanks  
5 for the opportunity. I think I just kind of  
6 wanted to echo some of the points that were  
7 raised. I think I'd be remiss not to make a  
8 comment about the people case here.

9 You know, I think, it's no secret,  
10 obviously, that, you know, the cumulative burden  
11 of transportation-related emissions and fuel  
12 production has hit low-income communities and, in  
13 particular, communities of color the most; right?  
14 And, you know, also the resulting impacts of  
15 climate change hit those communities the most.

16 And so if equity is a priority, you know,  
17 this principle of justice requires that, you  
18 know, we promote zero emission and prioritize  
19 that in those communities. And so, you know,  
20 people in environmental justice areas across  
21 California are not interested in less pollution  
22 or less polluting technologies, they're  
23 interested in zero emission.

24 And so I kind of just wanted to reinforce  
25 the need for elevating the justice aspects of

1 what we're trying to do here, and just wanted to  
2 make that comment.

3 COMMISSIONER SCOTT: Thank you.

4 Joe?

5 COMMITTEE MEMBER GERSHEN: Thanks. Yeah,  
6 I think it's important that we don't get into a  
7 circular firing squad about what's cleaner,  
8 because there certainly is ammunition on all  
9 sides of that. There cobalt mining, there's  
10 things like that that we all are aware of but  
11 don't necessarily want to face all the time.

12 The interesting thing is that, you know,  
13 in biofuels, I mean, biodiesel, I talked about in  
14 my comments earlier, there's a relatively very  
15 small investment to open up infrastructure for  
16 increased blending. There's plenty of low-carbon  
17 feedstock and low-carbon production domestically,  
18 that we could pretty much double our blending of  
19 biodiesel in the state, which would lower more  
20 than a million metric tons, which I think is  
21 about a third of what the program has done  
22 already. So within 18 months, we could basically  
23 increase 30 to 50 percent of our carbon  
24 reduction.

25 So the question then becomes, well, are

1 we -- you know, a deeper discussion about this  
2 is, is it about carbon reduction and climate  
3 change or is it about, you know, zero-emission  
4 vehicles, and is that the path? I think it  
5 really -- I mean, the intention, as I understood  
6 it all along, is that it's an all-of-the-above  
7 solution. And while we know the Governor wants  
8 his legacy cemented in and that's all great,  
9 we're supportive of a lot of what the Governor's  
10 done, he's been great for climate action, but it  
11 also needs to -- you know, we need to take a  
12 pragmatic look at what's going on. And I think  
13 if we can lower carbon emissions dramatically  
14 with some enhanced and intelligent and pragmatic  
15 investments, I think that's really the way to go.

16           And so what we see here is, like I said  
17 in my comments, a reduction from what was about  
18 20 -- well, for a long time it was 20 percent for  
19 biofuels and it finally seemed to go up to 25  
20 percent, even though we were producing 90 percent  
21 of the carbon reduction, and so that was great.  
22 And then all of a sudden it went to less than, I  
23 think it was -- I think I calculated nine  
24 percent, so less than one-tenth of the budget.

25           So it just feels very -- like there's a



1 lack of pragmatic application, so that's all. So  
2 I just want to be cautious and caution everyone  
3 not to get into a circular firing squad here.

4 Thanks.

5 COMMISSIONER SCOTT: Thanks.

6 Are you okay?

7 I think that I don't have any more tent  
8 cards up here in the room.

9 Let me just make sure, John, Joel, Irene  
10 or Ralph, if you would like to say anything else  
11 on our low-carbon fuel production proposed  
12 allocation, please do.

13 COMMITTEE MEMBER SHEARS: Yeah, as I  
14 said, I wanted more discussion. There's been  
15 more, you know, and it's good to hear, you know,  
16 CARB having a clear position on it because, you  
17 know, the due diligence, internal due diligence  
18 would have been done on this beforehand, so the  
19 LCFS staff would have been consulted.

20 So I just wanted to just -- you know,  
21 just because the LCFS is the driving frame for  
22 those non-ZEV fuels, and I just wanted to get a  
23 better sense of where things lie with that. I'm  
24 still, you know, not -- as much as I'm a strong  
25 supporter of zero-emission, you know, getting to

1 the zero-emission goals, you know, we're still  
2 going to have the legacy fleet for decades  
3 running on combustion-based fuels.

4           And so I still sort of would like to vet  
5 this category more thoroughly, maybe as  
6 preparation for the next Investment Plan,  
7 because -- if not for this one, just so that we  
8 can sort of pull together the information within  
9 the context of the Investment Plan. I know the  
10 IEPR process goes through it and everything, but  
11 just so we have more of a focus so we can look at  
12 this more holistically.

13           Thanks.

14           COMMISSIONER SCOTT: Thanks.

15           Any other -- Tyson?

16           COMMITTEE MEMBER ECKERLE: I think just  
17 in terms of the relative funding, what I would  
18 suggest, you know, in the way that we're looking  
19 at it from the Governor's Office perspective,  
20 it's not taking away from other fuels as, you  
21 know, as more of just a super-charging the ZEV  
22 investment, so to speak, right, so that being  
23 the -- that was the focus of trying to, you know,  
24 get more money into this program.

25           So I think if that makes any sense, so if

1 you look at it, if you imagine that there wasn't  
2 any more money going in, then we wouldn't be  
3 having this discussion, right, because it's the  
4 same level as it was in the past.

5           And so just something to keep in mind,  
6 we're just trying to kick-start that market  
7 knowing that, in the long term, that's really  
8 where we need to go.

9           COMMISSIONER SCOTT: Bonnie?

10           COMMITTEE MEMBER HOLMES-GEN: Yeah, just  
11 one more comment.

12           Just to John's point, I know there's a  
13 piece in this chapter that talks about some  
14 upcoming ARB regulations, low-NOx regulations, I  
15 think in 2019. So I just wanted to comment that,  
16 you know, there's other factors that are driving  
17 use of biofuels, not just the incentives, and  
18 that the regulatory arena is at work on other  
19 measures that are going to require use of low-NOx  
20 and renewable fuels.

21           So, you know, there's other driving  
22 forces that will get -- that will be able to deal  
23 more with the legacy fleet, also.

24           COMMISSIONER SCOTT: Okay. Any other  
25 comments on low-carbon fuel production and

1 supply? All right.

2 I don't have any blue cards from people  
3 in the room.

4 I do have a public comment on the WebEx  
5 from Wayne Leighty.

6 Wayne, are you there? If so, please go  
7 ahead with your public comment.

8 MR. LEIGHTY: Hi. Can you hear me?

9 COMMISSIONER SCOTT: Yes, I can.

10 MR. LEIGHTY: Great. Thanks. I  
11 inadvertently raised my hand, so no comment, but  
12 thank you.

13 COMMISSIONER SCOTT: Okay. No worries.

14 Are there any other public comments on  
15 the WebEx or the phone?

16 Okay, seeing none, let us talk about the  
17 natural gas vehicles and infrastructure.

18 And maybe what we'd like to do, Jacob, is  
19 start with possibly your slide that shows that  
20 there's still funding from previous years that  
21 are left there, which is why we were not  
22 proposing to put an allocation there for this  
23 year.

24 Let's see, do I have tent cards from  
25 around the room? I mean, do we need a cookie

1 break? I don't have any Advisory Committee  
2 Members here in the room who look like they would  
3 like to speak.

4 For our folks in Sacramento or on the  
5 phone, Ralph or John, Irene or Joel, do you have  
6 comments?

7 COMMITTEE MEMBER SHEARS: No, because it  
8 looks like there are carryover funds. And so I  
9 think the staff has made the right -- taken the  
10 right choice on this.

11 Thanks.

12 COMMISSIONER SCOTT: Okay. Thanks.

13 COMMITTEE MEMBER HOLMES-GEN: I guess I  
14 have a question if that's --

15 COMMISSIONER SCOTT: Yes, Bonnie, please  
16 go ahead.

17 COMMITTEE MEMBER HOLMES-GEN: Just, I  
18 think there was a lack of uptake of incentives  
19 from the last go around, that I just wondered if  
20 you could, you know, just give us a little more  
21 background on what happened there --

22 COMMISSIONER SCOTT: Let me see if --

23 COMMITTEE MEMBER HOLMES-GEN: -- in this  
24 category?

25 COMMISSIONER SCOTT: -- Jacob or John

1 would like to speak to that?

2 MR. ORENBURG: This is Jacob Orenberg.

3 So regarding the Natural Gas Vehicle  
4 Incentive Project, I wouldn't necessarily say  
5 there's been a lack of uptake on the incentives,  
6 rather the distribution of incentives through  
7 that project has been slower than expected. So  
8 they are going through all of the money that has  
9 been provided with them for that project. And  
10 they provided a sizeable number of incentives  
11 through that project, and those are highlighted  
12 in the Natural Gas Vehicle section of the  
13 Investment Plan, and they're continuing to  
14 provide incentives. And, in fact, I believe they  
15 currently have a wait list for incentives.

16 COMMISSIONER SCOTT: Thanks. Okay. No  
17 tent cards in the room.

18 One last call for the Advisory Committee  
19 Members on the phone. Joel or Irene or Ralph or  
20 John, if you'd like to say something on this  
21 allocation, please go ahead. Okay.

22 I do not have any blue cards from public  
23 comment in the room.

24 Do I have any folks on the WebEx or the  
25 phone who would like to make a public comment? I

1 don't. Wow.

2           Okay, well, please know that you can  
3 certainly send us written comments. We look very  
4 much forward to hearing from everyone.

5           Jacob, it was March 21st; is that right?

6           MR. ORENBERG: Yeah, March 21st.

7           COMMISSIONER SCOTT: Yes. And so here on  
8 the screen, you can see how to get those written  
9 comments into us. Please send us those comments  
10 by March 21st. We look forward to hearing from  
11 you.

12           You can see here the next steps. There  
13 will be a Lead Commissioner Report that comes to  
14 you in April. We will have a business meeting  
15 consideration of the -- of the Investment Plan at  
16 our May 9th business meeting.

17           And then we've mentioned to you the  
18 upcoming workshops on some of the funding  
19 allocations, the heads-up on the May 14th  
20 workshop where we'll talk in more detail about  
21 how to spend the allocation for the charging  
22 infrastructure and the hydrogen refueling  
23 infrastructure.

24           And before we adjourn I just want to say,  
25 thank you so very much to our Advisory Committee

1 Members. I really appreciate the time that you  
2 spend with us, the care that you put into your  
3 comments, the expertise that you bring and really  
4 help the Commission as we're thinking what these  
5 allocations should look like. It's invaluable  
6 and we really appreciate it, so thank you so much  
7 for everything that you do.

8           And I also want to say thank you to our  
9 terrific Energy Commission staff, and especially  
10 to Jacob, who had to put together an updated  
11 Investment Plan in quite short order, and he's  
12 very calm. He did a great job.

13           (Applause.)

14           COMMISSIONER SCOTT: And with that, I  
15 will -- we'll adjourn.

16           Oh, I'm sorry, Brian, please go ahead.

17           COMMITTEE MEMBER GOLDSTEIN: It's not  
18 really, you know, a business issue, but I'm  
19 wondering, and I think we talked about this last  
20 time, whether we could put a contact list  
21 together for the Advisory Board Members? And  
22 maybe since we're all here together, if someone  
23 like objects to it, we could, you know, address  
24 it now, but otherwise, we know that everyone is  
25 okay with it?



1 MR. ORENBERG: Brian, I'm going to jump  
2 in right here.

3 COMMITTEE MEMBER GOLDSTEIN: Okay.

4 MR. ORENBERG: This -- I think we need to  
5 follow up with our staff counsel back at the  
6 Energy Commission. There may be some  
7 implications with the Bagley-Keene Act. I'm not  
8 sure.

9 COMMITTEE MEMBER GOLDSTEIN: Okay.

10 MR. ORENBERG: But we just need to  
11 double-check on that.

12 COMMITTEE MEMBER GOLDSTEIN: All right.  
13 Great.

14 COMMITTEE MEMBER HOLMES-GEN: And one  
15 more --

16 COMMISSIONER SCOTT: Yes, please go  
17 ahead.

18 COMMITTEE MEMBER HOLMES-GEN: --  
19 important item.

20 Commissioner Scott, could you discuss the  
21 potential renaming of the ARFVTP program that  
22 we've talked about for years?

23 COMMISSIONER SCOTT: Well, we have, I  
24 think. So, yes, Alternative and Renewable Fuel  
25 and Vehicle Technology Program, ARFVTP, it's a

1 name we all learned to love.

2           One of the things I was thinking about is  
3 that it might be fun to have a nickname for the  
4 program, the Cleaner Transportation Program, I'm  
5 not quite sure what that would be. So that's  
6 something that we will likely be coming to you  
7 with.

8           I had just another Commissioner Scott  
9 brainstorm, so we'll see how it goes over with  
10 staff, but I was thinking maybe we pick -- have  
11 our Comms Team put together the top three names,  
12 and then we get it out to the Advisory Committee,  
13 to our transportation staff, and really whoever  
14 else wants to weigh in, and do a little vote, and  
15 then do a reveal of the new program nickname, or  
16 something like that.

17           But you guys will miss the ARFVTP if you  
18 don't have to call it that --

19           COMMITTEE MEMBER JAHNS: I think --

20           COMMISSIONER SCOTT: -- every time;

21 right?

22           COMMITTEE MEMBER JAHNS: I think it's a  
23 rite of passage, actually.

24           COMMISSIONER SCOTT: Right? Okay.

25           Any other last comments for the good of

1 the order here? Let me check. Oh, I see. Do we  
2 have someone on the -- I'm sorry?

3 MR. BRECHT: It's Ralph Knight.

4 COMMISSIONER SCOTT: Oh, Ralph Knight --

5 MR. BRECHT: He's --

6 COMMISSIONER SCOTT: -- please go ahead.

7 MR. BRECHT: He's been un-muted.

8 COMMISSIONER SCOTT: Are you still there,  
9 Ralph? We're happy to hear from you.

10 Let me just double-check, he is un-muted;  
11 correct?

12 Ralph, you're un-muted on our end. Maybe  
13 double-check your mute. Happy to hear from you.

14 COMMITTEE MEMBER KNIGHT: Yeah, I'm un-  
15 muted on this end, but I don't know what's wrong.

16 COMMISSIONER SCOTT: Oh, I can hear you  
17 now.

18 COMMITTEE MEMBER KNIGHT: Oh, okay. I  
19 just want to say thank you to you, and the staff  
20 has just done an excellent job putting this all  
21 together, and just a lot of hard work here.

22 COMMISSIONER SCOTT: Well, thank you.  
23 Okay.

24 Any other comments for the good of the  
25 order?

1                   COMMITTEE MEMBER HOLMES-GEN: Thank you,  
2 Commissioner Scott and the CEC team, for your  
3 amazing leadership for ten years of this amazing  
4 program. We're all so proud to be a part of it.

5                   COMMISSIONER SCOTT: You're welcome.  
6 We're happy to do it.

7                   (Applause.)

8                   COMMISSIONER SCOTT: All right, with  
9 that, we will adjourn. Thank you, everyone, for  
10 your time today.

11                   (The workshop adjourned at 3:06 p.m.)

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**REPORTER'S CERTIFICATE**

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of March, 2018.



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Eduwiges Lastra  
CER-915

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.



March 28, 2018

MARTHA L. NELSON, CERT\*\*367