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Committee Members

Joy Alafia, Western Propane Gas Association
William Barrett, American Lung Association
Matthew Barth, University of California, Riverside
Tyson Eckerle, California Governor's Office of
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Joe Gershen, California Advanced Biofuel Alliance
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Ellen Greenberg, California Department of Transportation
Ole Hoefelmann, California Fuel Cell Partnership
Steve Kaffka, California Biomass Collective, University
of California, Davis
Ralph Knight, Consultant for Alternative-Fueled
School Buses
Jack Michael, Recreational Voters of California
John Shears, Center for Energy Efficiency
Eileen Tutt, California Electric Transportation
Coalition

Also present

Peter Christensen, California Air Resources Board
Bill Elrick, California Fuel Cell Partnership
Sarah Rafalson, EVgo
Jacqueline Moore, Port of Long Beach
Jeffrey Reed, California Hydrogen Business Council

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P R O C E E D I N G S

FEBRUARY 6, 2019 10:37 a.m.

COMMISSIONER SCOTT: Okay. Hi. Good morning, everyone, and welcome. We've had a few more Advisory Committee members come in, so we will go ahead and get going. This is Commissioner Janea Scott. I'm a Lead Commissioner at the Energy Commission for Transportation. And this is our Advisory Committee Meeting and Public Workshop for the 2019-2020 Investment Plan Update.

And why don't we start by doing introductions of Advisory Committee members here in the room and then we'll turn to those who are participating by WebEx or on the phone. And then we'll turn it over to Patrick to kick us off. So let's -- Will, you want to start?

MR. BARRETT: Sure. Good morning.

COMMISSIONER SCOTT: You have to push your button.

MR. BARRETT: Sorry. I'm new here. Will Barrett with the American Lung Association. Thanks for having me.

MS. ALAFIA: Joy Alafia, Western Propane Gas Association.

MR. BARTH: Hi, everybody. I'm Matt Barth, the University of California at Riverside.

MR. ECKERLE: Great. And Tyson Eckerle with

1 the Governor's Office of Business and Economic
2 Development.

3 MR. GERSHEN: Joe Gershen with Encore
4 BioRenewables and the California Advanced Biofuels
5 Alliance.

6 MR. KAFFKA: Steve Kaffka, University of
7 California, Davis and the California Biomass
8 Collaborative.

9 COMMISSIONER SCOTT: And then I believe we have
10 Ellen Greenberg on the phone.

11 Would you like to say hello?

12 MS. GREENBERG: Hi. It's Ellen Greenberg and
13 I'm on the line from CalTrans District 4, in Oakland
14 today.

15 COMMISSIONER SCOTT: Great. And good morning.
16 And I believe we also have Ralph Knight on the
17 phone.

18 Ralph, would you like to say hello?

19 Yes, you're unmuted on our end, Ralph, if
20 you're there.

21 MR. KNIGHT: Yes. I'm here. Can you hear me
22 now?

23 COMMISSIONER SCOTT: Yes, I can. Good morning.

24 MR. KNIGHT: Good morning to everybody.

25 COMMISSIONER SCOTT: And are there any other

1 Advisory Committee members on the phone or on the WebEx?

2 John Shears, would you like to say hello?

3 MR. SHEARS: Good morning. John Shears with
4 the Center for Energy Efficiency and Renewable
5 Technologies.

6 COMMISSIONER SCOTT: Good morning.

7 All right. With that, welcome Advisory
8 Committee members. We're delighted to have you. Thank
9 you for spending some time with us this morning and
10 afternoon to provide your expertise on our Investment
11 Plan.

12 And with that, let me turn it over to Patrick
13 to kick us off. And actually would you guys, would you
14 like to introduce yourselves and say good morning?

15 MR. BARKER: Sorry. Kevin Barker, Deputy
16 Director for the Fuels and Transportation Division.
17 Thanks.

18 MR. SMITH: Charles Smith, Office Manager
19 within the Fuels and Transportation Division.

20 MR. BUTLER: John Butler, Deputy Division
21 Chief, Fuels and Transportation Division.

22 MR. BRECHT: Is this on? Okay. Good morning,
23 everyone. My name is Patrick Brecht and I am the Project
24 Manager for the 2019-2020 Investment Plan Update for the
25 Alternative and Renewable Fuel and Vehicle Technology

1 Program.

2 Thank you to those who chose to be here in
3 Fresno and those participating remotely.

4 I want to thank our host, the San Joaquin
5 Valley Air Pollution Control District; and a special
6 thanks to Michelle Franco, Brandon Swedblom, and Cathy
7 Blevins for their help preparing for today's logistics
8 and IT support.

9 The purpose of today's Workshop is to discuss
10 the recently-released, revised Staff Report of the
11 Environment Plan Update. This Workshop is being recorded
12 and will be made available on the Energy Commission's
13 website.

14 To start off, I'd like to thank all of our
15 Advisory Committee members for their dedication in
16 helping us to develop the Investment Plan and the
17 Program, and generously giving us their time and
18 expertise for another year.

19 Our meeting today will follow the agenda on the
20 slide. First we'll start off with an overview of the
21 Investment Plan and then after this overview we'll go
22 into the breakdown of each individual category. We'll
23 also take public comments after the Advisory Committee
24 discussion of each allocation.

25 Since we have a lot of time to cover today and

1 many interested stakeholders are present, we request the
2 public comments are kept to three minutes or less. At
3 some point we'll break for lunch and reconvene an hour
4 later, at which time we'll continue the discussion.
5 Finally, we have another period for public comment at the
6 end of the Workshop.

7 If you're a member of the public attending in
8 person and would like to make a comment, please fill out
9 a blue card, available with me, or on the seat behind me.
10 Please include your name, affiliation, and the subject of
11 your comment. If you're a member of the public attending
12 at our headquarters in Sacramento, please hand your blue
13 card to Susan. If you're attending from another
14 location, please send a message within WebEx to the host
15 presenter and we'll be able to unmute you and give you
16 the opportunity to speak.

17 The ARFVTP was set up to develop and deploy
18 innovative technologies that transform California's fuel
19 and vehicle types to attain the State's aggressive
20 Climate Change Policies. In addition, we have the
21 complementary goals of improving air quality, increasing
22 alternative fuel use, reducing petroleum dependence, and
23 promoting economic development.

24 The ARFVTP was established by California
25 Assembly Bill 118 in the year 2007. The program is

1 funded through a small surcharge on California vehicle
2 registrations, which gives us up to 100 million per year,
3 depending on how much is collected from the surcharge.
4 The California Assembly bill extended the program through
5 January 1st, 2024.

6 To demonstrate its commitment to diversity, the
7 Energy Commission adopted resolution -- a resolution
8 during the April 2015 business meeting to firmly commit
9 to increasing the following: The participation of women,
10 minority, disabled veteran, and LGBT business enterprises
11 and program funding opportunities, outreach to
12 participate -- excuse me -- outreach to and participation
13 of disadvantaged communities, diversity and participation
14 at Energy Commission proceedings, and diversity in
15 employment and promotional opportunities.

16 The Energy Commission is also committed to
17 taking steps toward broadening the pool of applicants to
18 our various programs, especially under represented
19 groups, disadvantaged communities, and small businesses.
20 Workshops such as these are a part of the continuing
21 effort to encourage diversity and participants for Energy
22 Commission programs, which help us to ensure equitable
23 access to Energy Commission funding, create jobs, and
24 provide economic stimulus in under represented and
25 disadvantaged communities, increase competition to ensure

1 the best opportunities are identified and funded, and
2 ensure the local needs are identified and addressed.

3 We have survey forms located at the table at
4 the entrance of the hearing room, and you can hand those
5 to me at the end of the Workshop, and would appreciate
6 your participation on that.

7 On this slide we show our funding to our
8 disadvantaged communities, which accounts for 34 percent
9 of ARFVTP funding and has gone to disadvantaged
10 communities excluding statewide projects. Without an
11 applicable site address, funding actually jumps closer to
12 45 percent.

13 The Annual Investment Plan Update serves as a
14 basis for our allocations, agreements, and other funding
15 opportunities for each fiscal year. The document is
16 vetted through a public review process that involves
17 multiple iterations of the document and meetings with our
18 Advisory Committee, one of which we're holding today.

19 For fiscal year 2019-2020, we expect to have
20 95.2 million available for project funding. The
21 allocations described in the Investment Plan are the
22 General Project categories; and the Investment Plan
23 provides an overview of the statutes -- excuse me -- the
24 status of the fuel or technology and its potential over
25 the coming fiscal year. The specific requirements of

1 what we will ultimately find are determined by
2 solicitations and not the Investment Plan itself.

3 The schedule we expect to follow for the 2019-
4 2020 Investment Plan Update is outlined on this slide.
5 We released the Draft Staff Report on November 2nd and
6 held the first Advisory Committee meeting on November 8th
7 at the Energy Commission in Sacramento, and released the
8 Revised Staff Report on January 10th, and we're holding
9 the second Advisory Committee meeting today.

10 After reviewing and incorporating comments from
11 this Workshop, we expect to release the Lead Commissioner
12 Report in March and seek Business Meeting approval for
13 the final document in April.

14 Some changes that were included in this Revised
15 Staff Report are: The statistics were updated to reflect
16 December 1st -- or up to December 1st, 2018. And we took
17 -- excuse me. Manufacturing and Workforce Development
18 were separated into their funding and made from the Zero
19 Emission Vehicle Infrastructure Category to the Related
20 Needs and Opportunities Chapter of the Investment Plan.
21 Some input gathered from the first Advisory Committee
22 meeting in Sacramento as well as from public stakeholders
23 were also incorporated into the Revised Staff Report,
24 including the separation of Manufacturing and Workforce
25 Development.

1 Electric vehicles are a key component of
2 achieving zero emission vehicle deployment goals,
3 greenhouse gas reduction targets, petroleum reduction
4 goals, and air quality standards in California. ARFVTP
5 investments in electric vehicle charging infrastructures
6 are guided by legislation and mandates. Executive Order
7 B-16-2012 calls for 1.5 million zero emission vehicles on
8 California roads by 2025 and Executive Order B-48-18
9 calls for five million zero emission vehicles by 2030.
10 On the infrastructure side, Executive Order B-48-18 also
11 calls for 250,000 electric vehicle chargers, including
12 10,000 DC fast chargers.

13 The ARFVTP's funding to date has supported
14 infrastructure for more than half a million zero emission
15 vehicles in California, roughly half of such vehicles in
16 the whole United States. Due in part to ARFVTP
17 investments, California has the largest network of
18 publicly-accessible electric vehicle chargers in the
19 nation. There is also the recent legislation of AB2127
20 and SB1000 -- excuse me -- 1000 that we'll cover a little
21 later in this presentation.

22 ARFVTP has provided nearly 95 million funding
23 awards for the deployment of over 94,000 -- excuse me --
24 9,400 charging outlets statewide. You can see the spread
25 of chargers on the map and on this slide. Please note

1 that the map doesn't show chargers that were installed in
2 residential homes, which amount for a little over 4,400
3 chargers in the Private category.

4 In order to accelerate our progress towards
5 reaching executive order goals, we needed a mechanism to
6 install electric vehicle charger infrastructure for a
7 more quickly [sic] and effective way. In partnership
8 with the Center for Sustainable Energy, our California
9 Electric Vehicle Infrastructure Project, or CALeVIP, aims
10 to provide targeted charging incentives funding -- to
11 simply the funding process and accelerate charger
12 deployment.

13 Today, CALeVIP has two active incentive
14 projects: The Fresno County Incentive Project, launched
15 in February 2017, and offers rebates for the purchase of
16 installation of -- and installation of Level 2 chargers
17 in Fresno County. The project launched with four million
18 available -- four million available for rebates and about
19 700,000 has been reserved thus far;

20 The Southern California Incentive Project,
21 launched in August 2018, and offers incentives for the
22 purchases of installation of DC fast chargers in the
23 Counties of Los Angeles, Orange, Riverside, and San
24 Bernardino. This project launched with \$29 million
25 available for incentives, and about 26 million has been

1 reserved.

2 We also have four incentive projects for other
3 parts of the state planned for 2019. Sorry, I'm a little
4 behind here. Here we go. Actually let's go back.
5 Sorry. We also have four incentive projects for other
6 parts planned for 2019, including Sacramento County,
7 Northern California, Central Coast, and San Joaquin
8 Valley. There we go.

9 In response to Executive Order B16-7 -- excuse
10 me -- B-16-12, the Energy Commission codeveloped the
11 Electric Vehicle Infrastructure Projects -- or EVI-Pro --
12 model in collaboration with the National Renewable Energy
13 Laboratory, or NREL. The EVI-Pro model analyzes regional
14 demand and quantifies the types, locations, and
15 quantities of charges needed to support 2025 electric
16 vehicle population -- the 2025 electric vehicle
17 population, I should say. At present, the Energy
18 Commission staff is establishing a streamlined method for
19 collecting data from public network electric vehicle
20 chargers to better understand the use of deployed and
21 future chargers. Usage data will provide insight into
22 how public stations are used by public -- plug-in
23 electric vehicle drivers and help enhance the EVI-Pro
24 model by enabling a better understanding of charger usage
25 and plug-in electric vehicle driver behavior.

1 Signed last year, Assembly Bill 2027 will
2 require the Energy Commission, working with CARB, or the
3 California Air Resources Board, and the California Public
4 Utilities Commission to prepare a statewide assessment of
5 the electric vehicle charging infrastructure needed to be
6 -- needed for the state to meet its goals of at least
7 five million zero-emission vehicles on California roads
8 by 2030.

9 Also, Senate Bill 1000 will require the Energy
10 Commission in consultation with CARB to assess whether
11 electric-vehicle charging station infrastructure is
12 disproportionately deployed. "Disproportionate," as used
13 here, refers to population density, geographic area --
14 geographical area, and/or income level.

15 I'm moving on to hydrogen refueling
16 infrastructure.

17 The ARFVTP is the primary source of funding for
18 hydrogen refueling stations in the state. Assembly
19 Bill 8 directs the Energy Commission to allocate 20
20 million annually to fund the initial network of 100
21 hydrogen refueling stations. Today, through the ARFVTP,
22 the Energy Commission has provided funding to install or
23 upgrade 64 public-available hydrogen stations, capable of
24 light-duty vehicle refueling.

25 There are 38 open retail stations funded by the

1 ARFVTP, plus a thirty-ninth open retail station that
2 began as a demonstration station originally funded by
3 CARB in 2011-2012. The open retail designation requires
4 a station to meet several requirements agreed to by
5 stakeholders, including developers, automakers, and state
6 agencies. Another 26 ARFVTP-funded stations are under
7 construction. Twelve of these stations will be located
8 in disadvantaged communities.

9 In addition to the 100 stations committed for
10 funding under AB8, Executive Order B-48-18 set an
11 additional goal of 200 stations by 2025. In September
12 2018, the California Air Resources Board adopted
13 Resolution 18-34 that modifies the low carbon fuel
14 standard to allow hydrogen refueling stations to earn
15 hydrogen refueling infrastructure credits based on the
16 capacity of the hydrogen station in addition to credits
17 earned for the fuel dispensed. These credits will help
18 provide -- these credits will provide a subsidy to
19 hydrogen refueling station owners that can supplement
20 Energy Commission O&M funding, thereby increasing the
21 amount of ARFVTP funding available for new construction.

22 At the end of last year, the Energy Commission
23 and CARB released their Joint Agency Staff Report, as
24 required by Assembly Bill 8. Based on the analysis
25 conducted for their report, the Energy Commission and

1 CARB staff expects the goal of building an initial
2 network of 100 hydrogen refueling stations can be
3 achieved with further ARFVTP investments of approximately
4 70 million. Achieving the 200-station goal set by
5 Executive Order B-48-18, however, will require
6 significant additional funding.

7 Last month the Energy Commission staff also
8 released -- released the draft concepts for the next
9 hydrogen infrastructure solicitation. We are seeking
10 feedback for those draft concepts, and there will be a
11 staff workshop on them on February 12th at the Energy
12 Commission.

13 Moving on to Advanced Freight and Fleet
14 Technologies. The Advanced Freight and Fleet
15 Technologies categories continue to evolve. As in
16 previous years, the category still focuses on the needs
17 of medium- and heavy-duty vehicles, which are most
18 commonly used for freight and in fleets. These vehicles
19 represent a small share of California's registered
20 vehicle stock, about three percent. However, they
21 account for 23 percent of onroad GHG emissions in the
22 state. The California Sustainable Freight Action Plan,
23 released in 2016, discusses potential statewide actions
24 to improve freight efficiency, transition to zero-
25 emission technologies, and increase the competitiveness

1 of the California freight system. This allocation is
2 expected to be the primary source for Energy Commission
3 funding and support for its Sustainable Freight Action
4 Plan strategies and port collaborative activities.

5 This slide shows a summary of previous ARFVTP
6 funded -- funding under the Advanced Freight and Fleet
7 category and reflects the wide range of vehicle and
8 technology types funded. Here we have a few examples.
9 The top left picture, the picture is of Cummins low NOX
10 engine to be demonstrated in yard tractor applications at
11 the Port of Los Angeles. The battery electric drayage
12 and yard trucks, similar to the ones that are
13 demonstrated at both the Port of Los Angeles and the Port
14 of San Diego are also shown on this slide.

15 Current activities. Staff is continuing to
16 support many efforts under wide -- underway worldwide to
17 positively affect the freight industry and aid in the
18 commercialization of zero-emission equipment available
19 here in California. Also they're working diligently to
20 identify current needs related to freight vehicles and
21 infrastructure and to draft the scope of the next grant
22 funding opportunity set for Q3 of 2019. We currently
23 have approximately 17.5 million available in current year
24 funds, plus the availability of funds anticipated in the
25 coming 2019-2020 fiscal year.

1 Moving on to low carbon fuel production and
2 supply. The Investment Plan also includes funding for
3 low carbon fuel production and supply allocation. As
4 noted here, this is -- this can include a broad range of
5 alternative fuels. Biofuels defined as nonpetroleum
6 diesel substitutes, gasoline substitutes, and biomethane
7 represent the largest existing stock of alternative fuel
8 in the California transportation sector. In addition,
9 production of and demand for renewable hydrogen are
10 expected to increase in the coming years as hydrogen fuel
11 cell electric vehicles are sold. Energy Commission staff
12 expects the availability of organic waste feedstock
13 suitable for prelandfill biomethane production to
14 increase as a result of Senate Bill 1383, but sets goals
15 to reduce statewide disposal of organic waste from 2014
16 levels by 50 percent by 2020 and 75 percent by 2025.

17 In addition, Senate Bill 1505, from 2006,
18 requires the State's network of publicly-funded hydrogen
19 stations to dispense a minimum of 33.3 renewable
20 hydrogen. Renewable hydrogen production, therefore, is
21 also an integral part of the State's plan to expand
22 hydrogen refueling infrastructure.

23 This is a summary of what we have supported to
24 date. Low carbon fuel productions include four different
25 fuel types: Gasoline subs, diesel subs, biomethane, and

1 renewable hydrogen. We made 61 awards, with the total
2 funding of 167 million. These numbers did not include
3 recently-proposed awards under GFO-601 and 602.

4 GFO-18-601 targeted community and commercial
5 scale fuel production. We released a notice of proposed
6 awards for this solicitation in January. This
7 solicitation was significantly over subscribed. We had
8 18 passing proposals which requested 74.1 million. We
9 proposed five awards, totaling 19.45 million -- 19.4
10 million ARFVTP funds includes two ethanol and three
11 biomethane projects. And Solicitation GFO-18-602, we
12 also supported transformative technologies through
13 demonstration skill projects.

14 We released the notice of proposed award the
15 same day and proposed 12 million in ARFVTP funds for five
16 demonstration scale projection projects. These includes
17 five projects to produce four biomethane production --
18 production demonstration projects and one renewable DME
19 demonstration project. These two solicitations utilized
20 all ARFVTP funding, and currently we have 12.5 million
21 available under the Greenhouse Gas Reduction Fund. Staff
22 is working to host a guideline workshop in March 2019 and
23 a release of solicitation in the summer.

24 Moving on to manufacturing. Funding support is
25 critical to all stages of support -- product,

1 manufacturing, and business development to successfully
2 bring emerging technologies to market. This funding
3 allocation supports a number of recently-adopted or
4 updated clean transportation plans, including the ZEV
5 Action Plan, the California Sustainable Freight Action
6 Plan, and the Low Income Barriers Study. With our
7 allocation in this category, we're also looking for
8 opportunities to invest in more heavily disadvantaged
9 communities.

10 This slide shows the different sectors of
11 manufacturing that have been funded for the ARFVTP --
12 funded by the ARFVTP. The funding has provided
13 significant support to expand the in-state manufacturing
14 capacity of zero-emission vehicles and components. We
15 also have a solicitation currently open for this category
16 intended to support the supply chains in California that
17 manufactures ZEVs and ZEV infrastructure technologies.
18 This solicitation was released December 19th and proposed
19 funding of 9.9 million, which is split roughly between
20 Category A, for proposed ZEVs and ZEVs components; and
21 Category B, focused on charging infrastructure,
22 equipment, and hydrogen refueling station equipment.

23 Moving on to workforce development. The Energy
24 Commission has also provided significant investments for
25 the training and development of California's alternative

1 fuel workforce through ARFVTP. Workforce efforts, funded
2 through ARFVTP, have grown in size and scope with
3 expanded programs from partner agencies, as well as
4 efforts from new partner agencies. This slide shows the
5 partners that the Energy Commission have funded,
6 including other public agencies and community colleges.

7 Working for an augmentation to the Cerritos
8 Community College District Agreement, this augmentation
9 is for one million to expand the initial agreement to
10 fund 12 high school's automotive programs in adding
11 electric vehicle training to their curriculum. This
12 amendment allows funding for at least 12 more high
13 schools to be funded for the same technology.

14 Developing a new agreement for up to one
15 million with the community colleges in the Advanced
16 Transportation and Logistics Initiative, or ATL, to
17 develop training curriculum for school districts who are
18 receiving electric bus funding through the Prop. 39
19 School Bus Replacement Program. Developing a new
20 agreement with community colleges and ATL for 1.4 million
21 in funding to expand the Community College Advanced
22 Vehicle Technology Training Programs to additional
23 community colleges who have existing automotive programs.
24 This agreement will award preference points for community
25 colleges in low-income and under-served communities.

1 Okay. This slide shows a summary of all the
2 funding allocations we are proposing in the Revised Staff
3 Report of the Investment Plan, which are subject -- which
4 is the subject of our workshop today.

5 Okay. Thank you. If you would like more
6 information, please visit our program website. Also,
7 please submit all ecomments regarding the Investment Plan
8 Update by February 22nd at this docket location. If
9 you'd like to provide comment at this moment, please fill
10 out a blue card and provide it to me and specify on the
11 blue card which category you will like to speak on. If
12 you're participating by WebEx and would like to comment,
13 please send a message to the host or use the raised hand
14 feature. We will then call for your name and speak on
15 unmute during the public comment period, which follows
16 the Advisory Committee conversation.

17 COMMISSIONER SCOTT: Great. Thank you very
18 much, Patrick.

19 I want to recognize that we have -- Eileen Tutt
20 from CalETC has joined us; Peter Christensen from the
21 California Air Resources Board has joined us.

22 Welcome to both of you.

23 And also Brian Goldstein on the line.

24 Let's see. So actually, Patrick, do you mind
25 going back one slide, and we'll just kind of work off the

1 proposed funding allocations slide there for our
2 discussion.

3 Does anybody have any clarifying questions for
4 Patrick on his presentation before we jump into
5 discussion?

6 MR. HOEFELMANN: I should have --

7 COMMISSIONER SCOTT: Yes, please. Pete, go
8 ahead -- oh, I'm sorry.

9 MR. HOEFELMANN: This is Ole. I just wanted to
10 make sure you knew that Ole Hoefelmann, Councilman, Chair
11 of the California Fuel Cell Partnership, and Bill Elrick,
12 Director of the Partnership, have also joined, and we're
13 in Sacramento.

14 COMMISSIONER SCOTT: Great. Good morning.
15 Welcome.

16 MR. HOEFELMANN: Good morning. Thank you.

17 COMMISSIONER SCOTT: Steve, please go ahead.

18 MR. KAFFKA: Patrick, I want to compliment you
19 on whipping through that presentation, and then
20 complained about whipping through that presentation. So
21 there was just -- on slide 14 -- oh, on slide 14, if we
22 could go to that, if possible. There, there is
23 information on that slide that I can't see or read. And,
24 unfortunately, it looks like the San Joaquin Valley is
25 cut off. Here we are in the San Joaquin Valley.

1 So can you explain -- this is the EV
2 infrastructure projection -- is there a particular
3 allocation for EV infrastructure in the Southern San
4 Joaquin Valley, that dark green patch at the bottom? I
5 just was unclear what that was trying to depict.

6 MR. SMITH: So this is Charles Smith of the
7 Fuels and Transportation Division. So I think this is a
8 screen shot that's trying to sort of capture the general
9 interface of the EV -- or EVI-Pro. It's not meant to
10 highlight this specific region necessarily. What I think
11 I'm seeing in the dark green patches are the higher
12 levels of EVSC plug count, and so I -- but to your
13 question of, I think, funding infrastructure for this
14 region, I think probably the more applicable slide might
15 be this one, the CALeVIP roadmap.

16 So we do have the existing Fresno County
17 project up and running. I think Patrick mentioned
18 there's \$4 million in it initially and about \$700,000
19 reserved as of now. And then down near the bottom you
20 could see towards the end of this calendar year, we're
21 hoping to come out with a similar project for the San
22 Joaquin Valley that would cover some of the counties
23 shaded purple on that -- on that map on the left-hand
24 side. Yeah.

25 MR. KAFFKA: So I had a question about this

1 slide as well, if I can go on. The project for Fresno is
2 less than 20 percent or so subscribed, but the one for
3 Southern California is almost completely spent. Is there
4 reason why it's slower here?

5 MR. SMITH: Of the top of my head, I am not so
6 sure.

7 MR. BARKER: This is Kevin, if I can chime in.
8 So for the Fresno County, this is the first one that we
9 launched. It's actually only for Level 2 charging
10 currently, which is quite a substantial rebate, if you
11 will, less, whereas the Southern California is actually
12 only DC fast charging. And so when we do launch the next
13 four projects, we do plan to have breakouts for both
14 Level 2 and for DC fast charging. So Southern California
15 does probably have a high demand, but it's also because
16 of the amount of rebates for the actual charging
17 infrastructure.

18 MR. KAFFKA: And, if possible, then on slide
19 15, I was curious about the language. For SB1000, when
20 the Air Board is going to assess whether projects are
21 disproportionately deployed?

22 MR. SMITH: Well, --

23 MR. KAFFKA: I'm not quite sure what that
24 means.

25 MR. SMITH: Yeah. So I will say it's mostly

1 our -- it's going to be our responsibility mostly in
2 consultation with the Air Board. But there are sort of
3 different ways of looking at disproportionately, and the
4 bill does specifically call out population density,
5 geographic area, population-income level. So those are
6 just some of the different variables that we'll be
7 looking at to see, you know, is maybe charging
8 infrastructure disproportionately deployed on a
9 population-per-square-mile basis, is it disproportionately
10 in Northern California versus Southern California versus
11 Central Valley. Is it located more closely in higher-
12 income levels versus lower-income levels. So there are a
13 lot of different ways that we will be looking at it.

14 MR. KAFFKA: You know, --

15 MR. SMITH: Is that --

16 MR. KAFFKA: -- I wondered, it's still
17 complicated, it sounds --

18 MR. SMITH: Yeah.

19 MR. KAFFKA: -- like to me, because why
20 wouldn't you have more chargers where you have more
21 people driving.

22 MR. SMITH: Yeah, yeah. And part of the build
23 that's not captured here is that if we -- if we find that
24 there is disproportional- -- disproportionality, we are
25 asked to sort of explain if there is a reasonableness to

1 that disproportionality.

2 MR. KAFFKA: I think that's it.

3 COMMISSIONER SCOTT: I see Ellen Greenberg.

4 MS. GREENBERG: Yes. Thank you. Could we
5 return to the slide with the county maps highlighted?
6 Was that slide 13, I think.

7 All right. So I just wanted to ask in terms of
8 Fresno County highlighting in particular, is the county
9 being addressed equally across the whole territory or is
10 there in the roadmap an emphasis on any particular
11 highway corridors, particularly the north-south
12 corridors?

13 MR. BARKER: Hi. This is Kevin. So the
14 allocation is first come, first served. Any -- anyone is
15 eligible as long as they meet the criteria that we have
16 outlined for Level 2. And then for the next part of the
17 Fresno Project, the next phase of it, for also DC fast
18 chargers, anyone is eligible throughout there. So, no,
19 it doesn't designate specific areas. We -- go ahead.

20 MR. BUTLER: Yeah. This is John Butler. I was
21 just going to add to that. So on the roadmap when in
22 quarter 4 of 2019 when we're in San Joaquin Valley and
23 expanding that, we are expanding beyond the Fresno area
24 and more of the Central Valley, more of the San Joaquin
25 Valley, so right now it's just -- you know, Fresno is the

1 current program, but it will be expanded later this year.

2 MS. GREENBERG: So the -- thank you. So the
3 highway corridors are included but there is not a
4 particular emphasis on the corridors or is there an
5 emphasis on the corridors in any other aspects of the
6 program?

7 COMMISSIONER SCOTT: Ellen, this is -- this is
8 Janea Scott. I wanted to note that this is -- we have
9 about three different ways that we're rolling out the
10 charging infrastructure within the state. One of them is
11 --

12 MS. GREENBERG: Right.

13 COMMISSIONER SCOTT: -- a traditional
14 solicitation that you might envision where we say
15 electrify --

16 MS. GREENBERG: Um-hum.

17 COMMISSIONER SCOTT: -- State Route 99,
18 electrify I-5, right. And so that's what's kind of
19 catching the corridors in the state.

20 MS. GREENBERG: Ah, I see.

21 COMMISSIONER SCOTT: But we recognize also that
22 there's a lot of folks who probably want five chargers or
23 seven or ten. They're not going to want to apply to a
24 traditional solicitation, hire, you know, a grant-writing
25 institution to put that together, and so that's why we

1 developed the CALeVIP program and that really is property
2 owners that want to get some charging out there. And, as
3 Kevin mentioned, they just meet some criteria and we --
4 and then they prove that they have the charger in. And
5 we give them the reimbursement that's kind of lined out
6 in the program.

7 And then the third way is that we put together
8 --

9 MS. GREENBERG: Thank you. I --

10 COMMISSIONER SCOTT: Sorry. Go ahead.

11 MS. GREENBERG: No. I'm just -- thank you. I
12 -- I realize now that I'm just -- this is just
13 referencing that single program. Thank you. I
14 appreciate the clarification.

15 COMMISSIONER SCOTT: Oh, you're welcome.
16 You're welcome.

17 And if you want to highlight the third one
18 because it's kind of cool, but it is -- it's called our
19 EV Ready Communities. And, basically, what we did was
20 ask communities to do the planning, right. So you work
21 with your MPOs and others and figure out where would you
22 like to have charging within your community. So the
23 first round is plans for that. Those plans are due back
24 to the Energy Commission in a little while, I don't know
25 the exact date, but once we get those plans then we will

1 review those plans and hope to then have funding for
2 actual implementation of the charging infrastructure in
3 those plans. So we're kind of coming at it at three
4 different layers or levels to try to really get to
5 smartly deploy the infrastructure.

6 The other thing I'm excited about with those
7 plans is if the Energy Commission can't fund all of them,
8 maybe, you know, SCE through their proposals before the
9 PUC could, or maybe LADWP, or other Smart Cities, Clean
10 Cities can also use those roadmaps as they're thinking
11 about where they want to deploy charging. So, anyway, I
12 know that's broader than your question, but I couldn't
13 resist the opportunity to highlight that.

14 Other -- other questions from the -- yes,
15 please.

16 MR. BARTH: You know I think this is great.
17 You know we talked about light duty and we talked about
18 freight. And I think since we met last, the Air
19 Resources Board introduced the Zero Emission Bus Rule.
20 Has there been any consideration at all looking at
21 transit in terms of electrification at this point, or are
22 we too early in that game?

23 COMMISSIONER SCOTT: I think that -- this is
24 Janea again. That's a great question. We are, you know,
25 working closely with the Air Resources Board. I think

1 what the Energy Commission is noodling on is potentially
2 funding some pilots or demonstrations about how you
3 charge at scale, right? Because we're not talking about
4 10 buses, we're talking about 200 buses or 500 buses in a
5 depot. And what does a charging solution at scale look
6 like, and so we're in the process of kind of developing
7 some solicitations around that. It may not necessarily
8 go to transit. It could be, you know, one of the beach
9 head leaps that's really kind of on the leading edge and
10 looking to electrify, but also, you know, kind of at
11 those broader numbers.

12 You also might want to add -- okay. Other
13 questions from the Advisory Committee members on the
14 presentation?

15 Yes, please, Steve.

16 MR. KAFFKA: You have all these programs
17 highlighted in your presentation. It would be nice on
18 the slide to have a link to the CEC locate -- website
19 location where more information is available. Just as a
20 general, and I'd like to have those things made easy.

21 COMMISSIONER SCOTT: Great idea. We can do
22 that.

23 So, Patrick, please make note for the next
24 round of presentations, include the links, hyperlinks,
25 yeah.

1 Okay. Well, then if no other --

2 MR. HOEFELMANN: Janea, this is --

3 COMMISSIONER SCOTT: Yes, go ahead.

4 MR. HOEFELMANN: Janea, hi. This is Ole. And
5 again I apologize that I'm not in person with everybody
6 in Fresno, and this is --

7 COMMISSIONER SCOTT: Great.

8 MR. HOEFELMANN: -- the first time that I'm
9 part of the Advisory Committee, so I thank you for giving
10 me the opportunity.

11 I had a question maybe more around form and
12 content. As you know, I'm the Chair of the Hydrogen Fuel
13 Cell Partnership, and I see as the presentation kind of
14 is structured, electric vehicle charging, I see the
15 reference to the ZEV Development Plans, the zero-emission
16 vehicles, but then I see the presentation that was made
17 kind of distinguish between electric and hydrogen fuel
18 cell and heavy duty, kind of seemingly giving me the
19 impression that there is a separation between the overall
20 objective of having five million zero-emission vehicles
21 and really focusing that those primarily would be
22 electric and maybe not enough emphasis, at least
23 visually, on hydrogen fuel cell and hydrogen
24 infrastructure.

25 And I think the question that just came up

1 around trains, we know that there are projects around the
2 world that are pushing fuel cell solutions for trains.
3 So I just had the general comment and it seemed to be
4 maybe more structured toward supporting some of the
5 executive order more through electric solutions and not
6 fuel cells. So I just wanted to maybe get a reaction on
7 that.

8 COMMISSIONER SCOTT: Sure. And, Ole, welcome,
9 welcome. We're glad to have you on the Advisory
10 Committee, so thanks for taking time today to do that.

11 So I think that the -- sorry. I'm echoing in
12 here. It's distracting. I can hear myself talking back
13 to myself.

14 One of the reasons that we have divided it up
15 this way, so can you, Patrick, go back to kind of the
16 last slide or second-to-last slide, is within the AB8
17 statute, the Legislature directed the Energy Commission
18 to put \$20 million to hydrogen refueling infrastructure.
19 So that's just kind of done. And so that's why you see
20 it as its own line. That is in no way, shape, or form
21 meant to imply that we think the only solution in the
22 zero-emission vehicle area, infrastructure area is just
23 batteries.

24 And then the reason that you see the focus
25 within the program on things that are on the road is this

1 program is funded through a vehicle registration fee at
2 the DMV. It's about 2 to \$3. That's what provides the
3 up to a hundred million that the Energy Commission has to
4 spend to invest in this space. And the Legislature
5 typically likes to see that kind of go back into the on-
6 road space. And so that's why you see the focus on
7 things that drive on roads. We fully recognize that
8 there's construction equipment and ag equipment and
9 trains and ships and planes, and, you know, on the other
10 side scooters and bikes and things, but the Legislature
11 typically kind of likes to see it go back into that on-
12 road segment. So that's why you see the focus on fleets
13 and on-road things versus trains and other.

14 But does that help?

15 MR. HOEFELMANN: Yeah, it does help. Thank
16 you.

17 COMMISSIONER SCOTT: You're welcome.

18 Other -- other questions?

19 * Okay. So let us turn then to our discussion of
20 the Proposed Funding Allocations.

21 And, Ole, I think you might be the only new
22 person, but it's probably -- and maybe Will, yeah.

23 And, Will, welcome as well.

24 And the way we typically do this is we just
25 kind of run through each of the categories and hear from

1 the Advisory Committee members about the proposed funding
2 allocations. And then we'll hear from the public to the
3 extent that we have any public that wants to comment on
4 that. And then we just kind of work our way through each
5 of the funding allocations.

6 So let us start with the electric vehicle
7 charging infrastructure, \$32.7 million. Advisory
8 Committee, comments, please.

9 Eileen.

10 MS. TUTT: Thank you, Commissioner.

11 Forgive me if I burst into song. I am very
12 pleased with the amount allocated, given the total
13 amount. I wish we had the same amount we had last year,
14 but I understand that last year was a special year.

15 I do -- I do want to say that there are couple
16 things I'd like to suggest and they're related to the
17 same thing, and that is that we're seeing more and more
18 TNCs that are electric vehicles. And what's happening,
19 and I've had this experience personally, it's actually
20 really frustrating because if you want to take your
21 electric vehicle somewhere where you're going to need to
22 fast charge, like Fresno for me, for example, then you
23 can't really depend upon the DC fast charging along the
24 corridors because the TNCs are starting to sort of take
25 them over, if you will. And that's a great thing. I

1 love the fact that there are so many zero-emission TNCs,
2 how fast that market has taken off has been amazing to
3 me. But it is a challenge for those of us who are just
4 driving.

5 And I've had -- I actually talk to them because
6 I'm sitting there for an hour and a half waiting in the
7 queue, but they love the cars and they go to the same
8 chargers every day and they all know each other. They
9 are like they know when they're going to be and they save
10 the places in the queue for the next person. So it's
11 getting congested at a rate much faster than I ever
12 thought, especially where there is large numbers of zero-
13 emission vehicles and TNCs that are zero-emission
14 vehicles.

15 So there are couple of things. I think --
16 first, I think it might be a good time to sort of move
17 the cap from the CALeVIP program because I think like if
18 we could have a bank of chargers that were -- you know,
19 that exceeded the cap, that might help. But also maybe
20 allocate a certain amount of funding, additional to the
21 32.7 I would say, specifically for TNC only charging. So
22 what a lot of these companies are looking at is putting
23 in chargers that are available for their drivers only.
24 And although that is -- that would not currently be
25 eligible for funding, I think it's kind of important to

1 make it eligible for funding because we really want -- I
2 mean they -- we want to encourage the TNCs to go
3 electric.

4 And so my sense is that it might be good to
5 have a portion of this funding specifically for TNC
6 projects. And then, again to address the issue of just
7 really you get these places -- these charging banks are
8 over subscribed at the moment, it might be good to remove
9 the cap. And so I think because of the evolution of the
10 marketplace, it might be time to think about some changes
11 to that program, and those are the two that come to mind.
12 And I don't know if there is any appetite for that or if
13 you all and the staff have had any conversations about
14 that.

15 And, you know, I think I talked to you,
16 Patrick, a while ago, but I had not had this experience
17 personally yet, so I really wasn't aware of the problem.
18 And it is, it's actually already a serious problem,
19 particularly in certain areas like, for example, the Bay
20 Area.

21 MR. BUTLER: John Butler, Energy Commission.
22 So thank you for that. Staff are looking at options for
23 TNCs, you know, in the EV-charging funding that we have,
24 especially from last year. So we are looking at moving
25 forward on a potential solicitation in that area. So I

1 think we recognize that as an area of demand and we
2 understand that it's good to have the congestion but it's
3 also bad to have that congestion. So we're very pleased
4 that the chargers are being used, but we just need to get
5 more chargers out there and get them in the right places
6 so that, you know, our EV drivers have access to them,
7 like yourself, you know, when they're needed. So it
8 definitely is on our radar screen.

9 MR. BARKER: I would just add -- this is Kevin
10 -- for the DC fast charger portion of CALeVIP, that's one
11 where they do have a lot more stringent criteria, where
12 they have to be open 24 hours, they have to be accessible
13 to all. And so that would be something that we would
14 have to rethink if it would be just for, let's say, your
15 Lyft or Uber drivers rather than not, you know, for
16 entirely for the public, at least for that program.

17 MS. TUTT: And I guess what I'm suggesting is
18 maybe we do have a portion, just a pilot even for this --
19 this portion of funding for -- specifically for TNCs that
20 doesn't have that -- those eliminating --

21 MR. BARKER: Yeah.

22 MS. TUTT: -- criteria. And, again, I do hope
23 you all reconsider the cap as well on charging.

24 COMMISSIONER SCOTT: Steve.

25 MR. KAFFKA: My experience with Uber and Lyft

1 is that these are privately-owned vehicles that come in
2 and out of the Uber and Lyft network. And, in fact, in
3 San Francisco most of the people who seem drive seem to
4 be coming from the Central Valley. So just for the point
5 of clarification, are Uber and Lyft required as companies
6 to regulate how their -- the private, the drivers who
7 have their own vehicles operate? I'm just curious what
8 this discussion is about, because they may be using those
9 vehicles for their own personal needs as well.

10 COMMISSIONER SCOTT: I think that really what
11 this discussion about -- is about is that we need a lot
12 more charging faster in a lot more places. And because
13 we don't have as much as we need, there are more cars
14 that need to charge up right now than chargers that are
15 available. And because the TNCs like Uber and Lyft, you
16 know, they're driving back and forth, taking people all
17 around, they're the ones who are at the chargers a lot
18 more often maybe than folks who are doing the long
19 commutes. And so do we need a TNC-specific solution
20 where, you know, maybe we could do something fun, you
21 know we have to look into it. But, you know, maybe
22 there's like a little lounge there and, you know, the
23 chargers, and that's kind of where the TNCs are charging
24 up so that -- because right now it's just that the
25 network is clogged up because there is not enough

1 chargers and too many drivers. And the TNC just kind of
2 adds that overlay because that's what they do all day
3 everyday, right, is driving around; and so thinking
4 through what some of those solutions could be.

5 And, you know, this is something I think the
6 Energy Commission through our AB2127 will be looking at
7 as well. And I think that it's something we will want
8 to, I think, work closely with EVgo and Electrify
9 America, and the IOUs and everyone else as they're
10 rolling out the infrastructure because they're probably
11 thinking about this as well.

12 Who else?

13 MR. BARRETT: Thank you. So from the Lung
14 Association's perspective, we think it's really important
15 to continue this heavy focus on the zero-emission
16 category from a public health perspective, air quality
17 and climate change perspective, where as a state relying
18 on the electrification of the transportation sector as
19 quickly as possible to meet our health-based standards.
20 So we do very much appreciate the focus there and hope
21 that we can continue to, you know, all advocate for
22 greater resources going forward. We see that as the
23 critical element of achieving our cleaner goals.

24 And on the point of the TNCs, I do think it's a
25 really important topic. Obviously it's a growing field

1 of study and research. And I think we need to know, you
2 know especially as the Air Resources Board put out their
3 report last year on VMT and greenhouse gases increasing
4 in the transportation sector, this is going to be
5 increasing focus across a lot of agencies. And I think
6 we really do need to do a deep dive into what's needed to
7 really control emissions from this category. They have a
8 tremendous utility, but I think we need to really focus
9 on getting the zero-emission element of it nailed down as
10 quickly as possible so that as it grows we're
11 controlling, you know, some of these issues that Eileen
12 brought up but also making sure we're not backsliding on
13 the air and climate issues.

14 Thank you.

15 COMMISSIONER SCOTT: Tyson.

16 MR. ECKERLE: Well, obviously this is a super
17 critical category of funding. I think it's great. The
18 allocation makes a lot of sense. I think just to flag
19 for the future and looking forward is -- you know, I
20 think we also have a big gap in the medium- to heavy-duty
21 charging spaces. And so I think as we're looking at
22 2127, all the types of this is on your mind but ours as
23 well, because this funding, in terms of filling gaps
24 throughout the marketplace, I think that's going to be
25 one that's going to come very quickly. And so I just

1 want to flag that.

2 COMMISSIONER SCOTT: Eileen.

3 MS. TUTT: Thank you, Commissioner. Eileen
4 Tutt with the California Electric Transportation
5 Coalition. And this is actually going back, so I
6 apologize, but I realized one of my members asked a
7 question that I think it might be worth kind of
8 clarifying, coming from the CEC and not from me because I
9 will mess it up.

10 And that is a lot of people think, oh, my gosh,
11 the funding went way down this year from last year. And
12 so internally a lot of companies are going, wow, what
13 happened, how come this funding is less than half what it
14 was last year.

15 And -- and I explain it, but I think just all
16 those listening, it might be good to just say what
17 happened last year and why it's so different this year
18 because this year is just a normal year. Last year was a
19 spectacularly wonderful, fabulous year, and I think
20 people don't understand that. They didn't realize that
21 they have only been tracking this for a couple of years.
22 They're new or they may not realize that, so if you could
23 take like one minute and just kind of...

24 COMMISSIONER SCOTT: Yeah. That's a great
25 point. I would be happy to do that. And thank you for

1 reminding us, because you're right, those of us that are
2 in the weeds and do this all day everyday, we're just --
3 so, yeah.

4 The ARFVTP program under AB8 is authorized at a
5 hundred million dollars a year -- or up to a hundred
6 million dollars a year each year. So that is usually the
7 typically level that you will see the program at. It's
8 in 95.2. The 4.8 is going to pay for the staff that work
9 on the program. And the 95.2 then goes directly to these
10 topics that we have indicated here.

11 Last year was -- so what happens in -- and,
12 John, jump in and correct me if I don't explain this
13 quite right. If a project doesn't make it to the finish
14 line for whatever reason, that funding goes back into
15 what is called the ARFVT Fund. And that fund has to get
16 reallocated. And it typically -- we don't have access to
17 it after it kind of falls into that fund -- I might not
18 be describing this quite right.

19 Okay, good. And then so what happens is it
20 does have to get reallocated. It often gets reallocated
21 to other pressing needs around the state. So a few years
22 back there was about \$24 million in that fund. It went
23 to the Air Resources Board for the Clean Vehicle Rebate
24 Project. That was prior to cap and trade. So that's
25 where the dollars that had kind of reverted back went.

1 Last year those dollars came back to the Energy
2 Commission and that's where that bump came from. And so
3 it was very exciting to have that. And you know the
4 Governor's Office directed that towards the zero-emission
5 vehicle infrastructure. So that's why there were more
6 dollars in the fund last year than there are this year.
7 But, as you noted, it is more typical for us to be around
8 this 95,-, \$97 million range.

9 So last year was very exciting for all of us
10 because we did have a little bit of extra funds dedicated
11 towards this, but it is not because, as you note, -- I
12 don't know if "decrease" is even the right word, but the
13 less -- the smaller amount of funding is actually the
14 regular amount of funding. It's not because we are --
15 anyone is change their minds about what things are
16 important or what things need to be worked on or focused
17 on. So hopefully that helps clarify it.

18 Did I get the fund thing right?

19 MR. BUTLER: No, you did great.

20 So I'll just add one more thing. The revenues
21 that come into the fund each year track at about this
22 95.2, a hundred million dollars a year. So, again,
23 Commissioner Scott was right on when she was saying, you
24 know, when we had projects that canceled and we can't
25 reprogram those dollars immediately because of our

1 funding deadlines, they go back into the fund and it
2 grows over time.

3 So I wouldn't expect necessarily to have a
4 balance in the near future that could be again augmented
5 but maybe at some point depending on, you know, what the
6 status of our projects are over time, there could be
7 another bump in a future year, but that's to be
8 determined and up to the Legislature to determine how
9 it's used and appropriated. Thank you.

10 COMMISSIONER SCOTT: Excellent.

11 Other -- other -- oh, yes, Peter.

12 MR. CHRISTENSEN: Did I do this right. There
13 we go. Just a quick note on another complementary
14 funding source. VW, you know a lot of the discussion is
15 around the Electrify America funding, as part of the
16 Appendix D, as in diesel, investments in California,
17 though, California's Beneficiary Mitigation Plan does
18 include 10 million for light-duty infrastructure. And
19 that 10 million is 5 million for charging and 5 million
20 for hydrogen fueling. So I wanted to put that plug out
21 there. Public process coming up starting in a couple of
22 months.

23 COMMISSIONER SCOTT: Tom, I don't see any of
24 our WebEx folks -- okay.

25 Do we have any public comment on the charging

1 infrastructure?

2 Hold on. Thanks. From EVgo. So we're going
3 to turn to the public comment on the WebEx. It's Sarah
4 Rafalson or Adam Mohabbat. Are they unmuted?

5 Okay. You are unmuted. Please go ahead with
6 your public comment on the EV infrastructure.

7 MS. RAFALSON: Hi. This is Sarah Rafalson from
8 EVgo. Can you hear me?

9 COMMISSIONER SCOTT: Yes. Hi, Sarah.

10 MS. RAFALSON: Hi. And I apologize for not
11 being there in person. I'm actually at an airplane right
12 now on the East Coast, so I hope I can make it to the
13 next meeting.

14 So I just wanted to say of all things, I've
15 been ready for the opportunity to comment, give a brief
16 and suited final comment at the end of November. But
17 mainly I just wanted to comment on the TNC discussion
18 from earlier on that Eileen brought up and that the
19 Committee had started to discuss, and also just highlight
20 one important policy that passed last year but I didn't
21 see mentioned in the plan, is SB1014, which was under
22 Skinner's (phonetic) bill, which does encourage TNCs to
23 electrify.

24 So we announced yesterday that we doubled our
25 energy delivered on our public network between 2017 and

1 2018. And of course a lot of that growth -- most of that
2 growth is occurring in California. We've got about
3 125,000 customers now across the U.S. But one thing I'd
4 highlight is about one-third of those caterage dispense
5 (phonetic) are coming from light-duty fleets. And I
6 would say, you know, TNCs are a big part of that, but
7 there are also car-sharing companies and regional ride-
8 sharing companies that would be part of that as well.

9 And I think the conversation earlier, I think
10 there is definitely the discussion of there not being
11 enough chargers, and that's certainly something that
12 we're working on. And I think CALeVIP has been a really
13 great successful program that works that is to
14 participate in in 2019 and through 2020.

15 But, as Kevin alluded to, the challenge that we
16 have with that in particular is the public charging
17 requirement and the 24/7 requirement means that we can
18 never do private or TNC or light-duty fleet charging
19 despite the safe policy goals and the passage of 1014.
20 So there's fleet programs for medium and heavy duty, but
21 there's really nothing on the light-duty side despite the
22 State's public policy goals.

23 So I think that is something that I hope the
24 Committee can think about a little bit more, is how do we
25 enable that light-duty fleet electrification. And I

1 understand the need to affect that market with the 2127
2 process, but I think the top limit is here now today, and
3 I understand it's going to take some time to put that
4 together.

5 And, you know, really when we're thinking about
6 the issue, as Eileen mentioned, it's often to the
7 detriment of consumer experience and also not great for
8 the drivers of the light-duty fleets as well because
9 charging is really a limitation to the growth of that
10 sector, so really challengeable for light-duty and
11 commercial-use drivers.

12 So, in conclusion, I did submit public
13 comments, but I -- I agree that the -- something like
14 CALeVIP would be a great way to do that, whether that's
15 just sometimes waiving the public requirement or if there
16 is also a way that there could be a pilot program, we
17 will keep an eye out for the solicitation that
18 Commissioner Scott mentioned earlier, but I think this is
19 an urgent issue for consumer experience that we hope can
20 be addressed through some of the existing programs that
21 the Energy Commission has set up. So thank you.

22 COMMISSIONER SCOTT: Thank you.

23 Do I have any other public comment on electric
24 vehicle charging infrastructure?

25 Okay, I'm seeing a no.

1 So thank you, everyone, for your great thoughts
2 on charging infrastructure.

3 * Let's turn to the Hydrogen Refueling
4 Infrastructure.

5 MR. ECKERLE: So obviously strong support for
6 this. There's a lot of great momentum in that. I think
7 the hydrogen sector is, you know, just with the 39
8 stations, I think this year we have probably another 10
9 or 12 or even more opening up, so I think there is a lot
10 of good momentum there, so just keeping the foot on the
11 accelerator is great.

12 COMMISSIONER SCOTT: Thank you.

13 Eileen.

14 MS. TUTT: Thanks, Commissioner. Eileen Tutt
15 with the California Electric Transportation Coalition. I
16 just want to express our support for this funding as
17 well. I think it's appropriate.

18 I also want to kind of add to what Tyson said
19 earlier in that in the heavy-duty vehicle space, both
20 electric, plug-in electric and hydrogen, heavy-duty --
21 medium- and heavy-duty vehicles are very attractive. And
22 so I hope that the Energy Commission will take a special
23 look at that, because what we're finding already is as
24 the utilities are looking to invest their SB350 dollars
25 in infrastructure for medium- and heavy-duty vehicles,

1 it's actually much more challenging than on the light-
2 duty side -- I don't know if it's much more. It's
3 certainly more challenging and it's challenging in a
4 different way. And so I think it's really important that
5 we start thinking about infrastructure investment for
6 both hydrogen and plug-ins battery electrics. We -- on
7 the medium- and heavy-duty side, and really try to build
8 off the experience that the utilities are having as they
9 are making these early first investments.

10 COMMISSIONER SCOTT: Thank you.

11 Will.

12 MR. BARRETT: I also just wanted to agree. I
13 think this is a critically important category and one
14 that we're hopeful we'll continue to see increasing
15 volumes of renewable hydrogen pushing past the
16 requirements into the 100-percent range would be ideal of
17 course. And we're happy to work with folks on that. So
18 just again stressing our support for this category and
19 wanting to keep the momentum going. Thank you.

20 COMMISSIONER SCOTT: Thank you.

21 Tyson.

22 MR. ECKERLE: Sorry. Just one other plug. I
23 think the AB8 model for the hydrogen reporting, you know
24 the ARB and CEC has served really well in terms of
25 bringing the information out. And I think as we're

1 looking for -- forward with 2127, the more we can break
2 down the silo between the two fuels and kind of look at
3 it holistically, I think it's a great opportunity for the
4 Energy Commission to help figure out, kind of how do we
5 put the -- you know, get these technologies playing to
6 their best roles within the marketplace. I think, you
7 know, it's great work, and that last report was really
8 good coming up.

9 COMMISSIONER SCOTT: John Butler.

10 MR. BUTLER: Thank you. I know this was in
11 Patrick's presentation, but I want to give a plug for the
12 draft solicitation concepts that are on the streets right
13 now. We have a workshop next week. That solicitation is
14 helping to capitalize on economies of scale. We're
15 hoping -- we're trying to structure in a way where we'll
16 pulling future funding into that solicitation, so this
17 will be a critical solicitation for hydrogen and
18 refueling infrastructure under this program. Certainly
19 if you're interested, we'd like to hear your feedback on
20 those concepts so that we can get the best solicitation
21 out there to be successful. Thank you.

22 COMMISSIONER SCOTT: John Shears.

23 MR. SHEARS: Good morning to everyone. I want
24 to speak in support of the funding levels both for the
25 charging infrastructure and the hydrogen refueling, and

1 just maybe refine a little bit some of the observations
2 that Ole referenced earlier, just to remind everyone that
3 both fuel cell cars and what are, you know, normally
4 referred to as EVs are electric vehicles. The difference
5 is EVs or battery electric vehicles that use electrons to
6 drive the vehicle, whereas the fuel cell vehicle uses
7 protons to generate electricity, which is then used to
8 move the vehicle, and that in supporting the development
9 of both types of zero-emission technologies, some of
10 which, depending on whether we're talking about battery
11 or fuel cell vehicles, have particular niches and
12 applications which they're, you know, best applied to, so
13 we need the full solution set from both approaches. But
14 the economies of scale will also manifest in that they do
15 share a lot of the same components in terms of electric
16 motors, et cetera, because ultimately they all get
17 electrons to, you know, power and move the vehicles.

18 So I just want to remind everyone that all of
19 these are electric vehicles, no matter whether we're
20 talking about batteries and electricity off the wall plug
21 or using hydrogen and protons through fuel cells to
22 generate the electrons that then move the electric drive,
23 okay.

24 COMMISSIONER SCOTT: Thank you.

25 Kevin.

1 MR. BARKER: Thanks, Commissioner.

2 I just wanted to respond to a comment, William,
3 that you made with regard to a hundred percent renewable
4 hydrogen. So this category is only for the
5 infrastructure piece. Some of the later categories where
6 we have advanced fuel production, we have actually funded
7 a couple projects in a hundred percent renewable, so we
8 do have alternative funding sources that are moving
9 towards that.

10 COMMISSIONER SCOTT: Thanks.

11 And I might add to that, we're also very
12 mindful of the medium-duty, heavy-duty needs in both the
13 hydrogen and charging infrastructure space and are
14 looking -- looking at that. And you will see that come
15 up in, I think, probably electric vehicle charging
16 infrastructure, hydrogen refueling structure, and
17 advanced freight and fleet technology, so there are kind
18 of pieces in each. So I just want to make sure that it's
19 clear that we are -- we are mindful of and excited to
20 work on the medium-duty, heavy-duty space with the
21 infrastructure.

22 Matt.

23 MR. BARTH: I just wanted to quickly make
24 another plug for transit. I mean transit's going to have
25 the same problem, right? You have -- you can electrify

1 and you satisfy many routes with zero electric buses, but
2 I think there are still going to be a lot of routes that
3 need the hydrogen essential solution. So it's roughly
4 the same thing. So I think the allocation's good and it
5 kind of mirrors what we want to do with freight.

6 COMMISSIONER SCOTT: Any other Advisory
7 Committee comments on hydrogen refueling infrastructure?

8 MR. HOEFELMANN: Yeah, Janea. This is Ole.

9 COMMISSIONER SCOTT: Hi, Ole. Go ahead.

10 MR. HOEFELMANN: Hi. And I'd like to echo some
11 of the comments that John and Eileen and Tyson made, and
12 would also like to recognize staff for the work that
13 they've done with the document and everything they have
14 put together. There is a lot of time and effort put into
15 it and it's very well explained and very well laid out.

16 I also want to recognize the plug that the
17 presentation had on the work that was achieved through
18 the LCFS funding for hydrogen infrastructure, so I
19 appreciate that.

20 I also want to commit to making the partnership
21 resources available to add more information on the
22 hydrogen fuel cell electric vehicles, and I appreciate
23 John's comments on that. I think there is -- it's up to
24 us to do a more thorough job in providing more
25 information to staff so that staff can not necessarily

1 double the size of the report, because I think 80 or 90
2 pages is already pretty big. But maybe add a little more
3 clarification and more detail on the hydrogen fuel cell
4 and it's opportunities and not just light-duty vehicles
5 but also in other segments.

6 And then I have a question or a specific
7 comment. In the Investment Plan under related state
8 policy, there is reference to funding opportunities for
9 organic waste feedstock for prelandfill biomethane
10 production, which I think is great. There is also a
11 reference that no funding will be made available to the
12 traditional landfill biomethane purifications, which is
13 great.

14 The thing that I'm wondering about, because
15 there has been a lot of discussion on renewable, I'm
16 assuming the intent of this language is not to exclude
17 landfill-source biomethane as a renewable feedstock for
18 hydrogen?

19 COMMISSIONER SCOTT: That's a good question. I
20 need to turn that over to Patrick or Charles.

21 And actually maybe can we hold that one until
22 we get the low carbon fuel --

23 MR. HOEFELMANN: Yeah, that --

24 COMMISSIONER SCOTT: -- production and supply.
25 But we'll look into that and be sure to address it as we

1 get to that conversation.

2 MR. HOEFELMANN: Yeah, Janea, that's fine. I
3 think the way I understand it there is an distinguished -
4 - we're distinguishing between, you know, giving funding
5 to entities that want to build a landfill purification
6 asset, so I understand that, but I wanted to make sure
7 that that doesn't exclude the use of, again, landfill-
8 sourced biomethane as renewable feedstock. So I just
9 want to make sure that we address that. Thank you.

10 COMMISSIONER SCOTT: Yes. You're welcome. And
11 thank you for the kind words to the hydrogen staff for
12 their great report, they do work very hard to put that
13 together, and for your offer to work with us. We are
14 always looking for the latest and greatest information
15 and data, so we're happy to have you send it to us, you
16 know, either if it's appropriate for this and through
17 this docket or just get it to the staff or when we're
18 having hydrogen conversations, please be sure to share
19 that with us. Thank you for that offer.

20 Do I have other Advisory Committee comments on
21 hydrogen refueling infrastructure?

22 Do I have any public comments on hydrogen
23 refueling infrastructure?

24 MR. BRECHT: Yes, there is a Jacqueline Moore,
25 public comment.

1 MS. MOORE: Hi there. Can you hear me?

2 COMMISSIONER SCOTT: Yes.

3 MS. MOORE: Perfect. All right. Jacqueline
4 Moore from the Port of Long Beach. First of all, I just
5 wanted to say I support the commitment to the
6 infrastructure and definitely appreciate the amount of
7 work that I know has gone into deciding the allocations.

8 I'd just like to take a second to second the HD
9 comment that was made a little bit earlier in terms of
10 the heavy duty deployment. We are partial to the fuel
11 type. And our latest feasibility assessment, it I.D.'ed
12 that infrastructure is one of the largest hinderance to
13 full deployment, obviously behind technical and
14 operational feasibility. And this was for, you know,
15 electric, hydrogen, natural gas, so for all the different
16 type of fueling options, infrastructure then was one of
17 the largest issues that we're having in fully deploying
18 this. So obviously focused to the HD sector would be
19 greatly appreciated in the Port.

20 COMMISSIONER SCOTT: Thank you.

21 MS. MOORE: Thank you.

22 COMMISSIONER SCOTT: Do I have any other public
23 comment -- go ahead, Tom -- oh, Bill Elrick, please go
24 ahead.

25 MR. ELRICK: Thank you, Janea.

1 COMMISSIONER SCOTT: You're welcome.

2 MR. ELRICK: I want to chime in, and a lot of
3 folks already said this, but thank you and staff for the
4 continued collaboration effort and leadership in this
5 area. And, as Ole said, definitely have the full support
6 of the Partnership. We're excited about the progress
7 with the stations. We have the most vehicles there in
8 the world right now as we start this journey. And some
9 of the other advance, something that wasn't mentioned,
10 was some of the new renewable and other hydrogen
11 production announcements being made and that's in direct
12 relationship to transportation and other hydrogen uses.
13 So I think it's a very exciting time.

14 And we're excited for the workshop next week on
15 the solicitation and discussing some of the new concepts
16 proposed. Again kudos to the staff for really sitting
17 down and looking at opportunities to do more in this.

18 I wanted to kind of go back to some earlier
19 comments and maybe ask for some consideration of
20 reviewing if not this time but in the future text of the
21 Investment Plan. And that's in looking at the Investment
22 Plan, it clearly identifies the ZEV Action Plan as well
23 as the ZEV Executive Orders as the State goal is going
24 forward. And that Action Plan also includes having the
25 agencies target the 2030 Executive Order targets for five

1 million ZEVs, 200 hydrogen stations, I think it's 250,000
2 chargers.

3 And, to clarify, what I mean is if we look at
4 the ZEV targets and then we read through the text of the
5 Investment Plan, the approach is a little different.
6 When we look at the BEV section we see a lot of reference
7 to these targets, we see the EVI-Pro, which was
8 mentioned, developed to really look to achieve these
9 targets and how we do that.

10 And then in the hydrogen and fuel cell section,
11 you see everything aiming very short term towards the
12 near-term automaker surveys and I think that in no
13 reference to the larger executive order targets. And
14 recognizing the AB8 legislation is the focus on 100, I
15 think taking that step back and looking at the bigger
16 target that we're trying to achieve where we go next, you
17 know, it's a continuum, 100, 200 stations, a thousand
18 stations and more, I think trying to look at these and
19 recognize that the text in here does matter. You know,
20 it limits some of the government's thinking and
21 approaches to some of the answers we're looking for and
22 reaching the goals that we're trying to get to together;
23 and that it also might send a wrong signal to industry as
24 they're looking at these different technologies and where
25 and how to invest; and so just to ask that we might at

1 some point look at how these larger State targets are
2 being addressed within these documents.

3 COMMISSIONER SCOTT: Thank you.

4 I have Brian Goldstein.

5 MR. GOLDSTEIN: Hi. Can you hear me now?

6 COMMISSIONER SCOTT: Yes, I can hear you.

7 MR. GOLDSTEIN: All right, great. So Brian
8 Goldstein from Energy Independence Now. I wanted to echo
9 some of the other comments, and I'll keep that part
10 short, but it's clear that the Energy Commission staff
11 has been extremely dedicated to advancing hydrogen
12 infrastructure. The work we've seen over the last couple
13 of years and shortening the times when the point the
14 solicitation goes out to the point that stations are open
15 for customers has been remarkable. I think we're setting
16 a global example here in California.

17 We saw specific feedback last week from the
18 Japanese government about the advancements in California.
19 We have more fuel cell electric vehicles on the road here
20 than all other nations combined at this point. And, you
21 know, our station network is only paralleled by maybe a
22 couple of countries, and none of them are seeing the
23 throughput that we're seeing. So, you know, getting the
24 stations up and running as quickly as you guys have and
25 making sure that there have been minimal hiccups in

1 trying to get them consistently running as, you know, we
2 are pumping more cars than we had expected through them,
3 just been a remarkable effort. So I'd like to thank the
4 Energy Commission on that.

5 And I'd love to make some comments about the
6 renewable hydrogen fuel production but, Commissioner
7 Scott, I believe you asked that we wait until the low
8 carbon portion --

9 COMMISSIONER SCOTT: Yes, that would be great,
10 if you don't mind.

11 MR. GOLDSTEIN: -- in a little while, or do you
12 want me to go ahead and speak to that?

13 Okay, great. Well, thank you very much. I
14 appreciate it.

15 COMMISSIONER SCOTT: Yes. Thank you.

16 Any other Advisory Committee members?

17 Or members of the public on hydrogen refueling
18 infrastructure?

19 Okay. So let us move on then to our discussion
20 of advanced freight and fleet technologies.

21 Advisory Committee members.

22 Everyone's very quiet today.

23 MR. KAFFKA: Um...

24 COMMISSIONER SCOTT: Yes, Steve.

25 MR. KAFFKA: The State has a number of climate-

1 related goals that also interact, I think, with this
2 category. One obviously is the short-lived Climate
3 Pollution Plan that has as its intention the reduction of
4 methane emissions from -- particularly from the dairy
5 sector -- in that case it's one of the most addressable
6 areas -- but also black carbon emissions and so on. And
7 so I just want to reiterate that the program that I think
8 is included in this category that supports investment in
9 these very ultra low NOx emission natural gas engines
10 that Cummins Westport has produced links very closely
11 with short-lived climate pollution goals.

12 Going further than that, there is even links to
13 carbon neutrality or carbon capture and storage and
14 negative emissions that are possible through the --
15 what's basically developing as integrated biorefineries
16 in California that have multiple fuel pathways in
17 production. So, for example, at least two of the large-
18 scale corn ethanol facilities are now also in the process
19 of either currently using dairy biogas for their
20 facilities and creating CNG fuels. And so they're also
21 one of the simplest sources for which PURIC CO2 could be
22 captured for carbon capture and storage. And so there's
23 all kinds of interesting but nonobvious links between
24 these programs and other beneficial uses that I think is
25 important to be mindful of and be part of the public

1 record. And so I'm particularly -- it's particularly
2 important to sustain that subsidy investment in these
3 more expensive but very useful CNG engines. I think it
4 will have particular impact in the San Joaquin Valley and
5 in the South Coast region.

6 COMMISSIONER SCOTT: Thank you.

7 Will and then Eileen.

8 MR. BARRETT: Thank you. Again, Will Barrett
9 for the Lung Association, and wanted to just say again
10 reiterate support for this category getting attention.
11 We think it's very important as far as the folks who are
12 living closest to these gray facilities and major
13 facilities are bearing a disproportionate pollution
14 burden. And the more that we can address this through
15 this type of funding program the better. So I just
16 wanted to make that a quick statement, that this is a
17 really important focus cleaning up the fleets that are
18 working our ports, our warehousing, that kind of thing.
19 Really important, especially in those communities most
20 impacted by the goods movement sector, which I believe
21 ARB has put the number about \$20 billion a year in health
22 impacts from that sector. So I think it's just, again,
23 really important to keep this on the map and continue
24 supporting that going forward.

25 COMMISSIONER SCOTT: Thank you.

1 Eileen.

2 MS. TUTT: Thank you, Commissioner. Eileen
3 Tutt with the California Electric Transportation
4 Coalition. I also -- I think that this funding is
5 extremely important. And last year we saw a focus of
6 this funding on zero-emission technologies, because I
7 think this isn't just about climate pollution, especially
8 in the San Joaquin Valley when you combust -- you use a
9 combustion engine, there are other pollutants. So the
10 degree to which we can focus this funding specifically on
11 zero, I think that's important.

12 I think there are at this point very few
13 technologies that can't go to zero emission, pure zero,
14 either hydrogen fuel cell or battery electric. And I'm
15 just wondering, because, you know, I read the report, I
16 couldn't tell, but I assume there is some sort of
17 priority for proposals that are zero emission versus near
18 zero. Is that true?

19 Like, in other words, if you just can't get to
20 zero, that's one thing. But if there are applications
21 that can be made zero, but -- and there are two
22 applications, I presume that the zero emission one that
23 is prioritized.

24 COMMISSIONER SCOTT: Yeah. And we have not
25 developed the solicitation for this category yet, so

1 that's kind of -- that will be coming. I know that the
2 staff -- are you planning to workshop that when we get to
3 wanting to talk about how to expand some of the advanced
4 freight and fleet technologies? Because that's where
5 we'll talk in a lot of detail, that's where we would kind
6 of lay out what the scoring criteria look like, what the
7 requirements look like. And, yes, so I think we are all
8 driving to zero in the categories where zero emission
9 technologies are available.

10 And, again, this component like -- so we funded
11 previously, and then I'll let John speak -- is we have a
12 fourth collaborative that the Energy Commission has put
13 together over the last four or almost five years now, and
14 it's been fantastic. It's the Ports of San Diego, Long
15 Beach, L.A., Hueneme, Stockton, and Oakland. And we
16 think that that makes a lot of sense to focus there
17 because they tend to be pollution hot spots, but they're
18 also working very hard to drive towards zero. And they
19 have been great partners in testing out all kinds of
20 technology, testing out some of the infrastructure with
21 us, and really taking them on a shakedown run, right. So
22 sometimes you will get a vehicle and it's different than
23 how the driver's used to it and figuring out what do we
24 need to do.

25 And I think that -- I'm excited about those

1 pilots because once we kind of shake the kinks out of
2 that, then you could take that and just, you know, throw
3 them into the mass market. And the Ports have been great
4 partners with us in trying out things that you wouldn't
5 want to have happen if it was in the mass market.
6 They're not huge, you know, epic fails, or anything like
7 that. But sometimes I think we had one where something
8 was blocking the back view. Well, you know, okay, we
9 need to fix that, right, before you start making a whole
10 bunch more trucks like that.

11 We had one where because of the way the
12 charging was set up, with a lot of bollards out there
13 protecting it so it doesn't get run over at the Port, the
14 cord was too short. An easy fix but, you know, you
15 wouldn't have wanted to roll out a hundred trucks like
16 that. And so they have been really great partners in
17 kind of helping us kick the tires in this category.

18 So let me -- let me let John talk about if
19 we're going to do some workshops.

20 And I don't know what the timing for that looks
21 like, but you might. And you mentioned quarter 3, right?
22 Yeah.

23 MR. BUTLER: Yeah, I was just going to mention
24 that staff are working diligently on that next
25 solicitation. And, yes, we will be workshopping the

1 concepts of that solicitation. This would be certainly
2 an area we would like input on.

3 I think we have an example of our School Bus
4 Replacement Program, where we actually funded -- you know
5 our preference were ZEVs, but we do realize that there
6 were, you know, certain routes that an electric bus would
7 not work in, so we did have some CNG bus funding
8 available for those school districts, again, to replace
9 the diesel buses that were online or that were being used
10 within the state. So I think that is kind of a model
11 that -- how we're thinking about this. And certainly we
12 want to make sure we're putting the funding to get, you
13 know, the best bang for our buck and in the right areas
14 to reduce emissions.

15 MS. TUTT: Good. I just want to say that I
16 think -- I do think reducing emissions has always been
17 one of the metrics here and reducing emissions as much as
18 possible so that's why I just -- I know that last year we
19 really, really focused on zero and I just hope we don't
20 get away from that this year. And I don't usually
21 participate in the workshops because I think of those as
22 for people who are going to be applying for funds, but --
23 so this is the only opportunity I have to share that.
24 I'm unlikely to be at the workshop, but want to just make
25 sure that is adjusted.

1 MR. BARRETT: And just in response to John's
2 comment, I think that the school bus replacement program
3 is a good model, the heavy focus on zero emission
4 proving, you know, they are going to be available to work
5 in all those locations. There may be some applications
6 that aren't quite ready that we have to address, but I do
7 think that heavy focus on zero emission is really key,
8 especially, you know, targeting early deployment in
9 disadvantaged communities. So I think it's a good model.

10 COMMISSIONER SCOTT: Thanks.

11 Other -- other Advisory Committee members.

12 Maybe it's Tyson.

13 MR. ECKERLE: I just wanted to say we have our
14 sustainable freight project manager Frank Ramirez, I
15 think he might be on the phone, but has appreciated very
16 much the partnership with the Energy Commission in
17 working through this and as it relates to the Sustainable
18 Freight Action Plan.

19 And then I just wanted to emphasize the
20 importance of the infrastructure piece of this funding,
21 which I wish we just had a lot more of it for everything.

22 COMMISSIONER SCOTT: Right. Thank you.

23 Eileen.

24 MS. GREENBERG: Yes. Thank you. So I'm --

25 (Audio signal abruptly ceases.)

1 COMMISSIONER SCOTT: Ellen, are you still
2 there?

3 MS. GREENBERG: -- here. How about now?

4 COMMISSIONER SCOTT: Yes, try again.

5 MS. GREENBERG: Are you hearing me now?

6 COMMISSIONER SCOTT: Yes.

7 MS. GREENBERG: Yes, I can be heard now?

8 COMMISSIONER SCOTT: Yes, you can be heard now.

9 MS. GREENBERG: All right. Thank you.

10 I just wanted to note in terms of opportunities
11 to link up administration goals, I want to second the
12 comments about the importance of looking at the freight
13 technologies and devoting resources in those areas,
14 because of the many communities that are adversely
15 affected. And, you know, one of the impacts is of -- is
16 on our potential opportunities for infill housing and
17 greater opportunities to add housing in communities, if
18 we can make them healthier places for their current and
19 future population.

20 So I think as we think about, you know, the
21 broad set of administration -- administration goals and
22 the Governor's emphasis on improving the integration of
23 our transportation climate and housing programs, the
24 freight piece really comes into view.

25 COMMISSIONER SCOTT: Thank you.

1 Other comments from the Advisory Committee
2 members?

3 Patrick, go ahead.

4 MR. BRECHT: John Shears had to leave, so I
5 just want to make one comment. I support this funding
6 as the State moves forward with its MHD ZEV Program, and
7 it will become more critical.

8 COMMISSIONER SCOTT: Thank you for that
9 comment, John.

10 Any other comments from the Advisory Committee
11 members on advanced freight and fleet technologies?

12 Okay. Tom, do we have any folks from the
13 public who would like to make a comment? We'll
14 transition to public comment on advanced freight and
15 fleet technologies.

16 Okay, seeing none, let us now move on to the
17 Advisory Committee discussion on low carbon fuel
18 production and supply.

19 Joe.

20 MR. GERSHEN: I didn't even have to raise my
21 name tent.

22 COMMISSIONER SCOTT: I was ready.

23 MR. GERSHEN: She was ready.

24 Okay, so a few things, and I'll go through it
25 just some more, and we'll probably submit some comments

1 from CABA.

2 Still obviously have some questions about the
3 metrics. Support the claims in table 6 to 7. The
4 expected benefits are expected, and we'd like to see more
5 metrics about what they really are.

6 But, specifically, I'm just going to focus on
7 some comments I made after the last committee meeting,
8 which we still saw in those cables. So I'm just going to
9 reread the -- it's easier to just reread my comments from
10 before, because I still see it.

11 So the Plan indicates that diesel substitutes
12 produced in California will displace 81.5 million gallons
13 per year of petroleum diesel in 2020, which we agree with
14 it. But it goes on to say that this number will flatten
15 out to 111.3 million gallons a year in 2025 and beyond,
16 all the way to 2030.

17 So if we add up existing plant capacity,
18 including biodiesel and renewable diesel production from
19 New Leaf Biofuels, Imperial Western Products, Crimson
20 Renewable Energy, Community Fuels, Agron Bioenergy,
21 Biodeco, and AltAir, our current instate nameplate
22 production capacity is actually 122 million gallons a
23 year. And by 2020, with current expansions underway and
24 scheduled for completion, instate production capacity of
25 diesel subsidies will be at about 150 million gallons a

1 year. And so with LCFS credits, you know, we have been
2 in the 190s. I think it's 193 right now. And there is
3 some discussion about it going beyond 200, but you know
4 that's another conversion. But either way, it's likely
5 that most production in California will be at capacity
6 because those LCFS credits are driving that, and I think
7 we all agree about that.

8 So if we add AltAir's recent announcement --
9 AltAir is the renewable diesel and jet plant in
10 Paramount, they have recently announced -- well, actually
11 not so recently now, but they're expanding to 306 million
12 gallons a year, that will add another 260 millions
13 gallons a year capacity in the state, which puts
14 California's total production of diesel substitutes at
15 410 million gallons a year.

16 So I'm just kind of curious, our industry is
17 curious why you're flat-lining it at 111.3 million
18 gallons a year after 2020, given all of that information.
19 So I see Charles jumping in. You know, and that's not
20 even including other -- other new plants, productions,
21 and expansion, and stuff.

22 And then I -- before I let you go, I'm just
23 going to finish out by saying we have recently, I think
24 just today we're releasing a press release from CABA sort
25 of addressing the Governor's -- the new Governor's

1 indication. We actually think that by 2030 we can
2 displace all instate petroleum diesel with renewable
3 sources. We think it's very realistic to go to an 80-
4 percent renewable diesel and 20-percent biodiesel by
5 2030. And we have identified what it is to do that, and
6 you will probably see that press release come out. But
7 with that, obviously not all of it's coming -- just like
8 today, not all of it's coming from instate, but quite a
9 bit will be. And, you know, we're seeing new capacity
10 being announced all over the West Coast. I'm sure you
11 guys have seen that. There's some question about the
12 feedstock of course, but I do think that we're going to
13 see quite a bit more produced in the state of California,
14 CEQA and other things notwithstanding. But -- I'm just
15 curious. So, anyway, with that, I will let it go.

16 COMMISSIONER SCOTT: Joe, will you please make
17 sure that we get that press release. And also is there a
18 study that it's based on that you could send to us as
19 well?

20 MR. GERSHEN: You bet. Yeah, and we'll release
21 that and I'll get it to everybody.

22 COMMISSIONER SCOTT: Okay. That would be
23 fantastic.

24 MR. GERSHEN: Sure.

25 COMMISSIONER SCOTT: And then let me turn to

1 Charles.

2 MR. SMITH: Thank you, Commissioner.

3 So the table that I think you're referring to,
4 Joe, is Table 6 from the Investment Plan, on page 27. So
5 the numbers that you see here for petroleum displacement
6 as it relates to the fuel production categories, these
7 are just based on the ARFVTP awards, not necessarily
8 based on the entire industry of California. You know, we
9 try to be as involved as we can be, but we don't fund
10 every million-gallon-per-year capacity increase. And so
11 we kind of have to be judicious about what assumptions we
12 make about how much capacity our investments are allowing
13 to be increased. And so, again, the sort of key takeaway
14 is that the numbers that you see here are us trying to
15 reflect what we have funded, not necessarily a reflection
16 of what we are forecasting into the future for all
17 biodiesel and renewable diesel producers.

18 MR. GERSHEN: So that sort of gets back to the
19 question about, you know, with the close to 50 percent of
20 LCFS credits being generated by those diesel substitutes,
21 why would limit the investment. Obviously all the other
22 things that are happening are great in these pretty
23 exciting times, but why would we limit that?

24 MR. SMITH: So I think -- I think maybe the
25 distinction I'm missing is that these are just based on

1 projects we have funded in the past, not to say that, you
2 know, when we keep funding new biofuel production
3 facilities in the future these numbers would presumably
4 increase over time, --

5 MR. GERSHEN: Okay.

6 MR. SMITH: -- as we add more biofuel
7 production agreements into our portfolio.

8 MR. GERSHEN: Okay. So that wasn't clear.
9 Maybe --

10 MR. SMITH: Okay.

11 MR. GERSHEN: -- some clarification would be
12 helpful, sure. Thanks.

13 MR. SMITH: Thanks.

14 COMMISSIONER SCOTT: Thank you.
15 Steve.

16 MR. KAFFKA: I'd be remiss if I didn't make
17 some comments. I'm glad to see the investment level for
18 bio -- alternative fuels at \$20 million this year. I
19 think -- and all from ARFVTP funds, I think. And I think
20 that's a good policy decision and I commend staff and the
21 board for doing that.

22 I want to say a couple of things that is kind
23 of my standard message and that is that, first of all, I
24 don't have any economic interest in biofuels, or I'm
25 representing the rest of California and I'd like to think

1 what is the broad public interest in this area. So to
2 the degree that I can make comments from that
3 perspective, I try.

4 And in this case it's quite clear that in
5 California there is a large need to better management
6 significant biomass resources. It's also clear that
7 there is a connection between the better management of
8 those biomass resources and transportation fuels and also
9 the State's bioeconomy. You may know that last week the
10 Air Board had a very interesting and well attended
11 meeting on the bioeconomy to help -- they have to help,
12 you know, plan and run that meeting. A tremendous
13 interest across the state in that area.

14 There is a kind of fluidity between fuels and
15 energy power and bioproducts that occur in biomass use,
16 and we can't actually foresee the future of how -- which
17 proportion of those materials will go towards fuels,
18 towards perhaps renewable hydrogen production, towards
19 bioproducts. In many cases, there will be complementary
20 products made from some of these new biorefinery
21 activities. But there is a really strong public interest
22 in better managing biomass.

23 So here we are in Fresno, so at the bioeconomy
24 meeting last week it was commented that a lot of the
25 forests above Fresno, it's up to 70 percent dead trees.

1 Without really good, you know, pathways for the use of
2 those materials, CalFire at that meeting reported that up
3 to half the trees in the state probably should be thinned
4 in the state's southern forests for safety and public
5 health. Maybe a third of the forest's biomass needs to
6 be used, and it would be good to use it prudently. And
7 demand for low carbon intensity biofuels to help make the
8 transition to a cleaner, lower carbon economy is really
9 one of the pathways in which some of that biomass may be
10 prudently used at lower cost, or something's going to
11 happen where you have catastrophic fires with colossally
12 acute bad air incidents, as we did last year. I mean
13 those acute air episodes of two or three months of smoke
14 in the valley are certainly as bad as transportation
15 emissions on average. And so this category is really
16 important for that.

17 We know we have in this area a lot of open
18 burning of old orchards because some of the biomass power
19 facilities are gone. There is going to be a
20 groundbreaking very shortly in Keyes in the valley for a
21 woody -- orchard woody biomass-to-ethanol facility
22 associated with AEMETIS. That's the first of what might
23 be many.

24 There are a lot of things, a lot of technology
25 transformations that are possible now for both

1 bioproducts and fuels that are in the pipeline or being
2 developed not only in California but most commonly
3 elsewhere that could come to California for this purpose.
4 So I just want to reiterate the importance of this
5 category in sustaining for a host of public benefits and
6 goods that other kinds of transportation pathways don't
7 necessarily address, including carbon negative -- carbon
8 negative proposals, where you can basically help remove
9 carbon from the atmosphere through some of these
10 processes. So I just wanted to make that point.

11 COMMISSIONER SCOTT: Thank you.

12 Joy and then Eileen.

13 Am I getting good.

14 MS. ALAFIA: Perfect order. Thank you, Eileen.
15 I don't think it will make much difference four minutes
16 later or four minutes earlier, so. I'm just going to
17 piggyback on what Steve shared, so I appreciate the
18 comment with regard to low carbon intensity, the
19 opportunity for carbon capture. And in this category I'd
20 recommend that we don't keep the focus too narrow and
21 risk jeopardizing other opportunities for greenhouse gas
22 mitigation or untold opportunity costs for both zero- and
23 near-zero technologies.

24 So specifically I'd recommend we consider
25 cobenefit fuels and fuels that have developed low-NOx

1 engine technologies. A kind of few things that come to
2 mind, top of mind for me are looking at what DME can do,
3 dimethyl ether. So it can be used in the renewable
4 hydrogen space, it can be used through -- extend the
5 range for electric vehicles, and it could be used to
6 decarbonize fossil propane. So there is a lot of benefit
7 there for DME and should be considered in this category.

8 Similarly, another cobenefit of the renewable
9 diesel process, and Joe shared about growing and
10 expanding, look at the opportunities for the ability to
11 produce renewable propane from that same process with
12 some investment. You know, making this category eligible
13 for DME and renewable propane, I think will have many
14 cobenefits. They're looking at negative carbon
15 intensities for some of these technologies. And the
16 infrastructure is already there, so it's a very low cost
17 solution, as well.

18 COMMISSIONER SCOTT: Thank you.

19 Eileen.

20 MS. TUTT: Thank you, Commissioner. And kind
21 of building off what Joy said, I think on some level we
22 want to look at the cobenefits. And I just want -- I
23 also want to reference something that Joe said because it
24 was a little bit worrisome to me.

25 I mean I think this Governor said we want to

1 eliminate diesel, the use of diesel. And I think --
2 personally I think that's great news, but I don't think
3 that that means we want to go to all bio and renewable
4 diesel. I think the idea here is that there is
5 definitely room for all, for bio and renewable diesel.
6 There's room for -- there's room for everybody. But
7 because there's applications where you just simply can't
8 get to zero, and I think that's very clear.

9 So I don't have -- but I think what we want to
10 keep in mind is that there's multiple goals in this
11 state. That's one and it's the relatively new one. But
12 there are a lot of goals around ZIP requirements and air
13 pollution and NOx and PM. And to the degree we want to
14 address all of those goals, and I feel -- sorry, when you
15 start bringing up fires and forest management and tree
16 mortality, I think we have to be really careful there
17 because biofuels, as much as I think there is definitely
18 a place for biofuels and I myself am not a biofuels
19 advocate either, but it's very controversial and you
20 can't just disregard CEQA or the community's response
21 because there are many communities and activists,
22 particularly in the San Joaquin Valley, that are adverse
23 to biofuels and biofuels plants.

24 And so we have a challenge there that's much
25 bigger than this pot of funding. And I just want to --

1 it's not -- there is not an easy answer to how we get rid
2 of these trees, these dead trees, and what we do to
3 manage our forests and protect against tree mortality and
4 really protect our forest, period.

5 I do think there are opportunities, I will just
6 point out on the short list, the climate pollutant side.
7 If you take that biomass and you turn it into electricity
8 and you use it in electric vehicles, that is also a
9 negative carbon intensity process, and you don't have any
10 of the combustion energy pollutants from the vehicles.

11 So in the low-traffic fuel standard efforts, we
12 have been looking at that, what are -- what's the carbon
13 intensity for taking the biomass and turning it into
14 natural gas renewable and natural gas, and using it in a
15 combustion engine vehicle versus taking the biomass and
16 turning it into electricity and using it in a zero-
17 emission vehicle. And they're both negative carbon. And
18 we just -- but -- so I don't want to -- there's a lot of
19 different opportunities that we all need to look at here.
20 My concern with this particular pot of money is we're
21 going up from last year. Last year it was 12 and a half
22 million. This year it's 20 million. And I -- I just
23 don't think that's appropriate.

24 I think given the direction of all the other
25 goals in the state, that we should be increasing like

1 perhaps the focus on TNCs going zero-emission vehicle and
2 dealing with infrastructure challenges there. I think
3 that's where I would put if there is additional money, I
4 would put it in more zero-emission vehicle technologies.
5 I would not augment this particular pot. Not that I
6 don't think -- I think it should -- I think it's funded
7 and I think it was, I believe, all five projects that
8 were proposed last year were the 12 and a half million
9 dollars got funded. So it's not oversubscribed, at least
10 that's my understanding, and certainly not nearly as over
11 subscribed as electric vehicle charging is. So -- and
12 that means both hydrogen and battery electric.

13 So I personally -- although I think this
14 category deserves funding, I would prefer that it stayed
15 the same and then the other 12 and a half million that
16 came from GGRF, welcome to the game. We're all fighting
17 for that now too, to be quite honest. And it's -- that
18 budget fight is very, very difficult and painful, to be
19 quite honest, because there's a lot of priorities. But I
20 don't -- I'm not particularly happy with this section
21 being endorsed at this time. And I -- that's fine.

22 COMMISSIONER SCOTT: Thank you.

23 Joy.

24 MS. ALAFIA: Thanks. So I just wanted to add
25 in terms of the program not being over subscribed and

1 looking at biomass, there's other ways to generate
2 renewable fuels. And I think the other really important,
3 particularly in the San Joaquin Valley what we're looking
4 at is carbon capture for, again, they're looking at
5 hydrogen cells and renewable propane. So that's just
6 another opportunity of a carbon sink, if you will, that
7 doesn't deal with the biomass.

8 Thank you.

9 COMMISSIONER SCOTT: Thank you.

10 Steve.

11 MR. KAFFKA: If I read this report correctly,
12 biomass last year actually where these fuels were
13 actually funded at about \$22.9 million. Is that correct?
14 In the end, the final allocation.

15 MR. BUTLER: I'm sorry. From what fiscal year
16 are you talking about?

17 MR. KAFFKA: 2017-18. In other words, --

18 MR. BUTLER: '17-18. So last year or the
19 current year we're in, it was 12 and a half million from
20 GGRF and 12 and a half million from ARFVTP.

21 MR. KAFFKA: Good. And then there was some
22 additional allocation above that?

23 MR. BUTLER: So this is Charles' method. So if
24 you flip to page 7, Table ES2 has -- or Table ES2 and
25 then also Table ES3 have the previous two funding

1 allocations for the previous Investment Plan and then
2 proposed one for this year.

3 MR. KAFFKA: Yes.

4 MR. SMITH: And to John's point, the three
5 asterises on the 25 million for 2018 to 2019, half of
6 that was from GGRF.

7 MR. KAFFKA: So, in other words, Eileen's
8 comment to the point that this is being increased in
9 terms of funding actually -- compared to what was
10 actually spent, it's not correct. In other words, you
11 spent even a bit more than 20 million last year --

12 MS. TUTT: I just meant from this -- this
13 allocation, 12.5 from this. That's the increased part.
14 I recognize we also got GGRF.

15 MR. KAFFKA: Correct. So I just would like to
16 reiterate that I think this remains a fundamental
17 category or very diversary for all kinds of reasons. The
18 CEC's IEPR Report suggests that liquid fuels of various
19 kinds, including not just of course diesel and gasoline-
20 based fuels, but also jet fuels and other materials will
21 remain important in the state of California for the
22 foreseeable future. That was a clear outcome of the
23 bioeconomy meeting last week in which the Air Board
24 identified the continuing need for these kinds of
25 materials and fuels in the future of the state. So I

1 don't think that it's particularly a short-term view that
2 we're going to require these kinds of transportation
3 fuels and related bioproducts in activities in the state
4 for the foreseeable future. The future is very hard to
5 predict.

6 COMMISSIONER SCOTT: John.

7 MR. BUTLER: Yeah. So I think I heard you
8 right, Eileen. You thought that this category wasn't
9 over subscribed. Our last solicitation was over
10 subscribed in terms of commercial and community scale
11 projects, so there were a number of passing projects that
12 did not receive funding due to the lack of availability
13 of funds. I just wanted to correct that record.

14 COMMISSIONER SCOTT: Joe.

15 MR. GERSHEN: Yeah. I think definitely
16 received over subscription. I just know a lot of our
17 members have subscribed and will continue to subscribe.
18 And, basically, I think we're just happy to see at the
19 very least things go back to where they were, because
20 with GGRF, when it happened it went to GGRF funding, it
21 was not guaranteed, and you know that's a stroke of a pen
22 and it's gone. So that's why going back to the 20th at a
23 minimum makes sense to us. And it just means that these
24 fuels are going to be important for I'd say decades to
25 come. And so understand, you know, everyone's fighting

1 for the same pot of money and where should it go. I just
2 -- and to look at it pragmatically, I support all the
3 above, which I think is the intention of the program from
4 its onset.

5 And so, yeah, I mean I think all of these
6 things have a lot of merit, but I just want to make sure
7 that it's sort of commensurate, it sort of ties back into
8 that thing about expected benefits versus actual
9 benefits. So I tend to look at it more pragmatically
10 what's really going to get the job done in the near, mid,
11 and long term, so that's my thinking on it.

12 COMMISSIONER SCOTT: Let me turn back to -- we
13 had that question from Ole previously about the -- sort
14 of the CDFA component, and then we also have Brian who
15 mentioned he'd like to make a comment.

16 So it looks like Charles, is your mic on, do
17 you want to respond to that, or --

18 MR. SMITH: Sorry.

19 COMMISSIONER SCOTT: Do we have -- do you guys
20 have a chance to kind of look through and have an answer
21 to Ole's question? Okay.

22 MR. BUTLER: So, yes, Ole's question was
23 whether there was a specific exclusion of this funding to
24 be used for landfill gas. You know, gas from the
25 landfills directly, and the answer is yes, the way it's

1 written in there and the way we write it in our
2 solicitation is that we exclude landfill gas as an
3 eligible feedstock for these types of projects.

4 The reason for that is the organic waste
5 diversion policies in California. We want to encourage
6 and support the diversion of prelandfilled waste and get
7 those organics out of the landfills and use them for fuel
8 production within our project. So that is a specific
9 exclusion and I believe that -- you know, our -- we had
10 Howard Levenson, who was on our Advisory Committee in the
11 past, certainly we took his input on CalRecycle's request
12 to make that exclusion within our Investment Plan.

13 MR. HOEFELMANN: So, Charles, I understand it
14 in --

15 COMMISSIONER SCOTT: Ole, go ahead.

16 MR. HOEFELMANN: Sorry. Can you guys hear me?

17 COMMISSIONER SCOTT: Yes, yes.

18 MR. HOEFELMANN: Oh, okay, yes. So, thanks, I
19 appreciate that clarification. So that I understand in
20 your Investment Plan, it makes sense.

21 My question is if somebody on their own decides
22 out recover landfill biomethane, are we saying that that
23 is excluded as a renewable feedstock?

24 I understand the Investment Plan and meaning
25 any future investments you're going to make or support

1 exclude landfill, that makes sense. I understand the
2 policy behind that. What I'm trying to clarify is that
3 that does not exclude other ways of getting landfill of
4 biomethane and using that as a renewable feedstock.

5 So, just to clarify, there have been a lot of
6 conversations here on low carbon fuel, a commitment to,
7 you know, decarbonized hydrogen, for example, at the
8 Hydrogen Council 2030. Most of the members that make
9 that commitment today supply hydrogen into the stations.
10 So if today the members, you know, be it the Shell
11 products, they have the keys, if they have access to
12 biomethane and they want to use that as a feedstock to
13 renewable hydrogen; I mean is that excluded for them?

14 MR. SMITH: So --

15 MR. HOEFELMANN: I realize that there might not
16 be an answer today because we have to maybe explain
17 ourselves a little more and more clearly. But I'm not
18 saying that I want to get money from the State to build a
19 biogas purification at a landfill. I'm saying I have
20 already done that. If I have access to biomethane from a
21 landfill, are we saying that the way this language reads,
22 I understand it on the investment side, I want to make
23 sure that this language doesn't translate into the GFO
24 that then restricts the definition of renewable hydrogen
25 to stations and the station infrastructure. Because I

1 think that will not get us to the end goal. I mean the
2 discussions that a lot of the members here had over the
3 last 50 minutes were around low carbon and zero carbon,
4 carbon capture, biofuels, biomethane. I think what we
5 wouldn't want to do is restrict, you know, pathways that
6 are already existing today.

7 MR. BARKER: So this is Kevin with the Energy
8 Commission. And I'm trying to go on mute.

9 MR. BARKER: Okay, here we go. So under Health
10 and Safety Code 43869, which was put in place as a result
11 of Senate Bill 1505, it sets the Air Resources Board as
12 the sole authority to regulate the renewable hydrogen
13 content and requirements for hydrogen refueling stations.
14 So with regard to the definition and the content, I think
15 ARB are the regulators there.

16 MR. HOEFELMANN: Okay. Thank you.

17 COMMISSIONER SCOTT: So, Ole, I think we
18 understand your question. I don't know that we have an
19 answer to it. So let us -- or maybe we do. Let me see -
20 - no.

21 MR. BUTLER: Actually it might just be a punt
22 of the question till next week at our hydrogen workshop,
23 I think -- on February 12th, when we talk about the draft
24 solicitation concepts. Ole, that might be a great
25 opportunity to bring this issue up, especially since it's

1 specific to the hydrogen infrastructure, the GFO that
2 will be forthcoming.

3 COMMISSIONER SCOTT: Yeah. And we should check
4 in with the ARB too.

5 MR. HOEFELMANN: Yeah, and we have it on the
6 docket. What we were trying to kind of understand
7 earlier today is, is there a policy behind it, you know,
8 is it maybe just oversight. Or, you know, in the end and
9 not just broader to this category and some of the
10 discussion that occurred earlier. I think this category
11 and having funding for it is critical.

12 I also agree with a lot of the comments over
13 previously that this should be broad enough so that we
14 don't limit the innovation that, you know, companies can
15 bring into the space.

16 I also think but I do not know how that can get
17 built into this category is that the ability to scale is
18 critical in this. So, you know, as the State looks to
19 fund these opportunities, is the consideration into or
20 taken can the solution that is being funded actually
21 scale up to, you know, large quantities of the zero
22 carbon fuel product or it being hydrogen, or whatever.
23 So -- but I think the category itself is critical in
24 keeping is also important for its success.

25 COMMISSIONER SCOTT: Thank you.

1 Brian. Are you still there, Brian?

2 MR. GOLDSTEIN: Hi. Can you hear me?

3 COMMISSIONER SCOTT: Yes.

4 MR. GOLDSTEIN: Yeah. Okay, great. No, I'm
5 happy to see the increase in funding in this category. I
6 was very happy to see the allocations for renewable
7 hydrogen last year. I think further exploring the
8 interconnect between fuel types, especially you know with
9 biomethane as a feedstock there is really important,
10 particularly because cultivation of some of that gas, you
11 know especially from like dairy biogas and so forth is
12 incredibly expensive, and we're just not seeing enough
13 projects popping up in the state. So, you know, of
14 course we all aspire to see a complete zero-emission or a
15 complete renewable grid, but there are just frankly going
16 to be a lot of fuel types that will take quite a long
17 time for us to transition out of, you know, even into the
18 electrification arena.

19 So I think in the interim we need to continue
20 to explore low carbon fuel types there and particularly
21 where these fuels types can be built together, where
22 these projects can be built together to potentially, you
23 know, save money and take advantage of economies of
24 scale.

25 For example, if we can colocate a renewable

1 hydrogen-production facility with a biogas-production
2 facility and save dollars in that manner, I think that
3 would be an incredible use of funds. And by using some
4 of this pot of funds to, you know, inspire companies to
5 start projects like that, I think that is exactly what
6 this program is meant to do.

7 And, you know, I'd like to remind the other
8 Advisory board members that some of these projects are in
9 the hundreds of millions of dollars for full biomethane
10 to renewable hydrogen-production facilities that aren't
11 in urban areas. So the amount of funding in this area is
12 relatively small, at least relative to the overall cost
13 of some of the bigger projects that frankly will need to
14 scale some of these biofuels anyway.

15 So you know I'm happy to see the funding
16 increase in this area this year. I'd love to engage the
17 Commission on finding areas of overlap where the
18 different fuel types can in some ways potentially share
19 funding so that projects can be colocated and that we can
20 combine resources and some of the takeaways from the
21 initial project. So thanks for giving me an opportunity
22 to speak on this, and I appreciate the Commission's
23 attention to this area.

24 COMMISSIONER SCOTT: Thank you.

25 Do I have any other Advisory Committee member

1 comments on low carbon fuel production and supply?

2 Okay. Let me now see whether or not then we
3 have any public comment on low carbon fuel production and
4 supply.

5 MR. BRECHT: Yes, we have Jeff Reed.

6 DR. REED: Yes. Thank you. This is Jeff Reed,
7 Chair of the California Hydrogen Business Council and
8 also a member of the research staff at U.C. Irvine.

9 So thank you, Commissioner Scott and the
10 others, for the work on this, and we fully support the
11 program and, in particular, wanted to comment on the
12 alternate fuel production. It's probably similar in
13 respect to what Brian was just saying regarding scale of
14 the facilities, so it was very good news to see some
15 funding for a few projects this year through the 602
16 solicitation.

17 Almost all, I think with one exception, of the
18 bids into that solicitation were electrolytic with using
19 primarily solar energy, which is great because that
20 technology set needs development and we need commercial
21 facilities to prove out and to also achieve some scale.
22 But in thinking about that as I looked at the information
23 and said, huh, it's very interesting. You know, does
24 this mean the whole market is turning toward an
25 electrolytic solution, but it's probably more likely the

1 case that at the funding levels, the buydown on those
2 projects is 50 percent. Whereas with a large-scale SMR
3 facility or a gasification facility, the funding amounts
4 aren't enough to support the project or to make the
5 difference between constructing it or not.

6 And I'm just wondering are there thoughts from
7 Commissioner staff on, you know, how to get after this.
8 I mean you could do loan guaranties. And in the past
9 these big facilities have been more likely funded from
10 the Department of Energy. I don't see that happening
11 here.

12 And gasification, in particular, could be
13 beyond the biomethane discussion we just had. But
14 gasification, particularly for woody feedstocks, could be
15 the most cost-effective approach, but yet very little
16 activity going on there right now.

17 COMMISSIONER SCOTT: Thank you.

18 I think I will ask some of my biofuels team to
19 follow up with you on this question offline. And I also
20 think that typically where, as you know, where the Energy
21 Commission is scoping these things out or kind of in
22 those presolicitation workshops, when we're looking to
23 see what needs to be funded, why, where are the best
24 places to put dollars, and staff of course has their
25 expertise that comes in to inform that, but we're looking

1 to hear from the public on that as well. And so when we
2 get to that point, I would encourage you or the
3 appropriate person on your team to either participate in
4 that workshop or if you're not available to, make sure
5 that the staff gets your comments and thoughts when
6 they're kind of scoping out what that next round looks
7 like.

8 Let me check, do we have any other public
9 comment on the low carbon fuel production and supply
10 categories?

11 Okay, I'm seeing none.

12 Okay, so it is 12:40. I would like to get a
13 sense of the Advisory Committee members. We have
14 manufacturing and workforce development left. I'd like
15 to propose that we go ahead and just do those and then
16 break when we're done versus breaking for an hour lunch
17 and then coming back to discuss those two. Is that -- is
18 that good? Okay, that's good for you guys? Okay, I'm
19 getting thumbs up and nods.

20 Oh, sure, sure. Why don't we take a -- we're
21 going to take a five-minute bio break, so everyone come
22 back at 12:45, and we're just going to keep on going.

23 (Recess taken from 12:41 to 12:50 p.m.)

24 COMMISSIONER SCOTT: Okay. Welcome back,
25 everybody. We just took a quick bio break here and now

1 we're going to move on to the last two categories. In
2 case you're just joining us now and because we are almost
3 done with the discussion, we decided to just do the last
4 two rather than taking a lunch break.

5 * So let us move to Manufacturing and Advisory
6 Committee comments on the Manufacturing Category.

7 Tyson.

8 MR. ECKERLE: Yes. Just -- this is a critical
9 part. And I think within the Governor's Office of
10 Business and Economic Development, it's a tool that we
11 have used for recruitment and retention and expansion of
12 companies who are focused in these key areas. And so we
13 want to make sure just maintain that partnership going
14 forward. And I think as we're developing the
15 solicitation, I want to make sure our people who do the
16 business investment services are connected with whoever
17 is drafting up the solicitation, just so we can make sure
18 we leverage that as much as possible. It is a super
19 critical area and we want to make sure that we benefit as
20 a state from all the policies, you know, in terms of
21 creating jobs here too.

22 COMMISSIONER SCOTT: Great. Thank you and
23 thank you for that offer of assistance.

24 Eileen.

25 MS. TUTT: I just want to thank you,

1 Commissioner Scott, as well as Tyson, the -- for your
2 work on -- it's really clear you're coordinating, and
3 this is a really important part of the investment
4 strategy.

5 And I do think -- I mean I always wish there
6 were more, but I think this is -- it's a really good pot
7 of money. And I am particularly pleased with the
8 coordination between agencies on how this money -- you
9 both participated in our Prove It efforts. And those are
10 going to result in real manufacture -- hopefully real
11 jobs. And I'm just impressed by how it's not a whole lot
12 of money and with the coordination between the agencies
13 and the way you have implemented this program, I think
14 it's probably used to the best efficacy, so I appreciate
15 it.

16 COMMISSIONER SCOTT: Thank you.

17 Will.

18 MR. BARRETT: And just to tee up on that
19 comment, the -- you had that Prove It Workshop that was
20 held in November. I think one of the things that I heard
21 most clearly out of that was a desire for training
22 programs to start in the high school level, and it was
23 nice to hear that this morning, and so that local
24 students can be trained to work on these programs in many
25 cases in communities that have high pollution burdens and

1 can go back to work helping with the deployment of zero-
2 emission technologies in those areas. So, again, I
3 really appreciate this staying in the plan and getting
4 the support. Thank you.

5 COMMISSIONER SCOTT: Thank you.

6 Other Advisory Committee member comments? Do
7 we have any of the members on the WebEx? I don't see
8 any. Tom's doing a great job of raising your cards for
9 you right here in the room so I know that you want to
10 speak.

11 Okay, well, let's see, do we have any public
12 comment on the manufacturing category?

13 * I'm seeing none. So let's now turn to
14 Workforce Development and Advisory Committee member
15 comments on the Workforce Development --

16 MR. HOEFELMANN: Janea?

17 COMMISSIONER SCOTT: Oh, I'm sorry, was that
18 Ole?

19 MR. HOEFELMANN: Yeah, sorry. We had some
20 technical difficulties over here. I just wanted to say
21 so much, Eileen, that certainly I support this category.
22 I think it's great.

23 I tried to in my mind to always figure out,
24 okay, you know are enough companies taking advantage of
25 us and really looking at them innovating and bringing new

1 technology to market. For example, what's interesting to
2 me is obviously hydrogen station, hydrogen station
3 development, and how we can accelerate that. So, again,
4 I think the category is great and I'd love to see more,
5 more companies participating in it.

6 COMMISSIONER SCOTT: Thank you.

7 And let me pause just in case any other
8 Advisory Committee members from the WebEx or phone were
9 trying to jump in. If so, please speak up.

10 Okay. So now -- thank you. Let us turn to the
11 workforce development component, and Advisory Committee
12 comments on that, please.

13 Eileen.

14 MS. TUTT: Thank you, Commissioner. I just
15 want to -- I am particularly pleased with this
16 investment, given what we've heard over and over again,
17 and certainly as we started the Prove It effort, is that
18 it is just so important as we transition away from our --
19 you know, a single-fuel transportation fuel economy to a
20 more diverse transportation fuel pool, that that actually
21 results in jobs in disadvantaged communities and low-
22 income communities. And so -- and we are -- I mean we
23 definitely want to help with that, so I was very glad to
24 see the 1.5 million.

25 And I think what's really fabulous is that

1 there is 27 million in the Governor's Budget for GGRF
2 this year and that's a new program. And I think the
3 demand is probably a lot closer to 27, 28.5 million, but
4 I also I think -- to Ole's point I think we're going to
5 have to really -- it's incumbent upon those of us on the
6 Advisory Committee and whoever is listening to help make
7 sure that we take full advantage of this, because the
8 need is out there, but it's a lot harder to access that
9 need. They don't have the resources to hire consultants
10 to put in proposals for millions of dollars. That's not
11 the kind of resources that are available in some of these
12 communities.

13 So, as you know, we have a few projects that
14 we're working with folks on, but I think this is a real
15 opportunity for all of us to think about how do we make
16 sure that this money is getting to where it's most needed
17 and it is leveraging against what is a much bigger pot of
18 money in the Governor's Budget. And we sure hope that
19 that is not reduced or in any way modified and revised.
20 We're very much supportive of that allocation for GGRF
21 and want to really support this as well, so thank you.

22 COMMISSIONER SCOTT: Thank you.

23 John Shears.

24 MR. SHEARS: Yeah. Good afternoon. Thanks.

25 Just stepped out for another meeting and now I'm back.

1 I just want to -- you know as in past meetings,
2 speak in strong support for funding, you know, at the
3 workforce development and training as it relates to
4 feeding into needs of the manufacturing industry as well
5 as, you know, in the installation of fueling equipment
6 and the maintenance of the vehicles, etc. I think going
7 forward this is going to become more and more critical.

8 I'm not sure if people are aware of the recent
9 report that came out from the Brookings Institute looking
10 at automation in the agricultural industry and the
11 potential implications for working poor here in
12 California. So as I said in the past, these types of
13 programs, including GGRF, are really important I think as
14 economic development programs here in California. And I
15 also want to reprise, you know as Eileen mentioned, and
16 as if said in the past, the issue about helping to make
17 sure that there is some funding out of these pools of
18 money that are about developing the capacity to have the
19 capacity to actually pursue requests for proposals, GFOs,
20 whatever we want to call them. So I'm about to embark
21 with some colleagues in the valley on seeing if we can
22 organize an effort around pulling together community
23 organizers and mayors in the valley to sort of heighten
24 awareness around these programs and see what we can do on
25 that.

1 But, again, I want to stress, as I have at past
2 meetings, it's really important to work with, you know,
3 community organizers beyond just holding a meeting in
4 Fresno or Shafter, or wherever, and hoping people come
5 but actually have community organizers go out and beat
6 the bushes, as it were, to raise awareness in the
7 communities and also to, you know, help develop that
8 basic wherewithal within the communities to be able to
9 take advantage of these funding pools, so thanks.

10 COMMISSIONER SCOTT: Thanks. And I'd like to,
11 John, echo your comment and Eileen's as well in that
12 we're very excited about these programs. The one that
13 we're working on with the high schools was put together
14 kind of by Cerritos Community College in the hopes that
15 will then feed the high school students right into
16 Cerritos Community College right into these clean energy
17 economy jobs. So it's very exciting.

18 And it was -- I had a chance to visit three of
19 the high schools that got awarded. So Patrick mentioned
20 in his presentation that we awarded 12. And the teachers
21 are also just incredibly excited to be engaged and
22 involved in this. And so they're super inspirational.
23 And these teachers, you know they're staying after
24 school, they're coming in on weekends. One of them was
25 talking about he's like, kids, you have to go home so I

1 can go home. But they're just -- there's just so much
2 energy and enthusiasm in this space.

3 And one of the things that the teacher said
4 that I found really inspiring was some of the kids that
5 are in the shop classes are sometimes struggling
6 academically, but then they get really excited about
7 learning on how to work on an electric motor or they were
8 building a car and they had to figure out how to light-
9 weight it so it would go farther on the charge. And then
10 they come back and they say, oh, well, I do need to go
11 really learn this math. Or, I really do need to go back
12 and look into this engineering. And so they get inspired
13 to go back to different classes and really dig in.

14 And I mean they were working on everything from
15 electric motors and material sciences, I mean a very
16 broad set of topics, so it's exciting. Thanks for the
17 support for this category. It's one that I'm very
18 excited about as well.

19 And I think on the outreach point, we would
20 love your help and any others too in terms of reaching
21 out to the communities. I think the Energy Commission in
22 and of itself is kind of a wonky agency that many folks
23 may not know about, much less sort of that this program
24 opportunity is available, so to the extent when we put
25 out the program notices, if you have folks that you want

1 to forward it to or that you think we should specifically
2 outreach, please provide that feedback to us because
3 we're always looking to improve our outreach to
4 communities on not just workforce development but on all
5 of these topics. So I appreciate that.

6 Do we have other Advisory Committee -- yes,
7 Tyson.

8 MR. ECKERLE: Thank you. Just to piggyback on
9 some of the stuff that's been said, so I think there's --
10 if you look at Governor Newsom and his platform and then
11 our new director at GO-Biz, their platform is California
12 for all is kind of the thing that comes up the most in
13 terms of what they're trying to do, right. So I think
14 it's really important. And I think it's the workforce
15 areas if the budget is the statement of priorities, just
16 as Eileen pointed out. That's a really important and key
17 thing.

18 And just piggybacking on the CalETC efforts,
19 which has been a great campaign through Prove It. I
20 think the one thing that I have learned is if we aren't
21 able to get this money into the communities that we're
22 targeting, we're not looking hard enough.

23 COMMISSIONER SCOTT: Yeah.

24 MR. ECKERLE: This is kind of as a stakeholder
25 group. So we have to make sure that we're overturning

1 every rock to get it in there and I think this is a
2 challenge for all of us, us included.

3 And then just one final thing and it's another
4 program, to make sure that we don't get these as siloed
5 as possible, for cannabis there is the Community
6 Reinvestment Grants Program that was just kicking off the
7 ground at GO-Biz and it has a workforce component. And
8 that -- that part is -- I think it's about ten million to
9 start, but there is -- where it's reinvesting into areas
10 that were adversely impacted by the war on drugs. And so
11 I think this is another pot of funding that we can help
12 cross-leverage to really get into these communities. So
13 it's something that we can make those connections as
14 well.

15 COMMISSIONER SCOTT: Thanks.

16 John Shears.

17 MR. SHEARS: Yeah. I'm not sure if it was
18 mentioned at all today, but of course there is sort of
19 large overlapping is of space, setting the hydrogen
20 issues aside, which many of us are working on, but also
21 there's the settlement, dieselgate settlement money issue
22 out there too that we're also trying to work with to
23 electrify America on to, you know, support and leverage,
24 mutually leverage these funds. So it should be, to sort
25 of highlight that part of the loop and staying integrated

1 with those broader industry efforts besides those being
2 led by CalETC and Veloz.

3 COMMISSIONER SCOTT: Thank you.

4 Do I have other Advisory Committee member
5 comments on workforce development?

6 Okay, do we have any public comment on
7 workforce development?

8 All right, so then I guess we will transition
9 just to sort of the broader public comment period. Any
10 public comment -- I'm sorry. I see Ellen.

11 Please go ahead.

12 MS. GREENBERG: Thank you. I did just want to
13 mention the workforce development funds that come through
14 SB1 and hope that there will again be some coordination
15 across the multiple programs.

16 COMMISSIONER SCOTT: Great. Thank you.

17 Any other Advisory Committee comments before we
18 transition to our public comment period?

19 Okay. And do we have any public comment, I
20 guess, on any of the ARFVTP 2019-2020 Investment Plan
21 Update that we didn't hit as we went through the
22 discussions? If so, please speak up.

23 Okay. Looking like -- she's scanning through,
24 she's scanning through on the WebEx.

25 Oh, Ellen, you still have your hand up. Did

1 you have another comment?

2 MS. GREENBERG: No. Sorry about that. I will
3 put my hand down.

4 COMMISSIONER SCOTT: No worries.

5 Okay, so it looks like there is no additional
6 public comment.

7 Patrick, can I ask you to please put back up
8 the slide that shows the comment deadline and
9 information.

10 So as you can see here, the comments are due on
11 February 22nd, 2019. The link is right here on the slide
12 and the contact information for Patrick is also on the
13 slide. So please do take time to provide us with
14 additional written comments. We look forward to getting
15 those and we look forward to reading them and hearing
16 your thoughts.

17 And with that, let me just say once again thank
18 you so much to our Advisory Committee members. We really
19 appreciate you taking the time to make your way down to
20 or up to Fresno, depending on where you came from, or
21 into Fresno, and that you provide your time and your
22 experience to this program. It really means a lot to us.
23 We tried very hard to listen closely to what you're
24 saying and I hope that you see that reflected in the
25 various drafts of the report. So thank you for your time

1 and expertise and energy. It's much appreciated.

2 And with that, we will adjourn. Thanks,
3 everybody.

4 (The meeting was adjourned at 1:07 o'clock p.m.)

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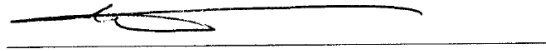
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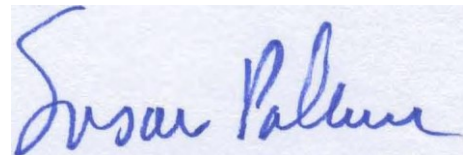
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