

California Energy Commission

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BEFORE THE STATE OF CALIFORNIA
 THE NATURAL RESOURCES AGENCY
 CALIFORNIA ENERGY COMMISSION (CEC)

In the Matter of:)
) Docket No. 13-ALT-02
2014-2015 Investment Plan Update)

Advisory Committee Meeting and Public Workshop
 re Alternative and Renewable Fuel
 and Vehicle Technology Program

CALIFORNIA ENERGY COMMISSION
 HEARING ROOM A
 1516 NINTH STREET
 SACRAMENTO, CALIFORNIA

MONDAY, NOVEMBER 4, 2013
 10:00 A.M.

Reported by:
 Kent Odell

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APPEARANCES

Commissioners (and their advisors) Present:

Janea Scott
 Lezlie Kimura-Szeto, Her Advisor
 Jim Bartridge, Her Advisor

Staff Present:

Jim McKinney, Program Manager, Alternative and Renewable
 Fuel and Vehicle Technology Program
 Charles Smith, Project Manager, 2014-2015 Investment
 Plan Update
 Leslie Baroody, Program Manager, Electric Vehicles
 Randy Roesser, Deputy Director, Fuels and Transportation
 Division
 André Freeman, Staff, Emerging Fuels and
 Technologies Office
 Dave Nichols, Team Leader, Workforce Development

Advisory Committee Members Present (* via WebEx)

Jananne Sharpless, Member at Large
 Peter Cooper, California Employment Training Panel
 Lesley Garland, Western Propane Gas Association
 Ralph Knight, Napa Valley Unified School District
 Alberto Ayala, California Air Resources Board
 Tim Carmichael, California Natural Gas Vehicle Coalition
 Tyson Eckerle, Energy Independence Now
 Howard Levenson, California Department of Resources
 Recycling and Recovery (CalRecycle)
 Steve Kaffka, U.C. Davis and California Biomass
 Collaborative
 Eileen Tutt, California Electric Transportation Coalition
 Robert Bienenfeld, representing the California Fuel Cell
 Partnership and American Honda Motor Company
 *Shannon Baker Branstetter, Consumers Union
 *John Shears, Center for Energy Efficiency and
 Renewable Technologies
 Bonnie Holmes-Gen, American Lung Association
 Joe Gershen, California Biodiesel Alliance, courtesy of
 Crimson Renewable Energy
 Anne McMonigle, California Labor Federal Workforce and
 Economic Development Program

APPEARANCES (Continued)

Also Present (* via WebEx)

Public Comment

Evan Edgar, California Refuse Recycling Council
Paul Kelley, Bay Area Biosolids to Energy Coalition
Mario Landau-Holdsworth, EverCharge
Richard Schorske, EV Communities Alliance
Bill Elrick, California Fuel Cell Partnership
Jaimie Levin, Center for Transportation and the Environment
John Clements, Retired, Director of Transportation, Kings
Canyon Unified School District
Chris Shimoda, California Trucking Association
Jamie Hall, Policy Director, CalStart
Mark Melaina, NREL, Team Leader for CEC Technical Support
Services Contract
Joshua Goldman, TransPower
Jeff Grant, Ballard Power Systems; Chair, California Fuel
Cell Partnership
*Barb Heydorn, SRI International
Shawn Garvey, President, CleanWorld; The Grant Farm

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1 P R O C E E D I N G S

2 NOVEMBER 4, 2013 10:10 A.M.

3 COMMISSIONER SCOTT: Good morning,
4 everybody. Thank you for joining us and I'm
5 going to turn it over to staff because they've
6 got a couple opening announcements, and then
7 we'll get going.

8 MR. SMITH: Thank you, Commissioner
9 Scott. My name is Charles Smith. I'm the
10 Project Manager for the 2014-2015 Investment Plan
11 Update. Welcome to the Alternative and Renewable
12 Fuel and Vehicle Technology Program's First
13 Advisory Committee Meeting and Public Workshop.
14 Just a few housekeeping items before we begin.

15 This conference is being recorded. For
16 those of you not familiar with this building, the
17 closest restrooms are located just across the
18 hall; there is a snack bar on the second floor
19 under the white awning; and in case the building
20 is evacuated, please follow our staff to the
21 appropriate exits. We reconvene at Roosevelt
22 Park, located diagonally across the street from
23 this building. Please proceed calmly and
24 quickly, following the employees with whom we are
25 meeting to safely exit the building. Thank you.

1 COMMISSIONER SCOTT: Great. Well, good
2 morning, everyone. Why don't we go around the
3 table and we will do introductions, and then we
4 will find out which committee members we have on
5 the phone, and we'll go from there.

6 MR. ROESSER: Good morning, I'm Randy
7 Roesser. I'm the Deputy Director of the Fields
8 and Transportation Division.

9 MR. MCKINNEY: Jim McKinney, Program
10 Manager.

11 MS. SHARPLESS: Jan Sharpless, former
12 Chair of the Air Resources Board, former
13 Commissioner of the Energy Commission, former
14 Board of Directors for the Western Electricity
15 Coordinating Council. Thank you for inviting me
16 to join you.

17 MR. COOPER: I'm Peter Cooper, the
18 Assistant Director of the Employment Training
19 Panel.

20 MS. GARLAND: Lesley Garland, CEO of the
21 Western Propane Gas Association.

22 MR. KNIGHT: Ralph Knight, Napa Valley
23 Unified School District.

24 DR. AYALA: Good morning. Alberto Ayala,
25 Deputy Executive Officer, California Air

1 Resources Board.

2 MR. ECKERLE: Tyson Eckerle, Executive
3 Director of Energy Independence Now.

4 MR. LEVENSON: Howard Levenson, Deputy
5 Director, Cal Recycle.

6 MR. KAFFKA: Steve Kaffka, U.C. Davis and
7 California Biomass Collaborative.

8 MS. TUTT: Eileen Tutt, California
9 Electric Transportation Coalition.

10 MR. BIENENFELD: Robert Bienenfeld
11 representing the California Fuel Cell Partnership
12 and American Honda Motor Company.

13 MS. KIMURA-SZETO: Lezlie Kimura-Szeto,
14 Energy Commission, Advisor to Commissioner Scott.

15 MR. BARTRIDGE: I'm Jim Bartridge, Energy
16 Commission, with Commissioner Scott.

17 COMMISSIONER SCOTT: And do we have
18 committee members on the phone?

19 MS. BAKER BRANSTETTER: Hi. This is
20 Shannon Baker Branstetter with Consumers Union.

21 COMMISSIONER SCOTT: Good morning,
22 Shannon.

23 MR. SHEARS: And if you can hear me, this
24 is John Shears with the Center for Energy
25 Efficiency and Renewable Technologies.

1 COMMISSIONER SCOTT: Good morning, John.
2 Any other committee members on the phone? All
3 right, I neglected to say that I am Commissioner
4 Janea Scott, I figured most of you all knew. So
5 good morning and thank you for being here today.
6 As you know, I am one of the newest Commissioners
7 here at the Energy Commission, and I'm looking
8 very much forward to our robust discussion today.

9 I met many of you over the summer, and so
10 thank you so much for coming in to just say hello
11 and have a chance to get to know one another
12 informally, I really appreciated that
13 opportunity.

14 I wanted to take a minute for us to
15 reflect on what we have accomplished together so
16 far, and that is that, under A.B. 118, we have
17 invested over \$400 million in over 250 projects
18 in every major Air Quality District across this
19 state, and there are more to come.

20 For me, it's really exciting because I
21 think these projects are transforming our
22 transportation system; they're helping to
23 demonstrate solutions to some of the most
24 challenging air quality or climate issues that we
25 have; they are accelerating the research that

1 we're doing; they're speeding our transition to
2 cleaner vehicles, which in turn helps with public
3 health; and we're supporting local jurisdictions
4 to be ready as the transformations take place.
5 And it's also helping to train today's workers
6 for the advanced technology that we're trying to
7 get in place for tomorrow.

8 And I think for me it's been really
9 interesting; this is all tangible. I've had a
10 chance to go and see a lot of the projects, I've
11 seen an all-electric bus, it was Proterra in
12 Stockton, they're the first two all-electric
13 buses on the road up in Northern California.
14 I've gotten a chance to visit Electric Vehicles
15 International, and I see the all-electric UPS
16 trucks, and the PG&E bucket truck. The bucket
17 truck, I think -- both of those trucks are really
18 exciting because they have the potential to
19 transform those industries -- the bucket truck is
20 sort of the most ubiquitous kind of truck that
21 utilities use, and so if it turns out that they
22 really really like those, they will be able to
23 transform their whole fleet, not just PG&E, but
24 other utilities, as well.

25 I've had a chance to meet with some of

1 the workforce folks who are getting trained at
2 the Santa Clara Valley Transit District on both
3 buses and on the light rail.

4 I got to go and announce some charging
5 stations here in Sacramento. I've driven the
6 fuel cell bus in Emeryville at AC Transit. I got
7 to visit the Energy Hub at U.C. Davis and see how
8 they're sort of putting all the new technology
9 with the transportation together with their
10 Energy Efficiency Centers, their Lighting
11 Centers, their Cooling Centers and, you know, I
12 need to do some more visits down south.

13 I get to go visit the Vehicle to Grid
14 maybe that the DOD is working on, go look at the
15 Pantograph arm that they're doing some research
16 for the 710 Highways, so that you might have
17 electric trucks there someday.

18 So I've only been here about six months,
19 but for me it's just been really exciting to see
20 the breadth and depth of the projects that we've
21 all been working on together.

22 I wanted to go to our next slide. I
23 think that -- oh, am I too loud? Sorry, I have a
24 loud voice to begin with -- briefing on AB 8 is
25 maybe a little bit strong, I know a lot of the

1 folks around the table already know many of the
2 major components, but we just wanted to make sure
3 that we had highlighted for you a few of them,
4 and if folks are really interested in hearing
5 more about AB 8, what we could do is put together
6 a WebEx or an opportunity to talk about it in a
7 lot more detail.

8 But it has extended the program through
9 January 1, 2024 and, of course, it includes more
10 than just the Alternative and Renewable Fuel and
11 Vehicle Technology Program, it also has the Air
12 Resources Board AQIP Program, it's got the Carl
13 Moyer Program, and so we've just got some
14 terrific opportunities for more investment in
15 keeping California on the cutting edge of
16 transportation and clean air.

17 Some of the highlights from it are that
18 the annual funding sources will remain the same;
19 the program goals are going to remain the same;
20 the extension is up to a billion dollars; we've
21 got \$20 million or up to 20 percent for the
22 hydrogen fueling stations; and there are some
23 places where we will do some analysis together,
24 the Energy Commission and the Air Resources
25 Board, to see how that's coming along; and we've

1 got a Benefit Cost Score that's been added to it.

2 So that's just kind of a real high level
3 summary. I wanted to make sure that I had a
4 chance to talk with you all about that, and also
5 to congratulate you all and say thank you so much
6 for all of the terrific work that you did to help
7 shepherd that across the finish line this fall.

8 For me, I think it's been terrific and I
9 wanted a chance to celebrate with you and to
10 thank you for this. I mean, for me this is just
11 really an exciting project to get to work on and
12 I'm very much looking forward to it and I'm glad
13 that it's been continued.

14 One of the things that we want to do here
15 at the Commission is to do a better job getting
16 the word out about all of this great work. One
17 example, I think, is our *Spark Newsletter*. The
18 second one just came out late last week, and this
19 is a great opportunity, I think, if you have
20 projects that you want for us to highlight, or
21 ideas for articles that you think ought to be
22 included, that's one really good way.

23 Another thing that we're doing here is
24 revamping our web page so that it just tells a
25 much better story about this program and what

1 it's done so that folks can see where the
2 projects are and what's going on.

3 So what I'm going to do is turn this over
4 to my advisor, Lezlie Kimura-Szeto, and she is
5 going to walk you through, she and the
6 Cartography Team, our Web Team, and the
7 Alternative Fuel Program Team worked together to
8 put this map together and it's going to be up on
9 our webpage starting today, so we're debuting it
10 here for you all.

11 MS. KIMURA-SZETO: Thank you,
12 Commissioner Scott. Good morning, everybody.
13 I'm really pleased to have the opportunity to
14 share and give a short demonstration of the new
15 program projects map for you here today. What
16 Web users are seeing right now on the bottom of
17 this screen is the address to our Commission site
18 and specifically to the map program that will be
19 showing in just a few seconds.

20 So what I've been working with staff here
21 to do is be able to map each of the projects that
22 our program has funded so far, so what you'll see
23 in a Google Maps format here is, across the state
24 we have a number of icons going down, and the
25 icons are different, they represent different

1 Investment Plan categories that projects have
2 been funded under. You will also see some color
3 differentiation in the icons, so if we zoom in a
4 little bit more you'll see the green ones
5 represent projects that are active right now;
6 orange represents funds allocated to projects;
7 and then the blue ones -- let's see if I could
8 find one here -- are projects complete.

9 So another feature that we have here is
10 you can go ahead and click on an icon and it will
11 tell you a little bit more about that particular
12 project that's out there, just I think a really
13 neat feature for you to go through.

14 In some instances, as well, I think there
15 are some additional mapping tools that we are
16 working on and that we're continuing to refine
17 here, so if you scroll down below this particular
18 map there are two additional map tools and a
19 download for a spreadsheet down here. The top
20 map project right here allows you to go to
21 another page, which will be very similar to the
22 one you're seeing, except for the fact that you
23 can click and select on different Investment
24 types; so if you only want to, say, see
25 Alternative Fuel Production projects, you can

1 deselect out and we can be able to show you those
2 types of things as well, so you can sort.

3 And the second map, which I won't run for
4 this purpose today, but it's a *Google Earth*
5 application, you must have the software on your
6 computer to run it, but it actually allows you to
7 overlay different boundaries, so whether they be
8 Air Districts, Counties, Leg. Districts, you'll
9 be able to see the projects within those
10 particular boundaries, as well. And below here,
11 we have the project spreadsheet which shows you
12 the projects that are represented on the
13 particular map and gives you a whole wealth of
14 information about them, as well as some specific
15 links to, let's say, a particular project,
16 information that's also a location on our
17 website. It gives you some additional detail.

18 So we hope that you'll take some time
19 after this meeting to go through and explore what
20 we have on here. We're continuing to refine this
21 and we're really excited, but we hope you'll get
22 the word out about this, as well.

23 COMMISSIONER SCOTT: Thank you, Lezlie.
24 And again, thanks to Lezlie and the Cartography
25 Team and the Web Team and our Transportation Team

1 for pulling this all together. We think it's a
2 great way to show the different projects that we
3 have funded through this program. I will note
4 that we have funded over 7,000 charging stations
5 and not all 7,000 of those charging stations are,
6 of course, represented on this map, but just some
7 ideas for folks about where those are.

8 Okay, great, so let's go next to the
9 Program Status Update. And Jim McKinney is going
10 to do that for us.

11 Jim, before you start, I noticed that
12 Bonnie Holmes-Gen came in, so I wanted to say
13 hello and let you introduce yourself.

14 MS. HOLMES-GEN: Hi. Bonnie Holmes-Gen,
15 American Lung Association in California. Sorry
16 to be a tad late.

17 MR. MCKINNEY: Good morning, everybody.
18 So again, Jim McKinney, Program Manager for the
19 Alternative and Renewable Fuel and Vehicle
20 Technology Program. I'm going to run through
21 some status update slides from our last Advisory
22 Committee meeting. Before I do that, I wanted to
23 acknowledge a couple of people in the room who
24 haven't been here before, so Dr. Mark Melaina of
25 NREL, if you could just raise your hand? NREL

1 has got one of our tech support agreements and
2 they are just doing some really nice work on our
3 EV infrastructure plan, our benefits report, and
4 a series of market assessments, as well. Those
5 are coming in as draft deliverables. So thanks,
6 Mark, and this is his first meeting.

7 Also, Dr. Lloyd Dixon of the Rand
8 Corporation, if you could raise your hand? They
9 have the contract for our programmatic level
10 evaluation. And he and Paul Sorenson and team
11 have been working on some early deliverables, as
12 well. So thanks to both of you for being here
13 today.

14 So some of this Commissioner Scott has
15 already covered, but we're in the sixth year and
16 we've allocated over half a billion dollars in
17 investment recommendations through the Investment
18 Plan. And some of our current emphases are
19 managing existing agreements; so we're now at 255
20 agreements. It takes a lot of time for folks and
21 this workload is going to continue to grow over
22 time until those early awards on 2910 kind of hit
23 their maturation date and either they're going to
24 come finished with good projects, or they're
25 going to be asking for more time to do them, but

1 we're going to see an increase in workload until
2 those start to level off.

3 Evaluating proposals, from recent
4 solicitations this is another big piece of the
5 workload here for our team; developing new
6 solicitations, so John Butler -- I think we all
7 know who John is now -- but a yeoman's job on
8 managing the office and getting all these things
9 worked out. And then, again, the Benefits Report
10 and I'll talk a little bit more about that later.

11 So in terms of kind of the big picture
12 categories for our funding '09 through 2013,
13 biofuels has kind of inched ahead, I think it
14 used to be Electric Drive was our major funding
15 area, but \$123 million, 44 awards, 35 percent now
16 of our total funding is in the biofuels arena;
17 Electric Drive and, again, this includes CVRP
18 support, electric charging infrastructure, and
19 then our truck technology ZEV Truck Program, 34
20 percent, \$135 million, 84 projects; Natural Gas
21 and Propane, almost \$65 million, and that's our
22 Natural Gas Truck Buydown Program, or Natural Gas
23 Fueling Infrastructure Stations, both CNG, RNG
24 and LNG, we've got 52 awards there.

25 Hydrogen is growing in importance in

1 terms of the funding amounts and, as we all know,
2 through AB 8, that will continue to grow and
3 we'll hold it at \$20 million a year, but that
4 will form a bigger proportion of our funding as
5 we go through time.

6 Workforce Development, over \$23 million
7 invested thus far, seven percent of our total
8 funding, over 39 different contracts. And then
9 Market and Program Development and, again, I've
10 referenced NREL, Rand, and then the U.C. Davis
11 Institute for Transportation Studies has our
12 other major tech support agreement. So the
13 official numbers, \$407.6 million in contracts and
14 grants, and over 255 projects.

15 This Histogram shows these categories in
16 a little bit more detail and I'd like to walk you
17 through that. So for Biofuels, the red and
18 yellow bar on your left, nearly \$100 million in
19 investments in biofuels, so this includes about
20 \$50 million for biogas-related projects, \$26
21 million for biodiesel and renewable diesel
22 projects, and about \$25 million in ethanol-
23 related projects. The next bar is for
24 infrastructure and the little red tab there at
25 the top, that's biodiesel, about \$4 million, and

1 the yellow is E5 Ethanol, and we have about \$16
2 million invested in there, over 200 projects.
3 The green is EVSE or Electric Vehicle Service
4 Equipment, and we're almost at the \$25 million
5 mark on that. And then, as you can see, hydrogen
6 is now the bulk of our funding for alternative
7 fuel fueling infrastructure, and we've got \$36.8
8 million invested there.

9 The vehicle side, which is the centered
10 bar, \$60 million for Electric Drive and again
11 CVRP support and the Electric and ZEV Truck
12 Demonstrations that we fund through our program.
13 The dark purple is natural gas, so that's our
14 Natural Gas Truck Buydown Program, nearly \$40
15 million in there.

16 And then going to the right again for
17 Manufacturing, the green bar that you see, that
18 is all Electric Drive-related, so this is our
19 investments in Advanced Technology Batteries,
20 Electric Drive Train Components, so inverters,
21 controllers, the software that welds those
22 altogether, a series of assembly plants for
23 Electric Trucks that we funded, that are up and
24 running now in California, like Electric Vehicles
25 International, and Boulder Electric. And on the

1 far right side, we have our kind of program
2 support elements and work forces included in
3 there and, again, about \$23 million invested in
4 workforce development projects.

5 I have a couple of slides now that kind
6 of zero in a little bit more on some of the main
7 funding categories that we have, so for EV
8 Charger Support, again, we're almost at the \$25
9 million mark, over 7,600 charge points in
10 California, and you can see the breakout there of
11 over 3,000 for commercial, nearly 3,800 for
12 residential, a little bit for workplace, and then
13 77 Fast Chargers. The status bar on your lower
14 left, so those are primary level 2 chargers, but
15 our Grantees have installed about two-thirds of
16 those on the commercial and residential side.

17 The DC Fast Chargers, those were more
18 recent rounds of awards, and those are quite a
19 bit more challenging to site and install, so just
20 getting started there.

21 And then also our really important
22 Regional and Readiness Planning Grants, we have
23 those out for Electric Drive support throughout
24 California. We think we got a great return on
25 that investment, it's actually a very modest

1 amount of money and the work plans that are
2 coming back in are really really high caliber, so
3 about \$2 million there that we have.

4 Turning to Hydrogen Station funding, so
5 just over \$41.4 million total. So for the
6 stations that we funded, we have now funded 17
7 stations, new stations in California, for \$27
8 million. We have our Station Upgrade Grant to
9 the South Coast AQMD; Larry Watkins down there is
10 the Project Manager for that, and we have a draft
11 report in from him. And then with our next
12 solicitation, it's going to be about \$30 million,
13 and we expect to get 13 to 15 new stations out of
14 there.

15 We are working very very hard to support
16 the automakers who are developing Fuel Cell
17 Vehicles and, again, we have Robert Bienenfeld
18 here today with American Honda. They and Toyota
19 and Hyundai are really up on the front lines
20 trying to get vehicles ready for the 2015-2017
21 commercial launches.

22 The other things that we're funding
23 through Hydrogen, so our EC Transit Station, \$3
24 million. And what the California Department of
25 Food and Agriculture, Division of Weights &

1 Measures is doing is critically important, so
2 they are setting up a regulatory process, fueling
3 protocols, in a way to check to make sure that
4 the hydrogen fuel coming out of these new
5 dispensers is, in fact, the kilograms that are
6 specified, and this will allow for retail sales
7 of hydrogen, so that will be a first for
8 California, and then we expect groups like H2USA
9 to be able to leverage that work at the national
10 scale. Last and certainly not least, our U.C.
11 Irvine contract for the STREET model, which is
12 our mapping support tool for Hydrogen stations.

13 For Biofuels, I already ran through some
14 of these numbers. Again, I really like our
15 portfolio of biofuels investments, so it's really
16 predominantly waste-based feedstocks and some
17 alternative fuel feedstocks, but as a matter of
18 principle, we really try not to invest in first
19 generation feedstocks like corn and soy
20 biodiesel, they have an important role right now,
21 but that's not the future, that's not what we
22 need to get to the 30 percent reduction in carbon
23 by 2020, and then the big 80 percent reduction
24 goal by 2050.

25 Fueling Infrastructure, again, a little

1 bit for Biodiesel tankage, and a lot of money
2 invested in E85 retail stations, and our big
3 grantees, so Propel and Pearson are working away
4 to get those up and running in California.

5 We put a lot of money into the truck
6 sector and I think you know the basic stats. You
7 know, we have about a million trucks in
8 California, it's about three to three and a half
9 percent of the total vehicle fleet, and by some
10 estimates they generate up to seven percent of
11 the carbon emissions, particulate matter, and
12 criteria emissions, and air toxics.

13 So we in our partnership with the Air
14 Resources Board and the Air Districts in
15 California really think it's critical to invest a
16 lot of money in this sector to really start to
17 bring down the carbon levels, criteria
18 particulates. So we have a lot of money in our
19 commercial and natural gas truck ventures, so
20 André Freeman is here, he heads up that part of
21 our program, over 1,300 trucks on the road thus
22 far, and you'll see down as well nearly 600
23 Propane trucks. We're now at the 50 station mark
24 for our fueling stations and, again, this is
25 compressed natural gas, liquefied natural gas,

1 and increasingly renewable natural gas out of MSW
2 landfill projects and a little bit on the
3 landfill side.

4 Commercial ZEV trucks, this may turn out
5 to be a onetime transfer to the ARB HVIP Program
6 for commercial and electric trucks, but it's one
7 we're all very proud of, and this was the big EV
8 UPS 100 truck demonstration project here in
9 California.

10 And then last on our Advanced Technology
11 Truck Manufacturing Program, \$63 million, 32
12 projects, and these are ones that I really really
13 like, so companies like TransPower, Motive, and
14 others who are doing cutting edge work in that
15 part of our sector.

16 So turning now to some of the activities
17 since our last Committee meeting, so on the
18 Hydrogen Fueling Station side, we had a PON that
19 was out on the street, and we now have those
20 awards, they've been out for a while, so seven
21 new stations totaling \$1 million, and some other
22 things that I really like about this
23 solicitation, so we doubled the number of
24 Awardees from two to four, so we got new
25 companies in like Aire Liquide, Hydrogen

1 Frontier, and then ITM out of England. And
2 Hydrogen Frontier and ITM have teamed up with
3 their first 100 percent renewable station that we
4 funded in California, so now we have a few more
5 of those. And as a friendly reminder to folks,
6 all the stations we fund we make sure that we're
7 aligned with the ARB's SB 1505 Program.
8 Everything that we fund has one-third renewable
9 hydrogen and the carbon footprint for these
10 stations using compressed hydrogen is the same as
11 the electricity used for Electric Vehicles in
12 California. So we're very proud of that number
13 and we think it's going to go a long way to
14 reducing carbon.

15 We talked a little bit about our grant to
16 the South Coast AQMD, this is kind of a new
17 venture for us in partnership with our very
18 capable allies down south, and we think we have
19 enough money for seven to eight station upgrades,
20 so these will be updating a lot of what we call
21 the Tech Val or Technology Valuation stations
22 that were established by U.S. DOE through Clean
23 Cities, South Coast AQMD, and then some of the
24 Hydrogen Highway stations that were funded by the
25 Air Resources Board.

1 Another very interesting development in
2 this space is the creation of the ZEV
3 infrastructure ombudsman through GO-Biz in the
4 Governor's Office there, and I think we're
5 finalizing the Duty Statement for that and that
6 should be posted soon if it hasn't been; I'm not
7 quite sure on the status. Sorry?

8 COMMISSIONER SCOTT: Soon.

9 MR. MCKINNEY: Soon.

10 COMMISSIONER SCOTT: It's not up yet.

11 MR. MCKINNEY: The word is soon, okay,
12 very good. Thank you. For Natural Gas Fueling
13 Infrastructure, we had 18 station awards, and
14 these are primarily for school districts,
15 municipalities, and a few more private ventures.
16 But some of the school districts I wanted to call
17 out: Chula Vista, Kings Canyon, Oceanside, and
18 Lodi. So this is really important funding for
19 school districts that are still short on their
20 budgets. At the municipal level Cities of
21 Visalia, Anaheim, Santa Clara, and Santa Clarita.
22 And then a couple of landfill projects, as well.

23 We spent a long time developing in
24 partnership with ARB our solicitation, and then
25 NOPA for what we call Medium-Duty, Heavy-Duty

1 Electric Repowering Demonstrations. So a couple
2 of companies approached us and said they thought
3 it would be much more cost-effective to retrofit
4 some of the Class 6 and 7 package delivery vans,
5 the chassis can go for 25-30 years, the motors go
6 for about five years before they have to be taken
7 out and rebuilt. So several companies said it
8 would be much more cost-effective to put in
9 Electric Drive Trains and battery packs into
10 those, rather than building new electric trucks
11 from the ground up, so again, we've been working
12 with the Air Board and we're hoping to get good
13 field demonstration data out of this and perhaps
14 make them eligible for HVIP, depending on what
15 the results are.

16 So EVI and UPS, again, we're kind of a
17 winning team, 17 package delivery vans, Class 6,
18 that they're going to retrofit with the EVI drive
19 train and battery pack system, and those will be
20 deployed in the South Coast and San Joaquin Air
21 Basins, which I think as we all know, are severe
22 non-attainment for ozone and NO_x.

23 Motive Electric, a little start-up
24 company in Silicon Valley is really really doing
25 great work and expanding rapidly, they're going

1 to retrofit seven walk-in vans and they're going
2 to team with UPS and U.S. Postal Service to
3 demonstrate those in California. And then we
4 also -- our third Awardee in this space was to
5 retrofit school buses to electric drive, so
6 National Strategies, TransPower, and NRG are
7 teaming and they're going to retrofit six school
8 buses in California and put those out on the
9 road.

10 And so I talked a little bit about our
11 Alternative Fuel Readiness Planning Grants.
12 We're adding quite a bit more money into that and
13 we're both going to expand the number of regions
14 that will be eligible for this and we're going to
15 expand the fuel categories to go beyond electric
16 drive, so to get into natural gas, hydrogen, and
17 biofuels.

18 The Centers for Alternative Fuels and
19 Vehicle Technology, that solicitation has just
20 closed and we are evaluating -- or will be
21 evaluating proposals as they'll come in. I'm
22 sorry, proposals are due November 4th, excuse me
23 there. And we expect to get that NOPA out in
24 January.

25 Commercial Scale Biofuel Production, this

1 was our most recent biofuels solicitation, this
2 was to use up the remainder of our '12-'13 money,
3 \$9.3 million available up to \$5 million per
4 project, and staff is finishing evaluation of
5 those proposals.

6 I think, as we all know, there's been a
7 funding category called Federal Cost Share
8 Emerging Technologies, we've never quite had a
9 good system for getting that out, we now have a
10 solicitation that we just released, and we're
11 going to be doing these periodically and, again,
12 the idea with this part of the program is to have
13 funding available to match Federal solicitations
14 that are under a different calendar than our
15 solicitation schedule. And so we'll be excited
16 to see what comes in on that.

17 Hydrogen Fueling Infrastructure, I think
18 as you know -- I don't know if Jean Baronas is
19 down here today, but our team leader on Hydrogen,
20 and we've just done an extensive amount of work,
21 outreach with our stakeholders, fine-tuning our
22 solicitations, we had a draft solicitation out on
23 the street, we've been reviewing inputs and
24 comments to that, and hope to get this out in
25 mid-November. So again, nearly \$30 million in

1 expected funding for that.

2 For EVSE or Electric Charging, we hope to
3 have our next solicitation out in November, so
4 this will be \$6 million initially focusing on
5 Multi-Unit Dwellings, Destination Workplace, and
6 then more DC Fast Chargers. The other \$7.7
7 million, that solicitation is under development.

8 Let's see, Natural Gas Vehicle
9 Incentives, so we have a little over \$22 million
10 there, this is 2013-2014 money, we are working
11 really hard to find an opportunity to outsource,
12 we really admire what ARB has done through HVIP
13 and CVRP, and we have some queries out with the
14 UC System to see if there might be good
15 candidates for that.

16 Biofuels, \$23 million from the 2013-2014
17 Investment Plan, that solicitation is under
18 development as is the next medium-duty heavy-duty
19 truck demonstration solicitation, that money is
20 also from '13-'14, and that one is under
21 development, as well.

22 I wanted to go into a little bit more
23 detail on upcoming items and issues for us, so
24 one is the new direction from the State
25 Legislature to put more emphasis on benefit cost

1 funding in our program, and I think there may be
2 different interpretations of what that means, and
3 we wanted to really kind of highlight and clarify
4 for all of our stakeholders how we interpret that
5 part of the statute.

6 And again, you know, it's always funny to
7 say this, at \$100 million, it's a lot of money;
8 it's not a lot of money. From the legislative
9 perspective, it's a lot of money. And the sense
10 of accountability, what is the public getting for
11 all these investments, I think, is a fair
12 question. That came up quite a bit in the
13 legislative deliberations this year. And one
14 thing that the Legislature would like from us is
15 more emphasis on cost-effectiveness, and that's
16 especially true as technologies mature; so, say
17 in the EVSE Electric Charger market, we've got I
18 would call a functional market, we've got a lot
19 of companies, a lot of players, and there are
20 more coming on, and the costs for these are
21 coming down quite a bit. And that's really a
22 great opportunity to apply benefit cost scores.

23 So there are three main provisions here,
24 so definition -- bear with me, I'm going to read
25 some of these words -- so Definition: a

1 project's expected or potential greenhouse gas
2 emissions reduction per dollar awarded by the
3 Commission to the project. And kind of going
4 further into the statute, "establish a
5 competitive process for the allocation of funds
6 for projects funded pursuant to this chapter
7 which considers, among other factors, the Benefit
8 Cost Score associated with the project." So this
9 part, Health and Safety Code 44271, there's a
10 whole list of criteria and priorities that we're
11 supposed to use as we rank proposals and develop
12 our NOPAs, so we've added a new one, or the
13 Legislature has added a new one on Benefit Cost.
14 And the operational wording is: "The Commission
15 shall rank applications for projects proposed for
16 funding awards based on solicitation criteria and
17 give additional preference to funding those
18 projects with higher benefit cost scores." So
19 what this means is that this language really
20 applies at the solicitation level. We already
21 have a budget, and scoring criterion, those of
22 you who have really kind of dug down into our
23 solicitations are familiar with this, and we're
24 developing new language, kind of more enhanced
25 metrics for that, and it will get a higher weight

1 factor.

2 So a critical issue here is that this
3 really applies at the solicitation level and not
4 at the Investment Plan level because the
5 Investment Plan process is what we're doing right
6 here today under the guidance of Commissioner
7 Scott, this is where we decide on the relative
8 funding for the different categories. And one
9 thing staff has been concerned about is that, if
10 we really start to apply benefit cost
11 considerations at this level, we're probably
12 going to over-emphasize those alternative fuels
13 and technologies that are commercially viable
14 right now, and we have good examples, say,
15 natural gas trucks I think is a really good one,
16 and that takes us part of the way down the road,
17 it doesn't take us to where we need to get to in
18 2050 with the 80 percent reduction. And it's the
19 more expensive technologies, especially like ZEV
20 trucks, hydrogen fueling infrastructure, electric
21 school buses we've talked about, those are not
22 cost-effective right now, but they're critical
23 investments to really ready the state and all the
24 commercial ventures coming together to really
25 create a low carbon and ZEV technology future.

1 So that's some words on that.

2 And then I think this is my last slide.

3 So other activities that we have going, so the
4 Benefits Report, you saw the first part of this
5 in the Draft IEPR and, again, Mark Melaina of
6 NREL is working on the projected benefits, or the
7 expected benefits, and those will be up in the
8 next iteration of the IEPR. The ZEV Action Plan,
9 again, a product from NREL and Leslie Baroody,
10 who is here today. I'm really excited about
11 this, I think it's a pretty bold attempt by the
12 State of California to really lay out how many
13 and where charging stations we're going to need
14 to support the ZEV mandate, one million vehicles
15 by 2020, and then 1.5 ZEV vehicles by 2025.

16 And the website update, Commissioner
17 Scott and Lezlie Kimura-Szeto already walked us
18 through that. So that concludes my presentation.
19 And as we generally do these things, I can take
20 clarifying questions, but any substantive
21 discussion we'll hold for later in the meeting.

22 COMMISSIONER SCOTT: Thank you very much,
23 Jim, for a great presentation. Do we have
24 clarifying questions for Jim?

25 MR. KAFFKA: Steve Kaffka. Is the sole

1 net benefit that's identified in the legislation
2 simply greenhouse gas benefits, or other social
3 considerations? Employment, location of projects
4 --

5 MR. MCKINNEY: Greenhouse gas was the --
6 I'm sorry, go ahead Mr. Kaffka.

7 MR. KAFFKA: -- indicated?

8 MR. MCKINNEY: Yeah, my interpretation,
9 and I welcome others from the Commission or
10 Randy, that was our interpretation, it really
11 focused on carbon as the leading factor.

12 MR. ROESSER: I agree with Jim. I think
13 that's the focus of the specific language added
14 in the bill, but of course, all our solicitations
15 have a number of criteria that are used to score,
16 you know, such as project viability, location,
17 things like that. So each solicitation is
18 uniquely developed and I think the key here is
19 that each proposal is scored against each other
20 using those exact same criteria, it's just that a
21 Benefit Cost Score now is a called out focus.
22 And in reality, we've been doing that all along,
23 I mean, we have scoring criteria that is always
24 included in greenhouse gas benefits, this just
25 was I think a clarification the Legislature

1 wanted to make sure was in the bill, that we were
2 pushing -- when it came down to competing and
3 making a decision on what got funded and what
4 didn't within a solicitation, that all things
5 being equal a project that had a higher Benefit
6 Cost Score would win out on that.

7 COMMISSIONER SCOTT: There is also
8 language in the legislation that lists out maybe
9 about 12 or 13 other criteria that they would
10 like us to consider as we're doing the various
11 solicitations, but the Benefit Cost Score was
12 pretty specifically defined. Robert?

13 MR. BIENENFELD: Yes. Jim, on page 7 the
14 percent of total for the funding, it's a little
15 confusing to me in that -- is that percentage of
16 the -- some of them don't work out to be the
17 numbers that are shown, so I'm just wondering if
18 it's based on some other denominator like --

19 MR. MCKINNEY: Okay, Charles wants to
20 answer you.

21 MR. SMITH: I'll take responsibility for
22 putting this slide together. The percentage of
23 total is, yeah, I do realize your point, some of
24 the percents are incorrect, so the percent of
25 total should be representing, for example,

1 biofuels 123.6 divided by 407.6.

2 MR. BIENENFELD: Okay, so it's just a
3 summary amount.

4 MR. SMITH: Yeah.

5 MR. BIENENFELD: Okay. Thanks.

6 COMMISSIONER SCOTT: Alberto.

7 DR. AYALA: Jim, I actually had a
8 question here, as well. Can you reconcile for
9 me, in the previous slide you said the total
10 allocation was 552, so the difference between
11 that and this amount is what's out for
12 application?

13 MR. MCKINNEY: That's exactly right, Dr.
14 Ayala. So the 552 number is total Investment
15 Plan allocations. This figure here, \$407.6
16 million, is what has been locked into contract
17 agreements with Grantees, and that differential
18 is what's in the pipeline for solicitations or
19 Notice of Proposed Awards. And Robert, usually
20 it's Randy who gives me a hard time on my
21 numbers, so he's happy he's got company now.

22 COMMISSIONER SCOTT: Bonnie.

23 MS. HOLMES-GEN: Thanks for this rundown
24 and this is really helpful to have this rundown
25 over the past years and the percentages for each

1 type of fuel and technology, it's very helpful.
2 I was just wondering, when you're talking about
3 Hydrogen and you talked about the footprint for
4 the hydrogen fueling being similar to Electric
5 Vehicle charging, I'm wondering, can you just say
6 that one more time? And is there some
7 information you have in one of your reports about
8 that?

9 MR. MCKINNEY: Yeah, you bet. So the
10 Draft IEPR has the carbon intensity charts for
11 light-duty vehicles, so what we call gasoline
12 substitutes, and that's where you'll find it.
13 And then there's also a chart for diesel
14 substitutes for heavy-duty vehicles, so hydrogen
15 plays in both arenas. But for the light-duty
16 sector, again, we're respecting the directives of
17 SB 1505 kind of pending Regulations from the Air
18 Resources Board, so that statute states all
19 publicly funded stations in California have to
20 have one-third renewable hydrogen. So if you
21 kind of go through the math, if you take the raw
22 score from the Lookup table in the Low Carbon
23 Fuel Standard website, and you factor in the
24 renewable hydrogen content, that brings the
25 carbon intensity score down, then you factor

1 again what's called the energy economy ratio,
2 which recognizes the inherent efficiency advances
3 of light-duty electric vehicles, and that brings
4 the carbon score down further to something
5 comparable with light-duty vehicles, and it's --
6 I think it's 39 grams per megajoule, Tim? Does
7 that sound about right? Yeah.

8 MS. HOLMES-GEN: So it's kind of an
9 overall number looking at all of the stations,
10 and some of them have different amounts of
11 renewable obviously --

12 MR. MCKINNEY: Exactly right. So we've
13 got the Orange County Sanitation District, 100
14 percent renewable hydrogen station, say the other
15 end of the spectrum a station like the Shell
16 Torrance hydrogen station that was funded under
17 the ARB program, dispenses 100 percent natural
18 gas, you know, hydrogen from steam reforming from
19 natural gas. So those are kind of the extremes
20 there. But in our program, we require all the
21 producers to have one-third of their product be
22 renewable hydrogen. So for central station steam
23 reforming like Air Products does, like Linde
24 does, Aire Liquide, the cheapest way to do that
25 is to inject biogas into the natural gas input

1 stream as you reform the molecules, and that
2 gives you the renewable hydrogen product.

3 MS. HOLMES-GEN: That's helpful. Just
4 two other quick questions. We've talked before
5 about where these projects are located in terms
6 of trying to keep track of where these benefits
7 are being realized, and I'm wondering if there's
8 any more information about that, looking over the
9 past expenditures; for example, San Joaquin
10 Valley is an area of particular concern, and I
11 know you mentioned with some of the natural gas
12 fueling projects that there were a number that
13 were in the San Joaquin Valley. Are there others
14 where there has been more progress in getting
15 projects to that area?

16 MR. MCKINNEY: Yeah, and again we're very
17 pleased at the staff level with Commissioner
18 Scott's leadership and, you know, developing the
19 mapping tool that Lezlie ran us through earlier
20 this morning, so there's a lot of information in
21 there and, as we've discussed, Bonnie, we're
22 always happy to sit down with you and really
23 provide more detail on where the projects are.
24 The San Joaquin Valley is high on our radar list,
25 too. We know that the penetration rates for

1 advanced technology vehicles are low compared to
2 other parts of the state, and so we're trying to
3 be creative in working on ways to up that
4 penetration rate, again, for public health and
5 criteria emissions and particulate matter, it's
6 just critical to reduce those levels in the
7 valley.

8 MS. HOLMES-GEN: Great. And in terms of
9 the health issue, in terms of the air quality
10 emission, pollution emission reductions, and the
11 GHG emission reductions, I know you have that
12 information, there was some very good information
13 available through the AB 8 process; are there
14 additional updates that will be available this
15 fall?

16 MR. MCKINNEY: Yeah, so the primary
17 vehicles for that will be our Benefits Report
18 and, again, the second part of that is
19 forthcoming, we're going to actually work with
20 Mark Melaina later this week on that, and then
21 the final IEPR. So we'll have a workshop that
22 really focuses on the Benefits Report findings
23 and, again, happy to sit down with you to provide
24 more information.

25 MS. HOLMES-GEN: Okay. And that will be

1 in the November timeframe? This month or next
2 month or --

3 MR. MCKINNEY: This month or next month,
4 yeah.

5 MS. HOLMES-GEN: Okay, got it.

6 COMMISSIONER SCOTT: Other clarifying
7 questions? Do we have any clarifying questions
8 from the Committee members on the phone? Nope?
9 Okay. And I would like to just note -- thank you
10 very much, Jim, for that terrific presentation --
11 we've been joined by Tim Carmichael and Anne
12 McMonigle, and any other Committee members join
13 us on the phone? Nope, okay.

14 All right, so our next piece will be by
15 Charles Smith, who is the Project Manager for
16 this, and he's going to talk to us about the
17 development of the 2014-2015 Investment Plan
18 Update.

19 MR. SMITH: Okay. Thank you,
20 Commissioner Scott. As mentioned, I'm Charles
21 Smith, Project Manager for the 2014-2015
22 Investment Plan Update. For those who are new to
23 our process, our Annual Investment Plan Update
24 serves as the basis for future solicitations,
25 agreements, and other funding opportunities. As

1 Jim mentioned, the 2014-2015 Investment Plan
2 Update will be the sixth Investment Plan
3 developed so far.

4 Each Investment Plan Update includes
5 proposed funding allocations totaling \$100
6 million for fuels, technologies, and other
7 supporting elements that will help the state meet
8 its ambitious GHG emission targets.

9 This slide summarizes our expected
10 schedule for developing the '14-'15 Investment
11 Plan Update. The most recent version, the Staff
12 Draft, was released on October 23rd, ahead of
13 today's first Advisory Committee meeting. We
14 expect to release a Revised Staff Draft version
15 next month and convene our second Advisory
16 Committee meeting sometime in January. The Lead
17 Commissioner Report should then be released in
18 March, and it will be proposed for official
19 Commission approval at an April Business Meeting.
20 This schedule ensures that we can deliver an
21 Adopted Investment Plan Update in time for the
22 Governor's May Revise Budget.

23 Now I'll walk through the contents of the
24 Staff Draft Investment Plan. And the first
25 section focuses on biofuel production supply.

1 Biofuels represent both an immediate and long-
2 term opportunity to reduce GHG emissions from the
3 transportation sector. Ethanol and biodiesel
4 combine to represent about 90 percent of all LCFS
5 credits generated so far, and a lot of these
6 existing credits, of course, they're still from
7 conventional corn derived ethanol, or soy-based
8 biodiesel, with more marginal GHG emission
9 reductions. As Jim mentioned, that's not where
10 our program chooses to emphasize.

11 Biofuels derived from waste-based sources
12 offer some of the lowest carbon pathways
13 recognized in the LCFS, often with GHG emissions
14 80 percent or lower than gasoline or diesel.

15 The other important consideration here is
16 the sheer volume of biofuel already being used
17 and the potential for expansion. When blended as
18 E10 for Ethanol, or B5 in the case of biodiesel,
19 more than 1.7 billion gallons of biofuel can
20 already be absorbed into the California market
21 each year, with no need for vehicle changeover.
22 If you look at renewable gasoline, or renewable
23 diesel, and consider them fungible with
24 conventional liquid fuels, the market potential
25 is more like 16 billion gallons per year. For

1 comparison, one billion gallons is roughly the
2 amount of fuel used by two million cars per year,
3 so a lot of potential for growth, obviously.

4 In the Staff Draft, we're proposing a \$20
5 million allocation for this category, roughly
6 similar to the level of funding from previous
7 years. Also as in previously years, this
8 allocation is for all biofuel types, we don't
9 have it siloed out between different biofuel
10 types.

11 The next category of allocations in the
12 Investment Plan focuses on fueling
13 infrastructure, starting with Hydrogen fueling
14 infrastructure. Jim already discussed a lot of
15 this information in his own slides, but we've
16 funded about 25 new or upgraded stations to date,
17 matched the aggregated priority areas established
18 by automakers.

19 More recently, Assembly Bill 8 sets up a
20 process where the ARB collects information from
21 the automakers and assesses the need for
22 additional stations over the next three years.
23 The bill also stipulates that \$20 million, or up
24 to 20 percent of the annual program funding, go
25 towards supporting hydrogen fueling stations.

1 And this dedicated funding for hydrogen
2 infrastructure is intended to demonstrate the
3 state's support for the commercial launch of Fuel
4 Cell Vehicles beginning around 2015.

5 Now, based on previous experience, we
6 expect that a \$20 million allocation is
7 sufficient funding for 10 to 11 additional
8 hydrogen fueling stations. Based on the previous
9 station funding that Jim summarized, as well as
10 our upcoming solicitation, and now this proposed
11 allocation, we estimate that our program may be
12 supporting a total of 48 to 50 new or upgraded
13 stations including this proposed funding. This
14 is closing in on the goal of automakers to have
15 68 stations available in key areas to support
16 early Fuel Cell Vehicle commercialization in the
17 2015 to 2017 timeframe.

18 The next category of infrastructure is
19 charging infrastructure for Plug-In Electric
20 Vehicles. As we'll see in a few slides, the
21 number of Plug-In Electric Vehicles has grown at
22 a very rapid pace over the past three years, with
23 upwards of 40,000 on the road today. Charging
24 infrastructure is needed not just to keep up with
25 this rapid growth, but to support growth in the

1 future, as well. The ZEV Action Plan, for
2 instance, calls on the State to develop
3 infrastructure for supporting one million Zero
4 Emission Vehicles by 2020, most will probably be
5 Plug-In Electric Vehicles. Also, the State
6 Initiative announced last month in support of
7 Electric Vehicles further underscores the large
8 not just California expectations, but
9 increasingly the national expectations for these
10 vehicles in the marketplace.

11 While we expect that most charging is
12 still likely to occur at single-family homes for
13 the foreseeable future, we see a greater need for
14 public funding to support other types of
15 chargers, including those at multi-family
16 residences, workplaces, popular destinations, as
17 well as fast chargers, especially on corridor
18 regions.

19 The proposed \$15 million allocation in
20 this category is a big increase over previous
21 years, but that's intended to reflect the rapid
22 vehicle growth that we've talked about.

23 Turning now to Natural Gas Fueling
24 Infrastructure, our program has funded more than
25 60 stations so far; Jim summarized a few of these

1 already. It includes stations for school
2 districts, municipal government fleets, municipal
3 solid waste fleets, and other private fleets.
4 Over time, however, our funding for natural gas
5 projects has shifted away from infrastructure
6 towards vehicle incentives, especially in the
7 case of private fleets, as they can make the
8 business case for transitioning to natural gas
9 trucks, they can typically build in the fueling
10 station costs into their longer term fuel
11 savings. This is tougher for public fleets,
12 however, where access to capital can be more
13 strained.

14 Our proposed \$1.5 million allocation for
15 this Investment Plan is identical to that of
16 recent Investment Plans, and as in previous years
17 we expect to prioritize funding for recipients
18 that are less able to access enough capital to
19 make these investments on their own, including
20 school districts and other public entities.

21 Switching over to vehicles now is the
22 next section in the Investment Plan. Our program
23 also provides support for Natural Gas Vehicles,
24 primarily medium- and heavy-duty trucks. These
25 trucks offer near term GHG emissions, roughly 15-

1 20 percent below gasoline or diesel, and when
2 paired with low carbon biomethane, they can reach
3 greenhouse gas emission levels comparable or
4 exceeding those of electric and fuel cell trucks.
5 Natural gas engines also offer an opportunity for
6 lower NO_x emissions, as well.

7 Over the past two years, our Buydown
8 Incentive Program has been the primary means of
9 providing funding support for the purchase of
10 natural gas trucks; however, we concluded this
11 program this past June. Since then, we've been
12 revisiting this approach and other alternative
13 approaches, as well as how we should address
14 things like vehicle type eligibility for vehicle
15 incentive levels, and the incorporation of
16 biomethane.

17 For this coming fiscal year, we're
18 proposing a \$9 million allocation to this
19 category. This allocation is slightly smaller
20 than previous years, and this is based on the
21 remaining available funds from previous
22 Investment Plans, as well as our own longstanding
23 expectation for reducing per vehicle incentive
24 levels as natural gas trucks gained more market
25 traction.

1 We also recognize that in order to reach
2 the State's long term GHG emission and criteria
3 pollutant reduction goals, advanced technologies
4 will be needed to be incorporated into the
5 State's Medium- and Heavy-Duty sector. Trucks
6 and buses serve a broad variety of needs and new
7 technologies need to demonstrate their
8 suitability to these areas. Our program has
9 provided funding for a broad suite of
10 technologies and fuel types, a few of which are
11 listed here, ranging from electric fuel cell and
12 natural gas technologies for use in buses,
13 delivery trucks, bucket trucks, long haul trucks,
14 and so forth.

15 We're also starting to see some early
16 examples of previous projects now moving into
17 commercial deployment, which is certainly
18 exciting. Electric Vehicles International, for
19 example, recently demonstrated Class 5 extended
20 range electric bucket trucks with Pacific Gas &
21 Electric, which is looking to replace their fleet
22 of nearly 1,000 bucket trucks with similar
23 electric hybrid models.

24 There is still a lot more to be done in
25 this area, however, with multiple combinations of

1 suppliers, fuels, technologies, and vehicle
2 applications to be demonstrated. Our sister
3 program at the ARB has also had to redirect
4 funding from some of their demonstration projects
5 into related deployment projects, which use an
6 additional space for us to fill.

7 Finally, the ZEV Action Plan also calls
8 on the Energy Commission to support ZEV truck
9 demonstration projects as would be funded out of
10 this category. So for all these reasons, we're
11 proposing to maintain our previous \$15 million
12 allocation for medium- and heavy-duty
13 demonstration projects.

14 Moving now to light-duty Plug-In Electric
15 Vehicles, you can see their rapid increase in
16 monthly sales and leases on this chart. This
17 data comes from the California Center For
18 Sustainable Energy, which administers incentives
19 for Plug-In Electric Vehicles through the ARB's
20 Clean Vehicle Rebate Project. And again, this
21 harkens back to our increased allocation for
22 charging infrastructure where we need to both
23 keep up with and also to lead market growth for
24 Plug-In Electric Vehicles.

25 A few quick facts about Plug-In Electric

1 Vehicle deployment; Plug-In Electric Vehicles in
2 California have more than tripled over the past
3 year. Their recent growth exceeds the comparable
4 growth trends of early Hybrids, earlier in the
5 previous decade, and all major automakers are now
6 offering some variety of Plug-In Electric
7 Vehicle, so obviously there are lots of reasons
8 to be excited about what's happening here.

9 I mentioned the CVRP, Clean Vehicle
10 Rebate Project, which provides incentives for
11 light-duty Plug-In Electric Vehicles, \$2,500 for
12 most all Electric Vehicles and PEVs, \$1,500 for
13 most Plug-In Hybrids, or PHEVs. Given these
14 vehicles' popularity, demand for the incentives
15 has started to exceed the ARB's available funding
16 through AQIP. Our program has contributed nearly
17 \$20 million to keep the incentives sustained to
18 date. More recent funding augmentations by the
19 Legislature included a loan of \$40 million from
20 the Vehicle Inspection and Repair Fund, and a
21 transfer of a scheduled \$24 million General Fund
22 repayment from our own program. Parts of these
23 reallocations will also go toward sustaining
24 funding for the ARB's HVIP, which was the
25 incentive for medium- and heavy-duty trucks,

1 Electric and Hybrid trucks, as well as the ARB's
2 Truck Loan Assistance Program.

3 For the next fiscal year, we're reserving
4 \$5 million to continue the support for light-duty
5 Plug-In Electric Vehicle incentives. This
6 obviously wouldn't be enough to sustain CVRP as
7 it currently stands, but we'll be continuing to
8 work with the ARB on any plans to revisit or
9 revise approaches to these incentives in the
10 future.

11 In addition to the sort of hardware
12 oriented projects I've discussed so far, our
13 Investment Plan also includes funding for related
14 needs and opportunities that can help accelerate
15 California's shift to lower carbon
16 transportation. So the first category here is
17 for Emerging Opportunities and this is a category
18 that we created a couple Investment Plans ago,
19 it's increasingly focused on leveraging Federal
20 cost-sharing opportunities. Jim mentioned one
21 such solicitation that we have released last
22 week, or the week before, I think. We've also
23 had numerous entities contact us about their
24 plans to solicit or participate in future Federal
25 solicitations, as well, and given the number of

1 concepts that have been described to us, we're
2 now proposing a \$7 million allocation to this
3 category.

4 Under Manufacturing, one thing we have
5 plenty of in California is venture capital into
6 clean transportation technologies, and the goal
7 with our allocation in this area is to translate
8 that venture capital advantage into economic
9 development, into manufacturing jobs, and for
10 that reason we're proposing a \$5 million
11 allocation similar to the previous Investment
12 Plan.

13 We've also previously funded a category
14 for Centers for Alternative Fuel and Vehicle
15 Technology. The purpose of this category is to
16 provide a means of coalescing a lot of the
17 independent work that gets done to advance low
18 carbon transportation within a state around a few
19 specific centers. There are \$4.7 million
20 available in our current solicitation that Jim
21 described, and given that this was our first take
22 on running such a solicitation, we're not
23 proposing additional funding in this Investment
24 Plan, we're looking forward to seeing the results
25 that come back through this first center

1 solicitation.

2 On Regional readiness and planning,
3 again, a category that we have funded in the last
4 couple of Investment Plans, we have two previous
5 fiscal years to consider already, fiscal year
6 '12-'13, using funding from that Investment Plan;
7 we have an open solicitation now for new regions
8 and alternative fuels, not just Plug-In Electric
9 Vehicles, but it could include electricity, it
10 could include hydrogen natural gas, etc.

11 Additionally, we have \$3.5 million
12 available from the most recent investment plan in
13 fiscal year '13-'14, and the funding from that
14 Investment Plan hasn't yet been released into a
15 solicitation. Our plans there, however, are to
16 support the expansion of Plug-In Electric Vehicle
17 Regional Readiness efforts. So given the funding
18 that we already have available from previous
19 Investment Plans, we did not propose any
20 additional funding in this Investment Plan, but
21 it's something that we will continue to monitor.

22 Under workforce training and development,
23 we continue to receive interest from companies
24 and public entities of all shapes and sizes for
25 this category. Recent recipients include

1 community colleges, UPS, labor organizations, and
2 auto dealerships. There's a quick tally of who
3 has benefited so far, more than 12,000
4 individuals, 120 businesses, 14 municipalities.
5 And to keep up with the demand for this category,
6 we're proposing an additional \$2.5 million
7 allocation to work with our existing partners.

8 So future steps for the development of
9 the 2014-2015 Investment Plan, we're obviously
10 seeking feedback from all stakeholders. We ask
11 that you provide any comments within 10 days,
12 November 14th. Here is our email address for
13 submitting docket comments, which we strongly
14 recommend, it helps us keep track of submitted
15 comments. You can send them to
16 Docket@energy.ca.gov, and if you'll include in
17 your subject line 13-ALT-02 so it comes to us.
18 We'll also be continuing our review of existing
19 program investments, as well as related programs
20 and policies. And finally, we expect to release
21 our Revised Staff Draft of the Investment Plan in
22 late December. So that about sums it up. Again,
23 I think I'll follow Jim's approach, I'll take any
24 clarifying questions that you might have right
25 now, and then we'll probably save the more

1 substantive questions for when we go through the
2 Investment Plan categories listed here. So any
3 clarifying questions?

4 COMMISSIONER SCOTT: Thank you for that
5 good presentation, Charles. Do we have
6 clarifying questions for him from around the
7 table? Any from committee members on the phone?
8 Nope, okay. And I'd like to welcome Joe Gershen
9 who has joined us, as well. Welcome.

10 So I'm going to turn this over to, I
11 think, Jim and Randy to start the conversation.

12 MR. MCKINNEY: Great. Thank you,
13 Commissioner. Thank you, Charles for walking us
14 through the staff recommendations for the 2014-
15 2015 Investment Plan. So the way we will run the
16 discussion here is we'll just start at the top of
17 the funding chart and go through line by line.
18 We'll take questions and comments first from
19 Committee members present here in the room, and
20 Committee members present on the phone. Staff is
21 available to help explain the staff
22 recommendations. Clearly we have the
23 Commissioner and her Advisors, as well.

24 So after we have heard from Advisory
25 Committee Members, then again for each category

1 we'll turn to members of the public starting with
2 those of you here in the room, and then going to
3 those of you on the phone. So with that, why
4 don't we start the conversation? So the first
5 line is Biofuel Production and Supply. The staff
6 recommendation is \$20 million in funding. Joe
7 Gershen?

8 MR. GERSHEN: Thanks. Yeah, I had a bit
9 of things -- sorry I'm late, first of all. I
10 represent the California Biodiesel Alliance --

11 MR. MCKINNEY: Can you speak more closely
12 to the mic?

13 MR. GERSHEN: Sure thing. I represent
14 the California Biodiesel Alliance. How's that?
15 Great. So our primarily concern with respect to
16 this Investment Plan Update is that objective
17 metrics seem to still not have been utilized to
18 evaluate proposed budget allocations. And as a
19 result, the biodiesel allocation is significantly
20 under-funded. We continue to request that
21 metrics be used to evaluate investment priorities
22 in the 2013-2014 Investment Plan. We note with
23 some disappointment that the Biofuels Production
24 category has not been broken down into separate
25 funding categories, as has been repeatedly

1 requested by all biofuel stakeholders. And, in
2 fact, the biofuels category has received a
3 reduction in funding from last year going from
4 \$23 million to \$20 million. This seems
5 particularly strange to us, or maybe even
6 misguided is the word, given that biodiesel has
7 been providing the best overall return on
8 taxpayer invested dollars in terms of ARFVT
9 program goals of petroleum displacement, carbon
10 reduction, air quality improvement, and job
11 creation.

12 We're pleased to see your acknowledgement
13 in the Executive Summary that biofuels derive
14 from moist-based feedstocks, which are emphasized
15 by the program offer some of the lowest carbon
16 pathways currently available, and that production
17 volume is expected to be hundreds of thousands to
18 millions of gallons of biofuels per year, also
19 that this category has been significantly over-
20 subscribed with quality projects in previous
21 solicitations.

22 CBA would like to point out that the vast
23 majority of California Biodiesel producers
24 utilize these ultra-low carbon waste-based
25 feedstocks and we respectfully ask if the

1 potential of these biofuels is so compelling and
2 the category has been significantly
3 oversubscribed with quality projects, then why
4 have you reduced funding for the category? It
5 didn't make sense to us.

6 In chapter 2, there's reference to the
7 Energy Commission requirement to include a
8 benefits assessment of the ARFVT Program as part
9 of its Biennial Integrated Policy Report. It
10 goes on to suggest that additional information on
11 the direct and indirect benefits from the ARFVT
12 Program's investments will be included in the
13 2013 IEPR. Currently under development, CBA
14 would like to remind the Commission that AB 109
15 does not state that an assessment is required, it
16 states that an analytical rationale is required
17 for all proposed expenditures. Additionally, AB
18 8, the reauthorization of this program, which was
19 recently signed into law by the Governor, also
20 calls for metrics in determining funding
21 allocations. Unfortunately, it seems the
22 Commission has not presented or even discussed
23 any actual metrics. The ARFVT Program
24 requirement that the Commission use metrics to
25 determine funding criteria is not just a good

1 idea, it's actually the law. So I have been on
2 this Advisory Committee, as you guys all know,
3 for almost a couple years now and we've been
4 asking for project and program metrics for the
5 entire time. Other Advisory Committee Members
6 have been serving for longer and also have been
7 asking for metrics. Nothing has been forthcoming
8 since the 2011 IEPR benefits Section. It seems
9 that this document is indicating nothing
10 substantive will be forthcoming any time soon,
11 correct me if I'm wrong; it seems to me that,
12 until something substantive is forthcoming, the
13 Energy Commission should be using its most recent
14 data which shows that Biodiesel provides almost
15 35 percent of all program benefits, and CBA
16 believes that it's actually far more than that to
17 determine funding allocations. Rather than
18 cutting funding for biodiesel production, we've
19 also been asking that each biofuel be given its
20 own category of funding, which I mentioned
21 earlier, so that we can see the benefits that
22 each provides and be awarded funding commensurate
23 with its individual contribution. None of these
24 requests have been addressed.

25 There had been discussion in the Draft

1 IEPR of contracting with NREL to develop the
2 methodology to calculate expected benefits to
3 2025, which is different than what had been
4 earlier indicated, which is Rand Corporation had
5 been contracted to provide metrics on existing
6 projects; again, I may have misunderstood
7 something, but that's what I had seen and been
8 told. We'd like to know if, when, why this
9 change was made and what the status of any
10 deliverables from them is. We also don't think
11 that calculating expected benefits to 2025 is the
12 intent of the AB 109 legislation, as mentioned
13 above, or mentioned earlier.

14 In Chapter 3, alternative fuel production
15 and supply under the Biofuel Production and
16 Supply Section, there's mention that, given the
17 private investment beginning to support large
18 scale bodies of blending, the Energy Commission
19 is not currently proposing additional funding for
20 diesel substitutes infrastructure, and CBA feels
21 this is a misconception; as instate production
22 ramps up, it's important for instate storage and
23 distribution infrastructure to be supported.
24 Bodies of storage and blending terminals, as well
25 as retail sites such as truck stops, travel

1 centers, etc., which can facilitate distribution
2 of instate production can benefit greatly from
3 ARFVTP infrastructure grants at this critical
4 time in the industry's development. This is
5 exactly the wrong time to remove this from
6 funding consideration, and we feel there are
7 specific instances where they can be very helpful
8 in achieving much higher blend levels in
9 biodiesel and implementation of its carbon and
10 petroleum reducing potential. These would not
11 include funding for rail or port infrastructure
12 since those distribution businesses are capable
13 of funding their own development without state
14 assistance.

15 Finally, this document discusses the most
16 recent solicitation, which would expand instate
17 production. CBA supports the notion that this
18 was a very good PON, we thought it was great, but
19 also wonder if why the NOPA was more than two
20 months late in being announced, that seems a
21 mystery to us and others, I think.

22 So in conclusion, and I'm sorry I rambled
23 on here a little bit, CBA recommends that each
24 biofuel have its own category, as always, and not
25 be grouped together. We strongly believe that

1 each biofuel can stand on their own merits, and
2 we further recommend that instate biodiesel and
3 diesel substitutes, production and feedstock and
4 distribution infrastructure development projects
5 receive \$24 million in each of the next two
6 funding cycles. This increase would actually
7 start to bring our funding more towards parity
8 with our contribution towards program goals of
9 petroleum displacement, carbon reduction, air
10 quality improvement and job creation. We need to
11 see a more dynamic report on program metrics, but
12 in order to achieve this funding increase, we
13 recommend that a 20 percent incremental amount of
14 funding be reallocated to biodiesel from the
15 other fuels and technologies funded above the
16 parity line. This adjustment of biodiesel is
17 still 10 percent underfunded compared to its
18 performance metrics in meeting stated ARFVT
19 program goals; but at this funding level, the
20 Energy Commission still retains the ability to
21 fund innovative programs, transformative goals
22 that are not yet justified by the metrics.

23 The CBA looks forward to continuing to
24 work with Energy Commission staff and thanks them
25 for all your hard work, we know you guys have

1 really been working hard on this, and hopes that
2 you'll seriously consider these recommendations
3 and integrate them into the final version of the
4 2014-2015 Investment Plan. Thanks a lot.

5 MR. MCKINNEY: Great. Thanks, Joe.
6 Staff did cover some of the points you raised in
7 your letter and in your summary here, so we
8 talked about the AB 8 language on Cost Benefit
9 Scores and how that applies at the solicitation
10 level, and not at the funding allocation level,
11 as discussed in the Investment Plan, and that's
12 really the function of this Committee and this
13 process here over the next series of drafts and
14 committee discussions that we'll have. And in
15 terms of metrics, I am not quite sure where the
16 notion that Rand was on point for near term
17 metrics came from and, again, maybe we just
18 haven't talked enough about that.

19 Just to clarify for our audience here and
20 Committee members, our contract with Rand
21 Corporation is for a programmatic level
22 evaluation, really every part of our program that
23 will include metrics, market impact assessments,
24 and that's on a very long timeline going out
25 through 2015 and 2016, and I introduced Dr. Lloyd

1 Dixon from Rand, he's here in the audience today
2 -- and raise your hand again there. NREL's tech
3 support contract for over \$3 million is really
4 for near term technical support. Melaina is also
5 here today from NREL. And he and I have
6 discussed the metrics issue quite a bit and they
7 are working on that piece of the deliverable, and
8 again those will be available in the next round
9 of the IEPR products or reports.

10 And your other comments on recommended
11 funding allocations and the performance of
12 biodiesel, renewable diesel, are noted.

13 MR. GERSEN: Thank you.

14 MR. MCKINNEY: Tim Carmichael.

15 MR. CARMICHAEL: Good morning, Tim
16 Carmichael with the Natural Gas Vehicle
17 Coalition. I actually want to echo a lot of
18 Joe's comments. I'm one of those voices that
19 believes that this process and this funding is
20 going to have a better future if the CEC makes
21 better use of metrics, and that's been a
22 consistent message for a few of us for a number
23 of years.

24 I'm not sure I agree with your
25 interpretation of the AB 8 language. I wasn't in

1 all of the meetings and I wasn't a sponsor of the
2 legislation, and our organization wasn't a
3 sponsor, but I was in a couple of meetings and
4 that phrase, at least one driver for that came
5 out of concerns about the hydrogen funding and
6 whether or not there was a cost benefit analysis
7 that could be done today to show a cost benefit
8 for hydrogen that competes with the other fuels.
9 Even the other fuel advocates pushed back on that
10 and said we need to have a balance between being
11 able to demonstrate cost benefit for a lot of
12 this funding and a recognition that some of the
13 longer term fuels aren't able to demonstrate that
14 right now, and that's okay, that's always been
15 part of the vision for this program; you'd have a
16 combination of delivering benefits in the near
17 term and investing for longer term returns. And
18 I'm curious to hear more about that and, you
19 know, have maybe some future discussion about
20 that, but my recollection from some of the
21 conversations, at least at the staff level in the
22 Legislature was a desire to see more of that cost
23 benefit analysis, starting with this plan, not
24 just at the solicitation level, but in evaluating
25 how to distribute or how to allocate funding for

1 the plan as a whole.

2 Another point I want to make is it is
3 striking that the plan and your staff
4 presentation is so complimentary about the
5 benefits of biofuels and how much they've
6 delivered to date under the LCFS and otherwise,
7 and how much potential there is there, and then
8 the bottom line is a cut in funding. I encourage
9 you to go back and look at how positive the
10 write-up is, and it doesn't lead to this
11 conclusion that any cut in funding would be
12 appropriate given what this category is
13 delivering.

14 I'm less concerned than Joe and his
15 organization about whether or not each type of
16 biofuel gets its own line item, that's never been
17 as big a deal for me or my organization, but I
18 agree on the overall funding level. And any
19 reduction on that just doesn't seem to make sense
20 based on our recent history, experience with this
21 sector, and what we think is going to happen over
22 the next, you know, at least five years. I think
23 that's it.

24 MR. MCKINNEY: Jan Sharpless.

25 MS. SHARPLESS: Yes, I hope I'm not

1 getting us off the track here, but you know, when
2 you look at this Investment Plan, each one of
3 these categories have some unique features about
4 them and there's different policy drivers, some
5 of them are high level policy and some of them
6 have regulatory drivers. Now, the Low Carbon
7 Fuel Standard as a regulatory driver perhaps for
8 the biofuel, I'm not sure where the connection
9 comes with that, but when it comes to deciding
10 how to make the cut on these various categories,
11 it would seem to me that if you're talking about
12 a matrix, you have to bring in the understanding
13 that there are other things at play like the
14 California Air Resources Carbon Fuel Standard
15 that might be driving this, as well as the Energy
16 Commission funding. So looking at whether this
17 ought to be \$23 or \$20, I think in this category,
18 in particular, there are some very strong market
19 drivers to get us to a higher level of biofuel
20 penetration in the market here in California. So
21 I don't know where this conversation really
22 should end up, except to say that what bothers me
23 about what's been said so far is that it doesn't
24 acknowledge that there are some other drivers at
25 play other than just the funding here at the

1 Energy Commission.

2 MR. MCKINNEY: Howard. And we'll try to
3 get more microphones on this side during the
4 lunch break.

5 MR. LEVENSON: Thanks, Jim. Howard
6 Levenson at CalRecycle. I want to commend the
7 Commission and its staff for continuing to
8 support biofuels, but I also have to echo the
9 comments of Tim and Joe about the funding level
10 for this category, especially given the potential
11 and the recognition within the chapters about the
12 low carbon intensity associated with the use of
13 waste-based feedstocks, and that's a key issue
14 for us at CalRecycle in terms of meeting our own
15 75 percent statewide goal, and it's linked very
16 closely with the ARB in its Scoping Plan Update
17 and a number of provisions that they're
18 considering. So I think this needs consideration
19 of a higher funding level.

20 With respect to splitting it out, that's
21 been our preference in the past, but we
22 understand why the Commission has gone to that
23 lumped category, and so far it seems to have
24 worked okay for the kinds of projects that we
25 think warrant consideration, but I think that's

1 something to keep watching in the future.

2 Thanks.

3 MR. CARMICHAEL: Can I just add -- Tim
4 Carmichael again -- could I add one point? I
5 agree with Jan's comments and I think one of the
6 most helpful slides that staff has prepared in
7 the past was a bigger picture, you know, look at
8 each of these categories and where ARB is
9 providing funding, where CEC is providing
10 funding, and what the total is. And it's a fair
11 point, the LCFS and other programs are impacting
12 this marketplace in a significant way, not just
13 in California, but across the country. And it is
14 in my mind, you know, even though I didn't say
15 it, that that is something that we need to take
16 into consideration. It's also true that several
17 other of these line items in this funding plan
18 benefit from the LCFS and other programs, or are
19 significantly influenced by the LCFS and other
20 programs that the state has employed. So the big
21 picture look is important; I agree with that.

22 MR. MCKINNEY: Bonnie.

23 MS. HOLMES-GEN: Bonnie Holmes-Gen,
24 American Lung Association in California. And I
25 just wanted to, 1) also agree with Jan's comments

1 and, 2) I think it would be easier for me to
2 evaluate this category if there was a clear idea
3 of what is the GHG reduction expected from this
4 mix of funding because obviously there's a mix of
5 different pathways in here with different GHG
6 reduction potentials and I guess my hope and
7 expectation is that each year we put funding out
8 for this category that the trend would be going
9 down in terms of the GHG emissions, or the
10 potential from the funds that are going out so
11 that we're developing the higher -- the next
12 generation technology for developing the
13 technologies with the cleanest, most sustainable
14 footprint.

15 So I guess I'm just asking if there's a
16 chance to have a little clearer idea of what this
17 \$20 million will produce from your perspective in
18 terms of GHG reduction, and what the potential --
19 what the increment of advancement we're getting
20 this year as opposed to previous years.

21 And I guess, finally, in terms of the
22 amount and the category, I would have a hard time
23 suggesting an increase in the category when I see
24 other areas of need that I know are not fully met
25 in the list, and one thing of course that jumps

1 out to me is the CVRP and the \$5 million there, I
2 know that's not nearly enough. So I just would
3 be concerned about increasing this category
4 because of that.

5 MR. MCKINNEY: So if there are no more
6 comments -- oh, I'm sorry, just my glasses here.
7 Steve Kaffka, then Joe Gershen.

8 MR. KAFFKA: Steve Kaffka. I want to
9 comment on what Ms. Sharpless mentioned. One of
10 the great -- I think one of the strengths of
11 California's entire greenhouse gas regulation
12 program has been its firm commitment to those
13 goals. At the national level, there's enormous
14 political turmoil going on, particularly around
15 the Renewable Fuel Standard, so to the degree
16 that the Energy Commission and the Air Board --
17 obviously they're not being talked about here --
18 but that this program can maintain its commitment
19 to the pathways that are essential for those
20 programs to be successful, I think that's
21 important. So I wanted to both affirm the Energy
22 Commission's commitment and this program's huge
23 value, actually, for that purpose. It's very
24 hard to dole out funding levels and judgments, I
25 mean, there's a lot of tradeoffs involved here,

1 but I want to make sure that -- I think it's
2 quite clear that liquid transportation fuels from
3 various sources are going to be essential for as
4 far as we can see, and so that category has to be
5 considered extremely important.

6 MR. MCKINNEY: Okay, Joe, then Alberto.

7 MR. GERSHEN: I agree with everything
8 Steve said, referring to what Jan had to say.
9 And referring to what Bonnie had to say earlier,
10 I think what she's describing would be solved
11 with metrics. She's asking for what is the
12 greenhouse gas reduction and that's exactly what
13 we're saying, we know that the biodiesel industry
14 supplies some of the lowest CI values in the Low
15 Carbon Fuel Standard, so we're actually -- in
16 terms of bang for your carbon buck, I think
17 biodiesel provides some of the biggest bang for
18 the carbon buck. And we've done that analysis
19 and presented in prior two white papers, so I
20 urge you to go look at that, but the metrics is
21 exactly what you're asking for, so thanks.

22 MR. MCKINNEY: Dr. Ayala.

23 DR. AYALA: Thank you. First, I just
24 want to make a general acknowledgement to you
25 all. I think you've done again an excellent job

1 putting together a balanced plan. I do want to
2 express support for the allocation for the
3 biodiesel -- biofuel production supply category.
4 Like Bonnie said, I think any one of us would be
5 hard pressed to try to identify a better number
6 than what you propose; the only thing that I want
7 to underline here is we continue to be very
8 interested in the support of drop-in fuels for
9 the heavy-duty vehicle sector. Even though we're
10 working very hard to also hybridize and electrify
11 the heavy-duty sector, we realize that much more
12 than the light-duty vehicle sector internal
13 combustion is going to be with us for much longer
14 in a higher fraction of those vehicles. So to
15 the extent that we can continue to emphasize
16 diesel substitutes, that's something that the Air
17 Board would be very interested in helping you to
18 the extent that we can. Thank you.

19 MR. MCKINNEY: Steve Kaffka. Oh, do we
20 have any committee members on the phone that wish
21 to speak to the biofuels funding category?

22 MR. SHEARS: Yeah. This is John Shears
23 and I would also like to echo Alberto's
24 compliments to the staff, again, in producing a
25 well balanced and clearly thought out update to

1 the Investment Plan.

2 I'm just wondering in the context of the
3 biofuels discussion, I've been also in support of
4 metrics, recognizing of course that, you know,
5 there's greater clarity with the more mature
6 technologies and fuels versus the challenges that
7 we face with fuel cells, and hopefully the
8 diminishing challenges with Plug-In Electric
9 Vehicles.

10 In the draft staff report, the clean air
11 vision that the Air Resources Board is producing,
12 well, this is the staff draft report that is
13 focused on on-road transportation, but they're
14 also updating for other sectors in the state, you
15 know, it talks about the transformational needs
16 going forward. You know, Alberto just
17 highlighted the fact that on the heavy-duty
18 sector, we're looking at the challenge of getting
19 the heavy-duty sector over to these newer ZEV and
20 near-ZEV type technologies going forward. At the
21 same time, I think we have a similar challenge in
22 terms of mapping out how the near term versus the
23 long term prospects for how all of these fuels
24 and technologies will map out, not only in the
25 light-duty sector, but the heavy-duty sector, so

1 I'm just -- I guess I'm angling for a discussion
2 from the Energy Commission staff, maybe in
3 conjunction with the Air Resources Board staff
4 around those issues when we're talking about the
5 metrics and scenarios and projections for what
6 the future could look like for biofuels,
7 recognizing that a lot of the experts in the
8 field are thinking that we're actually going to
9 have to at some point start reserving biofuels
10 for heavy duty on-road and other freight-related
11 and air-related transport processes.

12 So I just wanted to inject that into this
13 part of the discussion that we might need to be
14 doing some longer term visioning in the same way
15 that we need to be doing that for trying to
16 support division for Fuel Cell Vehicles and the
17 hope for payoff down the road with Fuel Cell
18 Vehicles in terms of greenhouse gas and air
19 quality benefits.

20 MR. MCKINNEY: Great. Thank you, John.
21 Anybody else on the phone?

22 MR. CARMICHAEL: Remind me not to sneak
23 anywhere with you.

24 MR. MCKINNEY: So any other committee
25 members on the phone wish to speak to this topic?

1 MS. HOLMES-GEN: Well, I just --

2 MR. MCKINNEY: I'm sorry, Bonnie.

3 MS. HOLMES-GEN: On the phone, right,
4 right.

5 MR. MCKINNEY: Okay, Steve and then
6 Bonnie.

7 MR. KAFFKA: One of the strengths of this
8 investment program in my opinion has been the
9 diversity of projects that it's funded, and it is
10 still apparent to me, or still my view, that some
11 of the best solutions that we have for addressing
12 the vehicle transportation issues associated with
13 greenhouse gases are still to be invented. And
14 some of the assessment of the total set of
15 benefits, certainly greenhouse gas reductions,
16 but also other social benefits connected to these
17 processes, are not yet finalized.

18 I support everything that's been said
19 about the impressive and important role of diesel
20 fuels and substitutes in that area, but we also
21 have other forms of transportation we're
22 concerned about, like airplanes. And even in the
23 light-duty vehicle area, alcohols, I don't think,
24 have been fully -- I'll call it fuel-based fuels
25 -- have been fully evaluated. For example,

1 bioethanol has little to no BTX, Benzene, Toluene
2 and Xylene, and those are important health
3 benefits that come from higher alcohol blends.
4 So when we look very broadly at these issues, I
5 think it's important to keep an open mind and,
6 still, that the value of this program is that
7 it's \$100 million -- correctly, it's not a lot of
8 money, especially spread over all these
9 categories, but there aren't many programs like
10 the AB 118 program. And I think it needs to be
11 open to invention, even though Government
12 planners or others may foresee certain particular
13 pathways being most important, I think we can't
14 always perfectly see the future, so it's
15 important to keep an open mind about
16 alternatives.

17 MR. MCKINNEY: And Bonnie Holmes-Gen.

18 MS. HOLMES-GEN: Thanks, just one last
19 comment. I just wanted to comment that I think
20 this section would benefit from a little bit of
21 discussion of air quality criteria air pollutant
22 impacts of these technologies. In some cases,
23 there have been some concerns along the way, I
24 know we've advanced a lot and there's mitigations
25 that have been developed, but I think some

1 discussion of that, the criteria pollutant issues
2 would be really helpful.

3 And I just wanted to put another plug in;
4 if it would be possible for the staff to at least
5 indicate what they're shooting for in terms of
6 the pathways with the -- in terms of the most
7 sustainable pathways with the highest level of
8 GHG reduction, the biomethane pathways, it would
9 be helpful to know what you're shooting for in
10 terms of that \$20 million.

11 MR. MCKINNEY: So thanks for that
12 opportunity to segue to the chart that's up on
13 the screen now. So this is Table 4 from the
14 Investment Plan. This shows the carbon intensity
15 values for the primary fuel categories and
16 feedstocks that we're talking about and, again, I
17 mean, as Joe and Tim and others have said, these
18 are very very strong carbon reduction scores,
19 carbon intensity values, including the new
20 biomethane pathway that is in draft form on the
21 LCFS website, this is one of the few carbon
22 negatives, so 115 percent reduction means 15
23 percent carbon negative value for high solid --
24 what's the word I want there -- high anaerobic
25 solid -- I'm sorry -- from wastewater treatment

1 plants. And you can see again the range there,
2 so 88 percent for biogas and diesel substitutes'
3 category from 60 to 88 percent reduction, sweet
4 sorghum trial, that was a project we just
5 finished with Great Valley, about a 50 percent
6 reduction, and then woodchips and energy beets on
7 gasoline substitute sites, also very strong
8 reduction values.

9 Just a couple of other things I'd like to
10 put out here that's gone into the staff
11 recommendation for this funding amount is that,
12 1) we were very pleased with the last major NOPA
13 that we did in the biofuels arena and, to our
14 disappointment, a few major Awardees -- and I
15 want to highlight Eslinger Biodiesel out of the
16 Visalia Bakersfield area, a \$6 million grant, 45
17 million gallon per year commercial project
18 adjacent to the Kinder Morgan pipeline and
19 pumping station there. We thought, wow, this is
20 really great, finally this market is mature, and
21 we have a major investor coming in with a good
22 project. They've been unable to secure their
23 match, so their part of the \$6 million on that
24 has to come in.

25 Another project for advanced biofuels

1 also could not raise capital match and has
2 announced they're going to withdraw. So we have
3 to take pause here. So investing large amounts
4 of money into the sector may not kind of solve
5 the puzzle that's going on. We need to
6 understand what's going on in the investment
7 arena here.

8 The technologies continue to be slow to
9 evolve to commercial scale, so again, we're
10 continuing to fund across the spectrum from
11 feasibility demonstration commercial plants and,
12 just to echo what Steve and some others have said
13 about the Federal side, the RFS2 credits, RIN
14 credits for this, has really been a primary
15 driver, I think, for the expansion of some of the
16 production facilities in California, but we're
17 still -- and correct me if I'm wrong, Joe, or
18 Steve, or others who know this better than I, but
19 in terms of capacity factors for in-state plants,
20 we have about 46 million gallons per year
21 production capacity for biodiesel and about half
22 of that is being used for actual productions.
23 We're getting about 26 million gallons per year
24 in in-state production out of these plants. The
25 market is huge and there's other things going on

1 that we need to better understand, you know,
2 before we would consider from the staff level
3 putting more money into this category.

4 Yeah, Joe?

5 MR. GERSHEN: So we urged, at least as
6 long as I've been here, we've urged the staff as
7 we worked with you guys to work with the CBA on
8 some of these evaluations, and so I'm certainly
9 not here to throw anybody under the bus; but I
10 know that this most recent PON we thought was
11 great. You focused on expanding instate
12 production, you know, you're looking at the
13 companies that are on the ground, making
14 biodiesel, successfully marketing it into the
15 fuel supply chain, and it was great. And I noted
16 that in my comments earlier that we were
17 wondering why that's two months late because
18 there are all sorts of folks that are ready to
19 roll and can step right up to the plate, rather
20 than new folks that are unproven. So we do think
21 that, you know, you're going to see -- we've seen
22 an increase in utilization rates and I think
23 you'll see a much higher increase in utilization
24 rates as we go forward, it's just a matter of how
25 you make the investments and how you evaluate the

1 stuff, and I understand from talking to Tim and
2 others that the Energy Commission goes through a
3 lot of rollover in new staff and that sort of
4 needing to educate the new staff on what's going
5 on, and so my fear is that some of the folks that
6 are out there are not aware of what's really
7 going on in the market, and so maybe can't make
8 as well informed decisions on some of these
9 projects. And if it's just going on the scoring,
10 then it's more about how the grant is written and
11 not about who can perform.

12 MR. ROESSER: If I can just comment on
13 that, I can tell you on the solicitation you're
14 talking about, it is in the final stages of our
15 process of evaluation and ranking of proposals.
16 We are hopeful that we'll be able to post a NOPA
17 in the relatively new future, but that's where we
18 are.

19 In regards to the staff, you're
20 absolutely right, staffing and not just in this
21 program, but in government and everywhere, staff
22 resources are a continuing issue, and staff
23 turnover is an important consideration,
24 especially we're at the workforce stages, a lot
25 of institutional memory goes and it's in the

1 private sector, as well. I will say this,
2 though, that we still have some very strong
3 experienced program folks like Jim here, André,
4 Charles, and the like, and excuse me for not
5 mentioning everybody, but there are some very
6 strong staff. We have a lot of new staff, and I
7 am very happy with almost all of our new staff.
8 They are doing a great job, they're coming up to
9 speed, and they're not left out there alone and
10 hanging. They're being mentored by our
11 experienced staff, so I am completely satisfied
12 with the work that collectively the staff do in
13 all of our solicitations and our evaluations.

14 MR. GERSHEN: That's great. And I wasn't
15 intending to throw anybody under the bus, I think
16 it's actually changed quite significantly since
17 I've been on this Advisory Committee, and so I
18 actually do commend you and things are really
19 starting to turn around, and that's why we're
20 right at this critical point and you guys are
21 cutting funding. I mean, it just didn't make
22 sense to us. We're finally sort of starting to
23 hit fire on all the cylinders and we encourage
24 you guys to do that, I mean, we've been asking
25 for an increase in funding and we understand

1 there have been some issues and so now everyone
2 is getting up to speed, we're looking good, and
3 we come in with this investment plan and funding
4 has been cut, not increased. So we're kind of
5 wondering what the thought process is, that's
6 all. I think you guys are doing a great job and
7 it's actually been improving recently, so that's
8 great.

9 MR. MCKINNEY: And just a couple other
10 things I wanted to mention, too. For biogas,
11 which has a very very low carbon score, until the
12 AB 1900 process really goes through its channel
13 with the PUC and the Air Board, we can't get that
14 biogas into the pipelines. So Clean Energy has a
15 great new product out called Redeem that's got
16 biogas in it, but it comes from a landfill in
17 Texas, it's not from a California source. So we
18 were glad the product is here, it's kind of
19 breaking new barriers, but it's also problematic
20 that it's not a California produced feedstock for
21 that. So, again, there's a lot of things that
22 we're still working through in this sector and,
23 again, staff fully recognizes the potential for
24 this fuel. I saw former Commissioner Boyd is
25 here now and I remember one of his observations

1 early on that cellulosic ethanol has been a great
2 idea for the last five years, and it's still a
3 great idea, and we're still waiting for that
4 commercial breakthrough in that arena where we
5 can really get cost-effective process technology
6 and feedstocks lined up to get low carbon fuels
7 into the supply mix.

8 So with that, I'd like to go to public
9 comment unless there's any others here, and I
10 think we're going to be using blue cards today,
11 so, Charles, do we have blue cards from all
12 speakers? Or did we not make that clear? Or --

13 MR. SMITH: I am collecting blue cards.
14 I don't have any on biofuel production and supply
15 yet, however.

16 MR. MCKINNEY: Yeah, okay.

17 MR. EDGAR: Sorry about the blue cards.

18 MR. MCKINNEY: That's okay, we didn't
19 make that clear. So, again, before you start
20 sir, if you want to speak in the public forum,
21 please fill out a blue card, that just helps us
22 organize them and have a good record for who is
23 speaking. And if you could say your name and
24 affiliation for the record?

25 MR. EDGAR: Thank you. My name is Evan

1 Edgar, Engineer for the California Refuse
2 Recycling Council. We are the garbage haulers,
3 the organic collectors, the composters, the
4 recyclers, and we have entered the anaerobic
5 digestion market, we are making biomethane, and
6 one of the biggest plants in the United States is
7 opening up on November 22nd in San Jose, it's a
8 dry fermentation process making methane. We're
9 here to support the increased funding for the
10 biofuels production. We're at a point we're at
11 the lowest carbon fuel negative that we could be,
12 and we have like 15,000 trucks in a garbage
13 organic collection world in the State of
14 California; of that, about 3,000 of those trucks
15 are on CNG, which is a great bridge fuel to get
16 to RNG. We feel we're at a point in time where
17 we can made an investment into a lot of projects
18 where the garbage man is picking up the organics,
19 we're taking it back to our facilities and making
20 our own fuel to run the trucks, so it's like back
21 to the future part 2, where we are actually
22 making carbon negative fuel out of the waste that
23 we're collecting from the source separated food
24 waste.

25 The AB 32 Scoping Plan has a big plan to

1 divert waste from landfills, they have a plan to
2 divert 3.75 million tons a year by 2020, which
3 we're supporting as a concept, which makes about
4 40,000 million DGEs per year. That will fuel
5 about 4,000 trucks. So we feel by 2020, the
6 industry, the haulers, can take our 15,000 heavy
7 duty fleet, transition to CNG, and have about 30
8 percent of our CNG trucks on renewable fuel. We
9 believe in a carbon negative fleet, we believe
10 that's in front of us today, we're using funding
11 -- last year Blue Line got funded, as well as
12 Atlas Clean World Partners, which is a carbon
13 negative fuel facility right here in Sacramento.
14 We feel we have momentum, we have commitment,
15 we're getting investment from the pollution
16 control financing for funding, so we feel that it
17 is a very critical time to increase biofuel
18 production and investment in order to have a
19 carbon negative fleet for California. Thank you.

20 MR. MCKINNEY: Great. Thank you, sir.

21 MR. SMITH: Paul Kelley, Bay Area
22 Biosolids to Energy.

23 MR. KELLEY: Thank you. And good
24 morning, or almost afternoon, Commissioner Scott
25 and members of the Advisory Committee and staff.

1 It's a pleasure to be here on behalf of the Bay
2 Area Biosolids to Energy Coalition. This is one
3 of my first opportunities to speak on behalf of
4 that coalition, they recently hired me as their
5 Executive Director. So briefly, I just want to
6 mention that we thank you for the considerations
7 of biofuels and their importance in our
8 community. I would also like to thank
9 Commissioner Scott for her letter and recognition
10 of the request of creating categories as was
11 previously mentioned by your Advisory members.

12 The key component of our coalition is
13 really to find technologies that are viable, that
14 can be used to convert biosolids to energy and to
15 fuels that can be used in the transportation
16 sector, as well. And currently there are three
17 demonstration projects at the Coalition, there
18 are 19 members in the Bay Area of Sanitation
19 Districts, there's three demonstration projects
20 throughout the Bay that are looking at some
21 different kinds of technologies. There's also a
22 review process of two significant projects that
23 will be sited hopefully at one of those agency
24 facilities that will also be converting some into
25 electricity, some into heat, but also with at

1 least one of them seems to have a potential for
2 some fuels.

3 So I think in my prior life, I was a
4 County Supervisor for 16 years, I sat on an Air
5 Board, I think that it's key to make sure to
6 consider all the considerations that you have
7 here, and we look forward to working with the
8 Commission and working with the Advisory
9 Committee, as well as providing some written
10 comments. So thank you for your time.

11 MR. MCKINNEY: Thank you. And if I could
12 ask you to drop a card at our Court Reporter
13 here. Okay, let's go to the phones. Charles, do
14 we have anybody on the phone wanting to comment
15 on this category? Okay, Commissioner, I think
16 that does it for this category and I see it's
17 noon, so what is your --

18 COMMISSIONER SCOTT: So we have the lunch
19 break at 12:30, so should we start the next
20 category? Think we can get close in a half hour
21 and then we'll pick up again after lunch?

22 MR. MCKINNEY: Sure. That was my
23 mistake, I thought -- I guess I'm hungry.

24 COMMISSIONER SCOTT: Can everybody make
25 it another half hour? Good, okay.

1 MR. MCKINNEY: Okay, so again looking at
2 the chart, so the staff recommendation for
3 Electric Charging Infrastructure is \$15 million,
4 and I've been joking with Randy, again, just
5 given this tremendous surge in EV sales in
6 California, the demands on the CVRP Program,
7 we're really doubling down on our investments in
8 this category from previous levels, so we'll open
9 it to committee comments on this funding area.

10 MS. TUTT: Hi, Eileen Tutt with the
11 California Electric Transportation Coalition. I
12 have a couple of questions, first, is it possible
13 for like Air Quality Management Districts to
14 access this funding and perhaps in combination
15 with some of the regional alternative fuel
16 readiness planning funding to help the Air
17 Quality Management Districts and people in their
18 districts get ready for the electric vehicles and
19 install infrastructure? And I ask this because
20 there are -- it's now, as Jim mentioned, and you
21 all have mentioned, the vehicle market is really
22 taking off, I mean, it's a very exciting time.
23 But we can't kid ourselves, it's still less than
24 two percent of the new vehicle market. And there
25 are some areas in the state that have air quality

1 issues, and I would say this is particularly true
2 in places like the San Joaquin Valley, but even
3 farther north where they're actually just
4 interested in having Electric Vehicles for all
5 kinds of environmental and economic reasons. And
6 so as we start to branch out beyond just the big
7 urban regions, some of these local Air Quality
8 Management Districts are in a good position to
9 install infrastructure or help their communities
10 get ready for air quality reasons.

11 So I'm just wondering, this money I
12 assume is accessible to what would be considered
13 local government and the regional readiness, I'm
14 sure, is local government?

15 MR. MCKINNEY: Yeah, and Air Quality
16 Management Districts are always eligible to
17 apply. So, for example, South Coast has applied
18 and won numerous grants. They won, I think, 33
19 Fast Charger awards this last time, or 35. Yeah,
20 and again we would be very interested in kind of
21 learning more about your thinking here. With AB
22 8, there's a kind of continued encouragement to
23 look at alternative ways of distributing the
24 money, so we'd like to learn more about your
25 ideas.

1 MS. TUTT: Okay. Because, in particular,
2 I think the Air Districts are uniquely able to
3 deal with some of the equity issues around these
4 vehicles and I will say the same thing will
5 probably apply to hydrogen vehicles as they start
6 to accelerate into the market, in that the first
7 car buyers tend to be a little bit wealthier, but
8 then when you start to get into where we really
9 want these vehicles in disadvantaged communities,
10 it's the locals that may be able to help do this.
11 So I think we could -- I don't want to say "kill
12 two birds with one stone" because I'm way too
13 green for that, but I think we could address two
14 issues at once.

15 MS. BAROODY: Hi, Eileen. Leslie
16 Baroody, Electric Vehicle Program Manager. I
17 just wanted to respond to you. We do have an
18 EVSE Solicitation coming out any day now, and we
19 will be looking at AQMD as its potential
20 applicants, public entities. So we have been
21 thinking about that for some time and are
22 addressing that.

23 MS. TUTT: Okay, I'll talk to you. I
24 have some names for you that I'd like to --
25 hopefully you can work with them.

1 MS. BAROODY: Okay.

2 MS. TUTT: And then, I mean, I guess the
3 other thing I wanted to talk about a little bit
4 is I, too, Cal ATC, is very very interested in
5 electrification of that medium-duty and heavy-
6 duty truck and bus sectors. That's actually
7 quite critical. But, again -- and I think we
8 need to start -- we need to be flexible there,
9 I'm really happy to see the funding there. I
10 just want to emphasize that success in the light-
11 duty vehicle market is critical to success in the
12 medium- and heavy-duty because that's where you
13 get the quantities of technologies sold in this
14 light-duty vehicle market, and so in order to
15 make it cost effective in the heavy duty and
16 medium duty market, we really need to have
17 success in light duty vehicle markets. So I'm
18 very very happy to see the funding for
19 infrastructure because I think that's critical.
20 I also want to again -- I know I've said before,
21 but I think we need to make sure that the funding
22 can be used for level 1 chargers, there's more
23 and more workplace MUD, Airport, Hotels, that are
24 looking at literally, you know, triple charging
25 because people are parked there overnight or even

1 for days at a time in some cases. So I hope
2 that, as people reach out to you, that you're
3 obviously I know open to that, but maybe even a
4 little bit of education around the fact that you
5 don't really need to charge quickly in many many
6 cases, like there are many applications where a
7 level 1 charger is much more cost-effective and
8 can do the job.

9 And then I guess I do have some comments
10 on the \$5 million in incentives, but I should
11 wait until that line item, probably?

12 MR. MCKINNEY: Yes, please.

13 MS. TUTT: Okay, thank you.

14 MR. MCKINNEY: Robert.

15 MR. BIENENFELD: Robert Bienenfeld. Just
16 a couple observations in the document, not in the
17 Powerpoint. One is -- sorry, is this better?
18 The observations I had are that right in the
19 introduction it says that particularly while
20 battery costs continue to restrict electric
21 range, PV owners need a charging infrastructure.
22 I really think that that needs to be elaborated
23 on, that it's not just -- it's not battery costs
24 alone that restrict range, but technology. And I
25 think that's a very important difference which

1 relates to something later on, which is that fast
2 charging that I think are a little confusing to
3 me, one is that the suggestion that fast chargers
4 can enable long distance travel by BEVs, and I
5 think that that, while in theory might be true,
6 it seems like trying to make them into something
7 that they're not. I think it would lead us down
8 a less productive path.

9 And the second thing was that fast
10 chargers can also serve the needs of drivers
11 without access to charging at home, and with the
12 kind of implying that people would go every
13 couple of days -- not have charging at home and
14 go every couple of days and charge up at a DC
15 charger. And I think that that's -- that doesn't
16 seem -- that also seems like a very risky
17 approach. I think most automakers would consider
18 fast charging to be okay periodically as opposed
19 to all the time, and so it just -- it might not
20 be the solution for people without charging at
21 home that you're proposing here. So those are
22 just two observations. I'm sure there are people
23 who disagree, but I thought I'd share that.

24 MR. MCKINNEY: Comments from other
25 Committee members here? Alberto?

1 DR. AYALA: Thank you. I just want to
2 express support and I want to echo your statement
3 about doubling down. I absolutely agree. I think
4 now is the time to perhaps not only double down,
5 but maybe triple down on anything that we can do
6 to support the significant uptake in advanced
7 technology vehicles that we're all seeing.

8 I have a general question and that is
9 related to the status update that you presented,
10 Jim. Perhaps can you discuss briefly in terms of
11 some of the CEC or ARB, others, actions that
12 we're taking to try to understand the need for
13 overall infrastructure? You mention in one of
14 your slides that we've got over 7,600 charge
15 points in California, so I'm trying to ascertain,
16 you know, how do we assess how many we need, when
17 we need them, where we need them, that sort of
18 thing? I don't know if you can perhaps just
19 share some general thoughts.

20 MR. MCKINNEY: I'd be happy to share a
21 little bit and then maybe we can get Leslie
22 Baroody back up to the microphone, as well. So I
23 think it was last week or the week before you had
24 a major event at the Air Resources Board with the
25 Eight-State Coalition, and a major assessment of

1 the status of Electric Vehicle deployment in
2 California and charger deployment, as well. And
3 so we've talked about a couple of products, so
4 first, as specified in the ZEV Action Plan, the
5 Statewide Infrastructure Plan, so again NREL, Dr.
6 Melaina is here, our contractor. And Mark, I
7 don't know if you want to add to this discussion
8 or not, but feel free to share the mic with
9 Leslie. So that will be a major product really
10 looking ahead, how many of what type of chargers
11 and which areas, which types of, you know, is it
12 MUDs, is it public, is it destination, is it
13 workplace, what mix of those. And he's got some
14 draft scenarios that you'll be able to see in a
15 few weeks, I believe. There's also the ARB Staff
16 Assessment that your team is working on, which I
17 think is also trying to dig deeper into these
18 issues and really understand what is the right
19 mix of charging opportunities to get the public -
20 - you know, we're kind of moving out of early
21 adopter phase into something that's really
22 exciting, and I think precedent-setting for all
23 of us, which is really how do we get to kind of
24 more -- "normal" is not the right word -- mass
25 market consumers really getting people that don't

1 have bright green coats like Eileen Tutt does
2 today, being very green in their purchase
3 decisions, but really factor that in more just in
4 terms of their household budget and their travel
5 plans, and whatnot.

6 Our contract with U.C. Davis has got a
7 major element in terms of research into this
8 area, as well. So quite a few things going on.
9 And that's what I can offer up, and I know we've
10 got Leslie, as well.

11 MS. BAROODY: Yeah, that's great, Jim, I
12 agree with that, and our Statewide Plug-In
13 Electric Vehicle Infrastructure Plan, Mark
14 Melaina is here, and it's nearing completion and
15 the first draft is almost finished, and we hope
16 to have a draft out for stakeholders after our
17 Commissioner reviews it and others perhaps in the
18 Governor's Office. We've had ARB's review and,
19 so, by the end of the month we hope to have it
20 out for stakeholder review.

21 I would also mention that each of our 10
22 planning regions have an infrastructure plan
23 either underway or nearing completion, so those
24 will complement the Statewide Infrastructure
25 Plan.

1 MR. MCKINNEY: Yeah, and if I can just
2 add another item or two on that. Yeah, we've got
3 some big variables that we're really still
4 working to understand, so what's the relative
5 power and effectiveness of the State and Federal
6 Rebates, of the state program that your team
7 runs, availability of charging and charger
8 subsidies, just the notion how well do consumers
9 understand the difference between purchase price
10 decisions and understanding total cost of
11 ownership. I've done some very important studies
12 showing the total cost of ownership. Right now,
13 for some models, it's cheaper than a comparable
14 internal combustion engine, but most people
15 aren't aware of that, that learning different
16 behaviors as you fuel or charge, some consumers
17 seem to be really happy and adventurous in doing
18 that, others are more traditional and slow to
19 make changes; so again, some other really
20 important variables at play here that we're all
21 working to understand. Eileen?

22 MS. TUTT: Eileen with the California
23 Electric Transportation Coalition. The only
24 thing I would say to sort of Leslie's point and
25 the NREL study is that I think more than sort of

1 location -- this idea -- the way that electric
2 vehicles charge is so unique because you're not -
3 - it's not centralized fueling, it's
4 decentralized fueling and, in fact,
5 infrastructure is in place, it just needs to be
6 upgraded in most situations. Electricity is
7 everywhere, there is no building, house, home,
8 residence, business that doesn't have electricity
9 in the state. So it's not like it's not -- it's
10 a matter of accessing the electricity. And so I
11 hope, and I don't know, I mean, I assume there
12 will be time for stakeholder review, but I hope
13 that there was some focus on really dwell time
14 more than destination points, like how long is a
15 car parked where -- that's why home recharging is
16 80 plus percent of the charging in the state, is
17 that that's where people's car is parked most of
18 the time, and particularly at times when we want
19 them to charge. So there is sort of this dwell
20 time aspect that I think is really interesting,
21 and that's why hotels and airports and that kind
22 of thing become attractive, and then there's just
23 kind of the general access, making sure that the
24 chargers are accessible. One thing I wanted to
25 comment on was, to Robert's point, was that in

1 terms of fast charging, it's not clear to me that
2 -- I think in some cases, as the battery
3 technology improves, and I think it will, it
4 already has significantly, it could get 200 and
5 300 range vehicles, 300-mile range vehicles, and
6 with those vehicles a faster charger might allow
7 you to go on a long trip. But I think what a
8 fast charger really does is radically extend the
9 range of battery electric vehicles as they are
10 today, so you can get -- if you need to go, you
11 know, you can basically go almost twice as far as
12 you can now. And that in terms of the air
13 quality benefits and the greenhouse gas benefits
14 is huge because, if you have to go to a doctor
15 appointment, or take a kid to a soccer game,
16 suddenly that fast charging allows you to, I
17 would say, radically increase the capacity and
18 trip length of just a regular battery electric
19 vehicle.

20 MR. MCKINNEY: Tim Carmichael.

21 MR. CARMICHAEL: Two questions, one is
22 ARB currently providing funding for the same
23 category or effort?

24 MR. MCKINNEY: For charger deployment?

25 MR. CARMICHAEL: Uh-huh.

1 MR. MCKINNEY: No.

2 MR. CARMICHAEL: Okay, and then second
3 question, do we have a clearer picture of what
4 our longer term support plan is, or support
5 strategy is for maintaining any chargers that are
6 deployed? Are PG&E and Edison and SDG&E going to
7 take it on, or are other private companies going
8 to take that on? I'm not clear on that piece.

9 MR. MCKINNEY: It's an interesting
10 question. I don't know personally. I don't
11 know, Leslie, or Eileen, or others involved in
12 this area?

13 MS. TUTT: Well, right now, Mr.
14 Carmichael, utilities -- investor-owned utilities
15 are not allowed to invest in infrastructure. I
16 think that likely needs to change, but that's a
17 PUC decision, and the PUC is reconsidering that.
18 I mean, I think they're talking to the utilities
19 about that. But I think it's a big issue is who
20 is going to operate and maintain this
21 infrastructure. In all honesty, these vehicles
22 provide such tremendous benefit to our grid, to
23 our electricity grid, which keeps electricity --
24 keeps the downward pressure on electricity rates
25 for all of us, so it benefits anyone who uses

1 electricity that utilities and everyone who uses
2 electricity has a vested interest in the
3 utilities investing in these kinds of
4 technologies and operation and maintenance, in
5 particular.

6 MR. MCKINNEY: And Robert.

7 MR. BIENENFELD: I guess I'd like to know
8 if staff has looked at the data available in the
9 EV project database. I think there's some
10 evidence in the data that they've reported that,
11 as infrastructure grows, EVMT increases. And
12 that might help provide some metrics. What I've
13 seen just recently is that, as infrastructure has
14 grown, you can see the electric miles has grown,
15 and just as was mentioned earlier, that it
16 happens especially with Plug-In Hybrid Electric
17 as much to battery, that additional range. So
18 the data is right there and free.

19 MR. MCKINNEY: I'm sorry, Leslie, you're
20 going to have to speak to the microphone.

21 MS. BAROODY: Yeah, thanks Robert for
22 that comment. We are indeed looking at the EV
23 project data and Mark Melaina and his group is
24 also considering that in the development of the
25 infrastructure plan.

1 MR. MCKINNEY: If there are no more --
2 oh, thank you. Bonnie.

3 MS. HOLMES-GEN: Yeah, Bonnie Holmes-Gen
4 with American Lung Association in California. I
5 basically wanted to express our support for this
6 category. We're really excited about the ramp-up
7 in Plug-In Electric Vehicles, and very pleased
8 with the agreement that was just featured at the
9 Airport last week with the Eight States and three
10 million electric vehicles, Plug-In Electric
11 Vehicles coming in the next decade. You know,
12 we're getting much closer now to getting hydrogen
13 fuel cell vehicles on line, and of course this
14 \$20 million in funding is going to really help to
15 move us forward in that arena. So we think this
16 is a really important focus
17 for the program, getting these cleanest vehicles
18 out there that are going to reduce criteria
19 pollutant emissions and GHG emissions, and just
20 want to express strong support for that. I'm
21 really happy to hear about this Statewide PEV
22 Infrastructure Plan and looking forward to seeing
23 that draft. It'll really be helpful, I think,
24 for the Advisory Committee to see that and be
25 able to look at that in the light of this plan

1 also, and so glad it's working its way through
2 the approval process. And I just appreciate the
3 fact that the Air Board and the CEC have been
4 working closely together in looking at this, it's
5 really important to have that coordination of
6 effort, and I've been seeing more and more of
7 that over the past couple of years and in this
8 plan it's more evident than before. So I think
9 that's really extremely important.

10 MR. MCKINNEY: And Jan Sharpless.

11 MS. SHARPLESS: Yes. Tim certainly
12 prompted a question in my mind. How mature is
13 the charging technology that is being placed --
14 installed?

15 MR. MCKINNEY: Somebody else? I am not
16 an engineer, so I'm not going to even try to --
17 and I don't know if you mean technology or market
18 maturity, but I'd like --

19 MS. SHARPLESS: No, not market maturity,
20 the technology itself, how long will it be able
21 to be used before there's the new development
22 both on the vehicle side and the charger? And
23 hopefully they're also working with the
24 electricity industry to make sure that the
25 chargers are going to be compatible with the

1 operation of the systems. I'm just assuming
2 you've covered all those points somewhere.

3 MR. MCKINNEY: Yes. So I think Robert,
4 perhaps Eileen, I'm looking to Leslie, Alberto,
5 Peter, I don't know if anybody would like to
6 weigh-in on this interesting question.

7 MR. BIENENFELD: Yeah. Right now the
8 EVSE equipment that's out there is meeting
9 standards that have been set by SAE and they seem
10 to be operating quite well and I think plan to be
11 consistent for the future. I do know of a
12 couple, well, of one kind of technical problem
13 which now needs to be addressed and people who
14 bought the equipment from Ecotality need to
15 address some defects, if you will. But the
16 standards should be applicable for years to come,
17 but for the level 1 and level 2, certainly, and I
18 would think level 3, as well, although there's
19 still a couple different approaches to that.

20 MS. TUTT: Yeah, I would say the
21 technology itself is quite mature. It's a
22 relatively simple technology, it's not a
23 complicated, you know, we've had electricity
24 around in plugged in things for a very long time,
25 so it's not particularly complicated. The

1 challenge that Robert is referring to, I think,
2 has to do more with the networking side of
3 things, how the vehicle talks to the charger and
4 to the grid and to even how people pay for the
5 electricity. So there are challenges that are
6 part of just the market competitiveness, but not
7 necessarily technological, if you will. So I
8 don't worry about the technology is robust, it
9 tends to allow -- I can tell you that I still
10 have the same charger after 12 years, and that's
11 a 12-year-old piece of technology, so I don't --
12 that part is not particularly complicated. The
13 other thing, to your question, is that all of the
14 utilities work very very closely with the
15 electric vehicle service equipment, EVSE, Service
16 Equipment I think it's called, the charging
17 people. And so there's a lot of dialogue,
18 there's a lot of discussions about how to
19 simplify and in many cases the utilities are
20 looking at putting a lot of chargers in and then
21 having the meter at the end, so you don't have to
22 have each charger metered, so to speak. So
23 there's all kinds of simplification technological
24 advancements that are happening, but it's not a
25 particularly -- it's not very complicated.

1 MR. ROESSER: Jim just gave me that look
2 because I'm going to speak technically here, so,
3 for the record, I probably shouldn't be speaking
4 right now for the record. But I think what the
5 staff -- what Jim and Leslie and others have
6 informed me on over the last few months, is that
7 certainly some of the significant costs in the EV
8 infrastructure that the Energy Commission, for
9 instance, is paying for is the prepping, the
10 trenching, the set-up of the electrical -- from a
11 home, for instance, on a level 1 charger in the
12 garage bringing the power to that site, and then
13 installing a charger there. To the extent that
14 the actual component that gets plugged in evolves
15 and, you know, could be changed out or improved,
16 at least a lot of the infrastructure costs to set
17 the electricity up to the site where the car is
18 going to pull in is already spent and won't go
19 away, so that's a positive comment. And the real
20 reason I took the microphone was to respond to
21 Robert's comment on the Ecotality issues. We
22 have been in talks with the proposed purchaser of
23 the Ecotality systems through the bankruptcy, and
24 with very positive conversations they have firmly
25 committed their intent to honor all of the

1 contracts that Ecotality has put into place, and
2 service the customers, the end users that have
3 that equipment, and fix any problems that exist,
4 and basically continue all the fundamental and
5 the front line work that Ecotality did. So we're
6 very happy and very pleased about that, and our
7 expectation is that that will work out very well
8 long term.

9 MR. MCKINNEY: And, Charles, do we have
10 anybody on the phone from the Advisory Committee?
11 I'm sorry. Go ahead, Tyson.

12 MR. ECKERLE: Thanks. I just wanted to
13 commend you guys on this, it's a very exciting
14 time, I think especially in the Zero Emission
15 Vehicle space, both in Plug-In and Hydrogen, and
16 so increasing this cost share section I think is
17 very important. One of the concepts that I've
18 been giving thought to and just kind of wanted to
19 throw out to the Committee and to the staff is
20 this idea of utilization versus marketability,
21 and the idea that if there's a connecting type of
22 infrastructure like a fast charger out in a
23 connecting region, it might not be utilized a
24 tremendous amount, but it could be the reason
25 somebody purchases a car, and it's the ability to

1 do that. And so as we talk about metrics going
2 forward, I think it's important to see if we can
3 capture that, you know, there's a difference
4 between utilization and marketability, and I
5 think they're both very important metrics to
6 include. And so maybe -- I don't know if that's
7 included in the U.C. Davis work or not, but it
8 would be very interesting to know how these
9 purchase decisions are being made and if we could
10 tie those investments the Energy Commission is
11 making into these connecting type of things, and
12 I think it would help justify further investment.

13 MR. MCKINNEY: All right, thank you. Do
14 we have any Advisory Committee Members on the
15 phone that want to participate in this
16 discussion?

17 MS. BAKER BRANSTETTER: This is Shannon
18 Baker Branstetter. Can you hear me?

19 MR. MCKINNEY: Yes, please proceed.

20 MS. BAKER BRANSTETTER: Great, thanks.
21 Yeah, I just also wanted to echo what Bonnie has
22 said about how excited we are about this segment
23 of the Investment Plan and we're really looking
24 forward to all the different ways that the ZEV
25 targets are being supported and being met. And

1 I'm also really interested to hear more about how
2 the ZEV Ombudsman PON goes. I think that's a
3 real opportunity that could be a model for other
4 states. So I'm looking forward to hearing about
5 that and thank everyone for their hard work.

6 And then I think John Shears -- do you
7 want to participate in this part of the
8 discussion?

9 MR. SHEARS: Good so far. Thanks.

10 MR. MCKINNEY: Go ahead, John -- oh, he
11 said no, okay. I think, Charles, you have a blue
12 card?

13 MR. SMITH: Yes. Mario Landau from
14 Holdsworth -- oh, sorry, Mario Landau Holdsworth.

15 MR. LANDAU HOLDSWORTH: Hi. Thank you
16 very much for your attention to this really
17 important issue, Infrastructure for Electric
18 Vehicles. My company is called EverCharge. I'm
19 the CEO and we're based in San Francisco. We're
20 focused pretty much exclusively on providing
21 Electric Vehicle charging to multi-unit
22 residences, and I want to emphasize to the
23 Commission how critically important this piece
24 is. If you think about the reasons why someone
25 who is on the fence might buy an electric

1 vehicle, or might not, one of the biggest issues
2 is whether or not in a lot of these urban areas
3 they live in a multi-unit development. And what
4 EverCharge has done is we've developed the
5 technology to enable Electric Vehicle charging in
6 these developments by looking at the barriers
7 that exist in those places. So we're able to
8 connect the common area electricity in these
9 developments and literally just lead a new
10 circuit from an existing panel, keep track of the
11 usage, automatically reimburse the Homeowners
12 Association or the apartment for that usage, and
13 get charging to people in their own individual
14 parking spots in these kinds of locations. We
15 have seven of these buildings up and running in
16 California and our technology is -- we make it
17 ourselves, it's also made in California, it's a
18 listed product, people are using the system every
19 day. So the solution for multi-unit developments
20 isn't a pipedream, it's here. And I guess, as
21 you're allocating the funding, I'd like to
22 suggest that one of the big issues that we see is
23 sometimes in a large garage, you'll have people
24 spread all around in some of those spaces for
25 whatever reason can't be changed, so it can be

1 very expensive, maybe not for a *Tesla* owner, but
2 for a *Leaf* owner to run the power all the way
3 from where it exists to their individualized
4 parking space. This problem can be remediated by
5 providing some sort of funding to run the base
6 infrastructure in that garage, and allow everyone
7 a cheaper amount of money to connect to that base
8 electrical infrastructure. In addition, what
9 EverCharge can do is we can actually power manage
10 within a garage to allow five to 10 times as many
11 cars to charge within that location by allowing
12 them to take turns during the night. This
13 minimizes the amount of that basic infrastructure
14 that's needed, but providing that base
15 infrastructure in some buildings potentially
16 opens up, you know, hundreds of people who
17 otherwise would not have the option to drive an
18 electric car, you can spend \$10,000 and you've
19 opened all of that possibility to all of those
20 people. So I wanted to emphasize that multi-unit
21 developments is at the same time both a very
22 important critical area to focus on, and also a
23 really cost-effective way to allow more people to
24 drive Electric Vehicles, and I'm looking forward
25 in the future to sharing more of our work with

1 you and letting you learn about the technology
2 that we've developed and our pilot sites. Thank
3 you.

4 MR. MCKINNEY: Thank you. Do we have
5 another blue card?

6 MR. SMITH: Richard Schorske, EV
7 Communities Alliance.

8 MR. SCHORSKE: Hello, Commissioners and
9 staff. I just wanted to commend the group on the
10 plan elements related to infrastructure. I think
11 we're at a good level at this point with respect
12 to EV infrastructure going forward. My
13 organization, EV Communities Alliance is a
14 nonprofit that supports the Regional PEV Planning
15 Councils around the state, and also manages some
16 of the CEC funded infrastructure projects.

17 I just wanted to piggyback on a comment
18 that was made around metrics because we do have
19 an issue going forward around utilization rates
20 looking at that being a key determinant of cost
21 efficiency, and it is a fact that, as we look at
22 corridors north and south in the state for fast
23 charging, in particular, some of the least
24 populated areas are going to have quite low
25 utilization, and I think what we're going to need

1 to do is, following on the example of the *Tesla*
2 super charger network, really have a very tightly
3 planned and integrated system to address the
4 exact driving ranges that are BEVs, in
5 particular, have so that there is the possibility
6 for north to south travel, particularly from the
7 LA - San Francisco corridor, and down to San
8 Diego.

9 We have now, as Leslie referred to, the
10 upcoming release of many of the regional PEV
11 infrastructure plans that were done at the
12 regional level, and I'd love to see the CEC plan
13 specifically call out those gaps and provide
14 resources for those gaps in the fast charging.
15 Right now, simply indicating positive locations
16 to the industry is not getting it done with
17 respect to actually then linking the funding
18 that's necessary where industry participants
19 don't believe that they can actually hit brake
20 even at a given location.

21 And with regard to sustainability, I
22 didn't want to emphasize that we have an emerging
23 problem with the EVSE, particularly in the level
24 2 space that was or has been installed by public
25 sector entities, in particular, and also we'll

1 see what happens with the Ecotality takeover, but
2 their concern going forward on the sustainability
3 of these networks, when you look at the breakeven
4 analysis for many of the level 2 stations,
5 frankly you can't get there from here with much
6 of the installed infrastructure when you take
7 into account the network service fees and
8 maintenance and warranties for the stations going
9 forward. So we have the possibility of some of
10 the installed infrastructure, frankly, being
11 unplugged, or made non-operational due to the
12 site host, both public and private, finding that
13 there's not a breakeven that works at, say, a
14 dollar an hour for charging. And when you get up
15 to about \$1.50 an hour for charging, data show
16 that many EV owners will simply not choose to
17 plug in unless they're in an emergency situation.

18 So we have had calls from folks who
19 participated in some of the subsidized programs
20 like Multi-Charge SF, which was a very well
21 intended and I think generally well executed
22 program in San Francisco to bring chargers to
23 MUDs and landlords in some cases have simply
24 recognized that they are burdened with costs they
25 can't recover in that program and are

1 deoperationalizing (*sic*) the chargers. I've also
2 had calls from cities that have discovered that,
3 after the first year of their installation of the
4 level 2 chargers, they're liable for \$500.00 to
5 \$750.00 a year of essentially unfunded costs per
6 charger due to the low utilization rates of some
7 of the chargers and they're going, "This isn't in
8 our budget. What do we do now?"

9 So what I would encourage, not to paint
10 an overly dire picture, but I would strongly
11 encourage the Commission to look at network
12 sustainability as an issue and consider whether
13 or not there are ways to look at EVSP business
14 models and encourage those business models that
15 have a really legitimate and effective cost-
16 efficient approach to network operations. So
17 right now we've done a great job of getting 1s
18 and 2s and 3s and 4s of stations out there by a
19 variety of means, but then site hosts did not
20 necessarily accurately know -- none of us really
21 knew -- what the utilization rates would be going
22 forward on much of that infrastructure. And now
23 that we have data, we can basically analyze and
24 now that, in a lot of cases, we have a funding
25 gap, an operational gap, that is.

1 So I think that, you know, just to begin
2 to collect data on what is the operational status
3 of many of these stations from a resourcing
4 perspective, and look at those entities that are
5 willing to come in and maybe establish new EVSPs,
6 or augment their networks to include those
7 stations that are in danger of going under, if
8 you will, under the current business models.

9 And I want to just put in a plug,
10 changing subjects real quickly, that we have an
11 emerging opportunity in civilian world Vehicle-
12 to-Grid and I've brought some stakeholders to
13 meet with Commissioner Scott recently to discuss
14 some of the very exciting developments; many many
15 of the OEMs, more than are publicly known, are
16 working and have developed Vehicle-to-Grid
17 technologies that are fairly close to
18 marketability, but there needs to be accelerated
19 work on pilot projects, which is very consistent
20 with the Vehicle-to-Grid report coming out of
21 KEMA shortly for the CAISO as part of the ZEV
22 Action Plan. So I just wanted to put in a plug
23 for doing what you've done with the DOD Vehicle-
24 to-Grid projects and seeding some projects,
25 preferably in multiple utility territories that

1 would give the industry a chance to better
2 integrate with the Grid and demonstrate both
3 smart charging and two-way charging technologies.
4 That's it. Thank you very much.

5 MR. MCKINNEY: All right. Thank you,
6 Richard. And do we have anymore blue cards? Do
7 we have any people on the phone from the public
8 who wish to comment before we break for lunch?
9 No. Okay, so we will break for lunch and come
10 back at 1:40. Thank you, everybody.

11 (Break at 12:37 p.m.)

12 (Reconvene at 1:50 p.m.)

13 COMMISSIONER SCOTT: Okay, I have been
14 informed that everyone on the WebEx can now hear
15 us, so welcome back. Thank you for your patience
16 while we made sure that was fixed. And I just
17 wanted to say to everyone thank you so much for a
18 constructive and engaged discussion this morning
19 and I look forward to continuing it this
20 afternoon.

21 For me, since this is the first Advisory
22 Committee meeting that I've been to, I kind of
23 wanted to spend a little bit of time watching and
24 learning the dynamic of the group, and also spend
25 most of this time listening to all of you and all

1 of the members of the public who are
2 participating to get your feedback, your views,
3 your expertise, your insight. All of that to me
4 is very invaluable.

5 So I've been actively listening and
6 thinking about ways that we can include your
7 suggestions, and I just wanted to reiterate back
8 to you some of the themes that I've heard from
9 the morning.

10 One was that we need to make sure that
11 there are good measures in the program to
12 demonstrate the benefits, and that the Energy
13 Commission is investing the money in smart ways.
14 I appreciated the point that Jan and others made
15 about also putting it into a broader context
16 where appropriate to include other drivers in the
17 market. Steve asked whether the Cost Benefit
18 Score was the only criteria, and Bonnie and
19 others suggested that there are other important
20 metrics like reductions in the clean air
21 pollutants, and one thing I wanted to focus folks
22 on was in AB 8 -- and I have a copy in front of
23 me -- it's page 15 of the bill, and it actually
24 lists out for us 12 different things that -- and
25 I see Steve is not back yet -- but 12 different

1 things that we should consider as we go through
2 on the program. Some of them include criteria
3 air pollutants, the economic benefits to
4 California, whether the project drives new
5 technology advancement, and it also says -- and
6 I'm not going to read all of them because you
7 guys have the bill, but it does have a broader
8 context, and then it also says that we shall give
9 additional preference to funding these projects
10 with the higher Benefit Cost Scores. And so
11 there's about 12 things that we're supposed to
12 look at as we go through, and I just wanted to
13 remind folks to take a look at that if you're
14 looking for the different criteria.

15 I also heard in some specific that
16 several folks mentioned in the context of
17 biofuels and in electric vehicles that
18 utilization rates, or utilization data would be
19 helpful, and so I think to the extent that you
20 all already have some of that, that you want to
21 send to us and share with us, that would be
22 great. I think that would be really interesting
23 information to have -- or we probably have some
24 of that already.

25 Some of you also mentioned that market

1 data that you would like for the Energy
2 Commission to consider and I know that I -- and I
3 imagine that the staff, too, would very much
4 appreciate any of the most current sort of hot
5 off the press state-of-the-industry information
6 that you have, that you want to make sure that we
7 have. Joe mentioned this on Biofuels and,
8 Robert, you mentioned it on Electric Vehicles,
9 Evan from the audience earlier mentioned this
10 about RNG waste haul trucks, Mario discussed
11 possible multiple-use dwelling solutions, and so
12 all of that sort of state-of-the -- most current
13 hot off the press industry data, I think, would
14 be really helpful. So if you could share with us
15 the statistics, the data, or the other relevant
16 information and get it into our Docket, that
17 would be fantastic.

18 And then last, I would say that I heard
19 many of you compliment the Energy Commission
20 staff, and I appreciate those very kind words;
21 our team works really hard and I'd like to echo
22 the compliments to our team. And I hope that
23 you've found them -- it sounds like you have --
24 and will continue to find that my staff, my
25 Advisers and I, are open and available to you,

1 we're always looking for good ways to make this
2 program the most successful program it can be.
3 And so I encourage you to continue reaching out
4 to us, we look forward to continuing the dialogue
5 and, of course, the detailed comments on the
6 program for us to take into consideration as we
7 update the draft of the Investment Plan. And so
8 on that note, let me turn it back over to Randy
9 and Jim McKinney to pick up for the afternoon
10 discussion.

11 MR. MCKINNEY: Great. Thank you,
12 Commissioner Scott. Next up is going to be
13 Hydrogen Fueling Infrastructure and, actually,
14 before we get there, just in terms of
15 availability, I know, Jan, you have to leave at
16 2:30, I understand? Okay, so if you do want to
17 make any closing remarks, just let us know before
18 you take off and we'll do that. And if there are
19 others that have time constraints or airline
20 reservations, let us know, please.

21 So for the Hydrogen allocation, \$20
22 million. Any comments from the Advisory
23 Committee Members? Mr. Bienenfeld, I'm looking
24 your way, but --

25 MR. BIENENFELD: Well, I think as

1 everybody knows, the Legislature saw fit to have
2 this carve-out for hydrogen fueling
3 infrastructure and with really a goal of bringing
4 100 fueling stations up and running by the 2017
5 timeframe, more or less. And I think that this
6 is going to really help kick start the Hydrogen
7 Fuel Cell Vehicle commitments of automakers. I
8 think within this month, you'll see some
9 activity, I know of a couple automakers that are
10 showing Hydrogen Fuel Cell Vehicles at the Tokyo
11 Motor Show and the L.A. Auto Show. So this is a
12 very timely.

13 I do think that there's a reference in
14 the write-up to the 20,000 vehicles from a pretty
15 old survey done by the Partnership, and I think
16 that's out of date and I would be reluctant that
17 you use that data. But I think that by the time
18 you go to press with this, you'll have more
19 current information from the ARB survey which is
20 out now.

21 MR. MCKINNEY: Robert, thank you for
22 highlighting that and that data that we've used
23 historically has been from the 2010 survey, and
24 that figure was about 53,000 vehicles between
25 2015 to 2017. Based on ARB staff comment, we

1 reduced that. So if we kind of missed on the
2 calibration, we welcome the new data from the
3 automakers and the survey. So thank you.

4 MR. BIENENFELD: Yeah, so there's a
5 survey going on right now by the Air Resources
6 Board and unfortunately it only -- you know,
7 statutory constraint is that it's three model
8 years, '14, '15, and '16, and that's really just
9 during the time that some automakers are just
10 starting to launch vehicles. So I've asked my
11 colleagues in the industry to voluntarily report
12 a '17 to '19 number, and that should encompass
13 automakers who are coming to market in that later
14 timeframe, as well. And I think it will be a lot
15 more informative and hopefully more than just a
16 couple will report on that. It's a little tough
17 slugging because it's a voluntary number.

18 I think the way the industry is viewing
19 this information is that we really need coverage
20 to start, and the coverage is estimated to be
21 about 65 to 70 stations. And that will cover all
22 the key markets and destination connector
23 stations in much the same way that I think there
24 was some early funding of EV infrastructure, as
25 well.

1 So I think that the plan is good. I'm
2 glad to see that there have been so many
3 improvements between the last PON and the draft
4 that's been circulated to date. We've seen just
5 a lot of improvements in that effort. And we
6 think that the goal of quickly getting to
7 coverage will allow us to market these vehicles
8 for their maximum benefit, which is, if you think
9 of it, mostly the big advantage of a Fuel Cell
10 Vehicle is that you can refuel quickly and go
11 anywhere, and so we have to have that promise out
12 the gate. And that's the challenge that we're
13 facing, we think this is going to go a long way
14 towards achieving those goals. So thank you very
15 much.

16 MR. MCKINNEY: Thank you. Dr. Ayala.

17 DR. AYALA: Thank you. I just want to
18 briefly express our appreciation, obviously in
19 support for the allocation for Hydrogen
20 Infrastructure. The Air Resources Board has been
21 a strong proponent of investing in this
22 particular area, we were part of a broad
23 coalition that supported AB 8, so we're very
24 happy to see the Investment Plan pointing in this
25 direction. It's too bad Mr. Kaffka is not here

1 right now, but I was going to expound on the
2 comment that he made earlier today. I agree with
3 him, I think, you know, we're all keeping our
4 fingers crossed for a *Google*-like game changing
5 innovator that is going to come in and help us
6 get to zero emissions in the transportation
7 sector. But what I was going to expound on is,
8 in the meantime, because we cannot afford to
9 wait, in the meantime we need to make smart
10 investments. And we think that zero-emission
11 vehicles is where we need to get behind. So,
12 again, just want to express our support.

13 MR. MCKINNEY: Thank you. Any other
14 member comment? Bonnie.

15 MS. HOLMES-GEN: Thanks. Again, Bonnie
16 Holmes-Gen with American Lung Association in
17 California. And we were pleased to be a co-
18 sponsor of AB 8 and I'm happy to hear all the
19 discussion today and, as we think back on this
20 victory the tremendous step forward that we have
21 by getting those incentives to be extended, and
22 this is one of the areas, of course, where we see
23 a dramatic difference and that we do have a set
24 aside for the hydrogen stations. So I want to
25 support that, we strongly support this. I think

1 it's very important to keep our momentum in
2 building up the station so that we can be ready
3 for all the vehicles that are coming out, and I
4 think that the legislation as we've discussed
5 include some important mechanisms for the ARB and
6 the CEC to communicate about the numbers of cars
7 that are coming and make sure that the plan is
8 well organized for having the stations available
9 in the locale where those vehicles are coming.

10 And I guess just finally, as we move
11 forward we know from the research that we have to
12 have several strategies working well to move us
13 forward to our 2050 goals, we can't just depend
14 on Electric Vehicles, as wonderful as they are,
15 we can't just depend on one technology. We can't
16 just depend on Biofuels. We have to have a
17 strong Hydrogen pathway, and so I think with this
18 Investment Plan, we're showing that we're taking
19 a really significant step forward to try to make
20 that happen.

21 MR. CARMICHAEL: Just a quick question,
22 Mr. McKinney, what's the expected timing on the
23 ARB survey of the market? And I take Robert's
24 comments to heart about, you know, the fact that
25 some companies are just restarting their ramp-up,

1 but I'm curious, when do we expect to see some
2 results of that survey?

3 MR. MCKINNEY: Alberto, correct me if I
4 misspeak here, but I know the survey is out, I
5 think results are due -- responses are due right
6 around now. Is that correct? Late October, end
7 of this week, okay. And I understand from
8 Gerhard Achtelich at ARB that it will take a
9 couple months to compile the results. Tyson
10 Eckerle?

11 MR. ECKERLE: All right, thank you. I
12 just wanted to commend you, the staff and
13 Commissioner about, you know, allocating this
14 money and I think it played a strong role last
15 year in the AB 8 debate, you know, the leadership
16 the CEC showed by sticking its neck out and
17 saying we need to invest in Hydrogen. And it's
18 been interesting, I spent the last year analyzing
19 the economics of Hydrogen and developing the
20 Hydrogen Network Investment Plan, which we've
21 talked to you about, which is a hopefully helpful
22 document and, you know, we stand at the ready to
23 help out in any way we can. But even this last
24 couple of weeks since this plan has come out, and
25 since AB 8 has passed, we've gotten a lot more

1 calls from developers that we hadn't talked to
2 before, and so it's showing this kind of long
3 term -- I think it's a really strong signal into
4 the marketplace, and so hopefully it shakes out
5 well in the PON process, as well. But I just
6 wanted to commend you on staying the course, and
7 we're definitely willing to help out in any way
8 we can.

9 MR. MCKINNEY: Bonnie.

10 MS. HOLMES-GEN: Just one more quick
11 comment. Bonnie Holmes-Gen. I am pleased at the
12 discussion earlier about the renewable Hydrogen
13 and, of course, that all those stations do meet,
14 of course, the minimum requirements of 33 percent
15 renewable hydrogen, and that you do have some --
16 at least one fully renewable hydrogen station,
17 and just look forward to going further in that
18 direction toward renewable hydrogen, and we'd
19 love to work with you on that. I think that's
20 another key priority as we move forward in this
21 area of hydrogen fueling.

22 MR. MCKINNEY: And do we have Advisory
23 Committee Members on the phone that wish to
24 comment?

25 MR. SHEARS: John Shears, just again like

1 to commend everyone on the fine work and we also
2 support the recommended allotment for Hydrogen
3 Infrastructure and are also obviously willing to
4 help out on that effort.

5 MR. MCKINNEY: Thanks, John. Anybody
6 else on the phone on the Advisory Committee?
7 With that, I'd like to open it to public comment
8 in the room.

9 MR. ELRICK: Hello. Bill Elrick,
10 California Fuel Cell Partnership. I didn't want
11 to take a lot of time because I'd like to speak a
12 little bit later, but I really want to echo what
13 we heard now and really commend and acknowledge
14 all the work that staff has done, the support by
15 this Advisory Committee and the Commissioner over
16 time. We submitted a detailed letter, including
17 resubmitting both the Light-Duty Fuel Cell
18 Vehicle Roadmap, which was an industry-developed
19 guidance document on how to roll out this
20 commercialization process. We also submitted,
21 and I'll talk about later, the Fuel Cell Bus
22 Roadmap for, again, bringing that application and
23 technology to the market. And really to take
24 note that we're proud of these and we're glad
25 that many of the people in this room helped to

1 develop that document.

2 But specifically right now, I want to
3 just acknowledge and appreciate the \$20 million
4 in funding, it is very necessary for us as we see
5 the automakers looking at 2015 to 2017 as the
6 launch years, where we were just a few short
7 years ago the EVs were in this state, and it
8 opens up very rapidly and quickly, and one of the
9 big differences is we don't have home fueling.
10 You know, we are looking for a public
11 infrastructure, so getting that network of
12 initial stations out there is very important and
13 this predictability and this funding will help us
14 establish that network that is so urgently
15 needed.

16 As I said, we've already submitted the
17 roadmaps, but I'd like to take a moment to
18 comment on two different things we heard earlier,
19 one was the vehicle rebate program, we've seen
20 that those have been very important for some of
21 the vehicle technologies. As the Fuel Cell
22 Vehicles start to go out in the next year or so,
23 having funds in that program for those vehicles
24 will be just as important, as well as the comment
25 about what metrics are used. Again, I think the

1 program has done very well with the metrics
2 they've developed, there are some new ones
3 coming, but to be aware that, as Tyson mentioned,
4 the connector stations are very crucial to some
5 of the purchasers who want to look at a Fuel Cell
6 Vehicle to meet the needs of replacing their
7 current gasoline or diesel vehicle, and so these
8 connector stations may not get as much heavy use,
9 but they will be a deciding factor on the
10 purchase of that vehicle. So just keep that in
11 mind when you develop some metrics. So with
12 that, I would just say thank you for the
13 continued support and hard work.

14 MR. MCKINNEY: Okay, thank you, Bill.
15 Jan.

16 MS. SHARPLESS: I'm going to tiptoe into
17 this rather lightly. I realize that this is
18 earmarked, so we don't have the same kind of
19 discussion that we've had in the past, and that I
20 do support Fuel Cells, and I do realize that
21 there is this problem between the chicken and the
22 egg and which comes first. But I'm wondering, I
23 guess, about how you go about allocating this
24 money and getting people to build Fuel Cell
25 stations when there's no cars yet there to

1 operate them, shall we say, there's not enough
2 throughput to make a market. Are you finding any
3 issues there? And how are you dealing with them?

4 MR. MCKINNEY: None whatsoever, ma'am.

5 (Laughter)

6 MS. SHARPLESS: Fine.

7 MR. MCKINNEY: My goodness --

8 MS. SHARPLESS: Should I be organizing a
9 little caravan?

10 MR. MCKINNEY: Between our summer
11 workshops, the work at the ARB, the work at the
12 Fuel Cell Partnership, most recently the
13 Executive Board Meeting, really, the core of the
14 focus now is on implementation. Now that the
15 funding is kind of secure and smoothed out, it's
16 really how to create the right incentive levels
17 and get the station developers to go ahead and
18 build stations knowing that they're going to be
19 uneconomic in those early years. That's the crux
20 of the effort right now, so you're right on
21 point.

22 MS. SHARPLESS: So you're looking for the
23 answer?

24 MR. MCKINNEY: Yes. And, sorry, let me
25 be a little more serious here, you know, Tyson's

1 organization, Energy Independence Now, has done a
2 critical report, the "Hydrogen Network
3 Infrastructure Fueling Plan," so we've done a lot
4 of economic analyses and we're really looking --
5 the gist of our summer workshops -- how do we set
6 the incentive levels in the next solicitation
7 through our agency? Are there other funding
8 sources that might be available with what are
9 called "Market Assurance Grants," so, yeah, this
10 is a very very active point of discussion with
11 the stakeholders on Fuel Cell Vehicles.

12 MR. CARMICHAEL: Feeding off of Jan's
13 question, one of the topics I remember being
14 discussed during the legislation development in
15 passing was a request by some of the potential
16 station operators for operating funding, but
17 honestly, I don't remember exactly where that
18 ended up. Is that part of the next still, and so
19 for those first few years when, you know, the
20 point that you're making, that they may not see a
21 lot of vehicle traffic, there is the ability for
22 the State to subsidize their operations to make
23 sure they stay open. That's my understanding.

24 MR. MCKINNEY: Yeah, thanks for that
25 reminder, Tim. So in our current -- we have a

1 Draft Hydrogen Solicitation that's available
2 through our website, and the staff straw proposal
3 is \$300,000 for O&M over three years, so
4 basically \$100,000 a year for some different
5 specified categories of reimbursable costs, so
6 that's our initiative in that, and that would be
7 open retroactively to all the stations, so
8 starting with the nine stations on the Fuel Cell
9 Partnership website, that we all agree are
10 publicly accessible and fairly modern in their
11 technology performance. Tyson?

12 MR. ECKERLE: I just wanted to commend
13 the staff on that and they've been really open
14 and to new concepts and ideas and putting these
15 things out, and putting out the draft
16 solicitation, I think, was a really neat approach
17 to getting feedback from the community and so I
18 just wanted to say that the staff has been great
19 at working through this issue, it's very complex
20 and having spent the last year looking at it,
21 there's no easy answer so to speak, so it's a
22 work in progress, but they've been doing a great
23 job.

24 MR. MCKINNEY: Alberto.

25 DR. AYALA: And just real quick, to get

1 to the very good question about the chicken and
2 the egg, I would submit that the action that the
3 Legislature and the Governor took by
4 reestablishing the commitment for infrastructure
5 deployment, to a large extent, I think pretty
6 much settles that question. Clearly the State is
7 ready to make investments so that we can get the
8 infrastructure in place. We obviously need
9 others. As important as the money is, it's not
10 going to be sufficient, but again, I think the
11 commitment that the State has made has gone a
12 long way to settle the question about the chicken
13 and the egg and this is basically a call to
14 action for all of us that want to see this
15 succeed because now we've got the funding, we can
16 get to the 68 and 100 stations, now we just need
17 to make it happen.

18 MS. SHARPLESS: I'd just say that -- I'm
19 not sure if they're still here, but the folks who
20 are doing the benefit cost assessment, you're
21 going to maybe have an interesting time in this
22 category.

23 MR. MCKINNEY: Yeah, the man in the
24 striped shirt trying to be inconspicuous there in
25 the corner.

1 MR. BIENENFELD: I just want to clarify,
2 it's chicken and chicken feed, right? You've got
3 to be able to feed the chickens before you have
4 them, and in terms of cost, that's about the
5 right balance. The vehicles are an enormous
6 investment, on the order of billions, and we're
7 talking about \$100 million to launch the
8 infrastructure, which I think is a huge
9 commitment by the State, and I think it's going
10 to put California in the lead, no doubt about it.

11 MR. MCKINNEY: Okay, I'd like to turn to
12 public comment in the room. And I've been
13 reminded that we do have a three-minute rule on
14 public comments, so we'll be enforcing that as we
15 go to through the afternoon so everybody gets a
16 chance to speak, and we can get out of here on
17 time. Jaimie Levin.

18 MR. LEVIN: Thank you for the warning on
19 that.

20 MR. MCKINNEY: With you, my good friend,
21 approach.

22 MR. LEVIN: Jaimie Levin with the Center
23 for Transportation and the Environment, and as
24 some of you know, previously with AC Transit, the
25 Fuel Cell Program Manager. I'm actually going to

1 speak, so I'm taking two opportunities about the
2 demonstration part of the Investment Plan, but I
3 really thought it was appropriate to say
4 something about the very successful Emeryville
5 station which I had a big hand in building. It
6 is performing quite well. I believe last month
7 there were 70 users of that station, it's taking
8 three minutes to fuel, three minutes for an F
9 Cell Mercedes, five minutes for a Toyota which
10 has more range, but that three to five minutes of
11 fueling time, the vehicles can then go off for up
12 to another 350 to 380 miles. And that particular
13 station is being powered with solar. We
14 installed a megawatt of solar onsite at AC
15 Transit, that's producing the hydrogen, and we
16 are demonstrating a fully self-serviced station
17 that works and works really well, and it's
18 transparent to what all of us are used to in
19 traditional fuels. So it is succeeding, and I
20 think what the Investment Plan is doing is
21 helping to provide that chicken feed which Robert
22 pointed out is absolutely necessary. Thank you.

23 MR. MCKINNEY: Any other comment in the
24 room? Is there any public comment on the phone?
25 Looks like none. Okay, Commissioner, I think

1 that concludes this discussion.

2 COMMISSIONER SCOTT: Great.

3 MR. MCKINNEY: Next on the list is
4 Natural Gas Fueling Infrastructure. The staff
5 recommendation is \$1.5 million. Any comments
6 from the Advisory Committee?

7 MR. SHEARS: John Shears. Just a query -
8 - I think a representative from one of the school
9 districts is hopefully still present. Just any
10 comment about comfort levels with that budget
11 level, recognizing the preferred targets for
12 school districts and transit districts for this
13 money?

14 MR. MCKINNEY: I think you just made the
15 comment, John. Anybody else -- Ralph, did you
16 want to speak to this?

17 MR. KNIGHT: I guess we're at a point
18 that a lot of the school districts have had these
19 stations up and running for quite a few years,
20 ours is about 17-years-old. So we're seeing a
21 timeframe coming along now where we've got a lot
22 of wear and tear that's happened over the last 15
23 plus years, so I think that, you know, \$1.5
24 million is pretty short stem to be able to do any
25 kind of major work, to redo that. You know, most

1 of us really jumped out there with natural gas
2 and did a lot of vehicles out there because that
3 was the best thing going at the time, and they
4 have proven themselves to do very well out there,
5 and be very economical for us. So, you know, I
6 kind of feel that it is kind of getting a little
7 bit shortchanged because you're talking about
8 probably two systems and the state is going to
9 eat up that \$1.5 million to go through a system,
10 so I think we just need to be aware of that
11 because of the large number of natural gas buses,
12 school buses that are running throughout the
13 state.

14 MR. SHEARS: I was just wondering if
15 staff could maybe elaborate a little bit on how
16 they, sort of relative to any kinds of needs
17 assessment, how they came to the \$1.5 million
18 number?

19 MR. MCKINNEY: Yeah, this is Jim
20 McKinney. We've been looking at the subscription
21 rates, and I'm looking over to André there, and
22 monitoring these closely. So I think our current
23 offer is \$300,000 max per station -- André is
24 approaching the microphone, I'm going to let him
25 take over.

1 MR. FREEMAN: So, yeah, it was based off
2 of our most recent solicitation where we did end
3 up funding every school district that applied.
4 They do get preferential points for our
5 solicitations and it may or may not be that way
6 in the future, but the \$1.5 million is based on
7 historical interest that we've seen from school
8 districts and other public entities.

9 MR. MCKINNEY: Yeah, and it's not clear
10 to staff how well widely understood or advertised
11 this program is at the school district level, so
12 there may be more demand than we're aware of, but
13 until that kind of comes into the committee
14 proceeding here, we have to go with the data that
15 we have. And we have curtailed, or are
16 curtailing a lot of the private sector CNG
17 fueling just because the low price of natural gas
18 makes that cost-effective for private investment
19 very very quickly. So we're really focusing
20 increasingly on the public sector for these
21 investments.

22 MR. SHEARS: This is John again. I think
23 that was Tim trying to speak -- I'm just curious
24 because in past Investment Plans, you know,
25 there's been some of the carryover money and,

1 based on the description that I recall from the
2 current draft of the Investment Plan, I didn't
3 see a discussion of basically keeping a little
4 bit of money in reserve in the eventuality that a
5 PON, say for this type of allotment, were to be
6 over-subscribed, whether it could then be topped
7 up, likewise maybe for any of the other tranches
8 that might get funded going forward.

9 MR. MCKINNEY: Yeah, so John, you know,
10 we have this mechanism we call headroom where we
11 will write in more to a solicitation than we have
12 available funding, so that way if we are over-
13 subscribed, we can pull from the next fiscal year
14 funding cycle without having to repost a
15 solicitation. So it's kind of an efficiency
16 means and kind of a safety valve there along the
17 lines that you're discussing. But again, the
18 best way for those who want to advocate for
19 changes in funding, again, this series of
20 proceedings is the opportunity to get that data
21 and those comments into our record.

22 MR. SHEARS: Great. And so just to
23 clarify, right now for this Investment Plan,
24 there's no headroom that's been factored in.
25 Correct?

1 MR. MCKINNEY: That happens at the
2 solicitation level and that's our standard
3 practice these days. I'm looking at John for
4 confirmation, John Butler. Yeah, that's our
5 standard practice for most of our solicitations
6 these days, is to have that headroom be written
7 into the solicitation.

8 MR. CARMICHAEL: This is Tim Carmichael,
9 Natural Gas Vehicle Coalition. I think Jim and
10 the staff covered this, that's why I didn't
11 really have any comments. I think you got the
12 right target for the funding. I think the amount
13 is probably about right. But Ralph (Knight)
14 raises a good point on a number of the school
15 districts who were ahead of the curve got, you
16 know, natural gas refueling infrastructure and
17 fleets going before a lot of others did, and I
18 honestly can't remember if it was a conversation
19 with CEC staff or San Joaquin Air District staff
20 in this calendar year about making funding
21 available for the refurbishment or upgrade of
22 existing infrastructure. Is that currently part
23 of your scope for funding? Is that allowed with
24 this pot?

25 MR. MCKINNEY: Very much so.

1 MR. CARMICHAEL: Okay, I just wanted to
2 make sure. Thank you.

3 MR. MCKINNEY: Okay, Ralph?

4 MR. KNIGHT: You know, Tim, you hit that
5 right on target because most of us are just now
6 going through our first 15-year tank replacement
7 sessions right now, so, yeah, they're the only
8 people out there -- because we struggled with
9 tank trailers probably for the first two years,
10 and I say "struggle," that was big time struggle
11 there, but when the stations finally started
12 coming up. So we've done a lot of fuel pumping
13 over these 15 years.

14 MR. CARMICHAEL: Worthy of one more
15 comment, a lot of people give the transit
16 agencies a lot of kudos for their tenacity and,
17 you know, their toughness, but the school
18 district fleets have been pretty damn durable,
19 and persistent with a spectrum of alternative
20 fuels, not just natural gas, so credit to all of
21 them around the state.

22 MR. MCKINNEY: Okay, do we have any
23 public comment in the room? Oh, I'm sorry, I
24 meant Advisory Committee members on the phone.
25 Anybody else on the phone from the committee that

1 wanted to speak? No, okay. I'll turn to the
2 room.

3 MR. CLEMENTS: I didn't give you a blue
4 card either. John Clements, retired Director of
5 Transportation, Kings Canyon Unified. Just like
6 Ralph and Tim mentioned, we were an early on
7 starting right here in this building in 1996 with
8 Phase 3 of AB 35 funding that helped us get on
9 the road, and today Kings Canyon Unified's fleet
10 of 70 plus buses is one-third natural gas and
11 we're going through those tank replacements, too.
12 So we just had applied, and I guess I'm waiting
13 for a contract for 12605, right? And we were the
14 last school district funded on that list, other
15 than there was Southwest JPA did not make the
16 list which provides fuel to schools on the west
17 side of Fresno County, about 12 schools they
18 service, they were just a couple down on the list
19 and so that was one that was not funded.

20 MR. MCKINNEY: Thank you. Any other
21 comment from the room? Do we have public comment
22 on the telephone? Okay, Commissioner, I think
23 that closed out this discussion. Now we're going
24 to move to the Vehicle category, so the first
25 line item there is Natural Gas Vehicle Incentive

1 Funding. The staff recommendation is \$9 million.

2 Do we have comments from the Committee?

3 MR. CARMICHAEL: Tim Carmichael with the
4 California Natural Gas Vehicle Coalition. I have
5 a few things I noticed in the report that I've
6 got questions for staff, but I'm not going to get
7 into it right now, just questions where some of
8 their numbers came from, but I'll follow-up with
9 staff in written comments or a meeting.

10 I do want -- I'm a big fan of Charles,
11 but his comment that, you know, this was a small
12 or minor reduction in natural gas funding, I
13 disagree with. The \$12 million to \$9 million is
14 25 percent, and in my budget, personal and
15 professional, that's still a big cut. And so we
16 will be -- you can expect that we will be
17 advocating in our written comments for more
18 funding than \$9 million.

19 MR. MCKINNEY: And Chris Shimoda, if you
20 can share the microphone there.

21 MR. SHIMODA: Chris Shimoda with the
22 California Trucking Association. I just wanted
23 to address one item that I heard in the staff's
24 report regarding whether or not private fleets
25 are adopting natural gas on their own. And I

1 just wanted to draw attention to a survey that we
2 performed earlier this year. We found that 80
3 percent of fleets who have yet to adopt any
4 natural gas told us that they still needed some
5 kind of incentive to actually move toward a
6 natural gas truck. And the even more interesting
7 number that I found was that 90 percent of the
8 fleets who have already adopted some number of
9 natural gas trucks said that they would need
10 incentive to continue. So as far as, you know,
11 whether or not we've hit that point where the
12 return on investment is great enough to get
13 fleets to move in that gas without incentives, I
14 don't believe we're there.

15 MR. CARMICHAEL: Tim Carmichael once
16 again, sorry, Chris' comment reminded me of a
17 quip that somebody shared with me this summer.
18 The average trucker, even in California, is not
19 likely to be an early adopter of anything. And
20 so that is something to keep in mind. Natural
21 gas may be more prevalent in the heavy-duty
22 sector than a lot of other options, but it's
23 still not what we believe is the tipping point or
24 at a point where, you know, incentives aren't
25 very helpful.

1 MR. MCKINNEY: Do we have comments from
2 other Committee Members present? Do we have --
3 oh, Ralph.

4 MR. KNIGHT: I just want to go along,
5 Tim, with what you're saying there because I
6 think that we're going to see --

7 MR. MCKINNEY: Into the microphone,
8 please.

9 MR. KNIGHT: -- we're going to see some
10 pretty heavy competition when the trucking
11 industry finally does jump into that, and that's
12 going to make it real tough for the school
13 districts who have had it pretty nice for quite a
14 few years as far as natural gas is concerned
15 because the way that we went, it was the clean
16 way, it was an economical way, and we had some
17 good equipment. But I think that, you know, that
18 dollar is going to have to move eventually, and I
19 think we need to keep that in the mind and out in
20 the forefront because that could really adversely
21 put the real glitch to the school buses out
22 there.

23 MR. MCKINNEY: Do we have any Committee
24 Members on the phone who want to comment? I take
25 that as a no. Public comment in the room? Then

1 I'll go last call public comment on the telephone
2 line. Looks like no, okay. Commissioner, I just
3 wanted to give Jan Sharpless a chance to offer
4 any last remarks before you need to leave.

5 MS. SHARPLESS: Well, I've been on the
6 Advisory Committee I guess since the get go and I
7 do have to compliment the staff on what I've seen
8 evolve over time. I think that the conversation,
9 the dialogue and the decision making on how
10 you've come up with the allocations in the
11 different sectors has really begun to mature.
12 And you've been guided by the comments of this
13 Committee and guided by the stakeholders, and I
14 think it makes it a much better plan, a more
15 defensible plan. There's just not enough money
16 to do everything everybody wants to do, and I
17 understand that. So it's a difficult decision on
18 how you make those cuts between the various
19 demands from the different categories. I think,
20 you know, that it's pretty much stable and going
21 forward. I don't see a lot of changes that are
22 taking place as far as the funding is concerned,
23 but I see a lot of changes happening in the
24 administration and implementation of the program
25 that has really improved it.

1 So at this point, I don't have any
2 recommendations that I would make for changing
3 allocations. I just brought up some of the
4 concerns that I have in some of those areas, but
5 time will tell, I guess, and would look forward
6 also to what comes out as the cost, benefit cost
7 assessment, that we've all been sort of
8 interested in finding out. And thank you very
9 much for having me on this Committee and letting
10 me participate, I really appreciate it. Thanks.

11 COMMISSIONER SCOTT: Thank you so much
12 for being here.

13 MR. MCKINNEY: Okay, now next funding
14 category is Light-Duty Electric Vehicle
15 Deployment. And the staff recommendation is \$5
16 million. So, Committee comments? Eileen.

17 MS. TUTT: Eileen with the California
18 Electric Transportation Coalition. I just want
19 to point out that I support this amount, I think
20 I wouldn't change it necessarily, but I want to
21 point out that these -- that both the Clean
22 Vehicle Rebate Program and the Heavy-Duty Truck
23 and Bus Program are very very over-subscribed.
24 Last year, as you know, we had to backfill a \$72
25 million shortfall in the AQIP Program, so I

1 really -- I think that it is totally appropriate
2 to keep this amount at \$5 million because this
3 money really is -- there's a different pot of
4 money for electric vehicles, if you will. But I
5 guess I'm asking for the Energy Commission, in
6 particular Commissioner Scott, support because
7 this year we're probably going to be somewhere on
8 the order of \$130, \$140, maybe even \$150 million
9 over-subscribed in the AQIP Program, and so we
10 are going to need to use the cap-and-trade
11 revenue. This \$5 million is 10 percent of the --
12 you know, it will help with 10 percent, but
13 there's still \$145 or so million that's going to
14 be needed, and that will help not only the Plug-
15 In Vehicles, but also the Hydrogen Fuel Cell
16 Electric Vehicles. So we're going to need your
17 help there. I certainly would not -- I think
18 this is kind of unusual to use this money for
19 this purpose, it's very much appreciated because
20 it sends exactly the right signal that these
21 incentive programs are so important. So thank
22 you.

23 COMMISSIONER SCOTT: I also have been
24 working closely with Alberto and the team and we
25 will continue to do so as we look out over the

1 CVRP, so...

2 MR. MCKINNEY: Dr. Ayala.

3 DR. AYALA: And perhaps just to move
4 things along, because I think I echo and agree
5 with what Eileen said, I just want to reiterate
6 our commitment to continue to work with you all
7 to figure out exactly how we move forward. We
8 are very much victims of our own success, and
9 right now is not the time to buck off again,
10 another area where we need to double-down and do
11 whatever we can from our respective angles to
12 make sure that we continue the support. And at
13 this point, again, I just want to express our
14 appreciation for the CEC, including this line
15 item in the Investment Plan.

16 MR. MCKINNEY: And Bonnie Holmes-Gen.

17 MS. HOLMES-GEN: Another echo of support
18 for needing more money for this category, but I
19 agree, we are strongly supporting an allocation
20 from the cap-and-trade revenues to strengthen and
21 extend this program and make sure we have a
22 consistent stable source of funds -- an adequate
23 and consistent stable source of funds over the
24 next decade to make sure that we are providing
25 the right level of incentive, to make sure this

1 roll-out happens, and that we get a significant
2 increase in plug-in vehicles early on in the next
3 few years. So just, again, this is very
4 important. We've been supporting this program in
5 every way we can through the ARB and AQIP process
6 and through the CEC process and, of course,
7 through AB 8, and the Corbett Bill, we've been
8 looking at all thing different ways to express
9 our support for this. We think it's been very
10 successful. So look forward to working with you
11 to keep it going.

12 MR. MCKINNEY: Okay, do we have Committee
13 members on the phone?

14 MR. SHEARS: Hear, hear.

15 MR. MCKINNEY: Thank you, John. I'd like
16 to open it to public comment in the room.

17 MR. SCHORSKE: Hi, Richard Schorske, EV
18 Communities Alliance. I also want to echo the
19 importance of this category. And in light of the
20 over-subscription, just to throw out some ideas
21 for rethinking the approach on this in terms of
22 the efficacy of the money, obviously early folks
23 in the year who get this, this is a rather
24 arbitrary approach, there has been some
25 discussion, I know there's discussion at the ARB

1 on means testing for the receipt of these
2 rebates. A lot of folks feel that's intrusive
3 and has other objections to it from a market
4 development perspective. But I just want to
5 encourage this body and the ARB both to really
6 look at the implications for driving down the
7 cost of the lower end vehicles. We've got Leafs
8 and i-MiEVs that are still roughly \$10,000 even
9 after incentives, five to ten more than the
10 equivalent ICE vehicle, and where they're being
11 sold, predominantly in the dealerships,
12 obviously, is a place where folks are looking at
13 those bottom line numbers and having trouble. So
14 the notion of concentrating the incentive for the
15 lower cost vehicle segment to drive a true mass
16 market product that's really comparable to the
17 lower end of the ICE would be a great approach, I
18 think, from a policy perspective.

19 A second issue is how the vehicles are
20 getting marketed. We've been on the phone with
21 OEMs recently and they've been quite candid about
22 the fact that dealers who have BEVs and ICEs and
23 PHEVs are not necessarily well incentivized or
24 even well trained to deliver the EV value
25 proposition. I mean, you could say that's their

1 problem, but they have a very long sales time
2 with the customer to explain the benefit. The
3 TCO calculation is not top of the line for
4 customers, unfortunately, and it's complicated to
5 explain, so even though it's true that the TCO is
6 potentially very favorable for EV right now, it's
7 not getting through. So by contrast, a number of
8 stakeholders have been doing these ride and
9 drives, and we have had where it's EVs and PHEVs
10 only, all brands are represented, they're brought
11 to workplaces. Plug-In America has been in the
12 forefront on this and some other EV
13 organizations, and they have really done a great
14 job with bringing vehicles not only to larger
15 workplaces, but also to fairs and green car
16 shows, and earth days, and a number of different
17 malls, and so forth. And there, they have some
18 great data on click-through rates to sales, very
19 impressive approach; the emphasis is on riding
20 with existing EV drivers who are evangelizing for
21 their vehicles that they're riding in. And so
22 it's a really different venue than a dealership
23 and the issue is funding, so right now all of the
24 incentive money goes to the buyer, and I'd like
25 to suggest that the sales chain be considered

1 potentially to both dealers and innovative
2 vertical market approaches such as these ride and
3 drives, or other fleet sales, outreach approaches
4 you would consider for getting some of the
5 funding. Even \$250.00 a vehicle, certainly
6 something like \$500.00 a vehicle, would get the
7 attention of various vertical markets and
8 intermediaries who could help with the sales
9 process. So it could be a much more effective
10 bang for the buck to incentivize innovative
11 approaches to getting these vehicles deployed. I
12 just wanted to throw that out. Thank you.

13 MR. MCKINNEY: Okay, thank you.

14 MR. BIENENFELD: Yeah, this is Robert
15 Bienenfeld. I would just caution this
16 organization to think very carefully if you start
17 moving into any kind of incentive on the sales
18 end, other than directly to the consumers. There
19 can be lots of unintended consequences. I mean,
20 I know as a long time person in the auto
21 industry, and I could tell you that you just
22 don't know what you're going to get when you
23 embark in such an area. You don't want people
24 being pushed into vehicles that they're not ready
25 for because of an over-enthusiastic salesperson

1 because they're going to get a SPIF, or a Special
2 Incentive. And you also just might find that
3 dealers will cut back their own incentives if you
4 start incentivizing their salespeople. So it's a
5 complicated area and it's fraught with risk, and
6 we spend -- I know automakers spend a long time
7 figuring out how to just dial things in, how they
8 do. So it's probably not working as well as it
9 could, but it's an area where I know you don't
10 have a lot of experience and you probably don't
11 have the time and effort and energy to learn, but
12 it's very complicated, so...

13 MS. TUTT: I just want to add, since
14 Alberto is here, I think we're getting off topic,
15 and Peter is here, too, we're on to AQIP, but I
16 just want to make a point that the AQIP program
17 and the Incentive Programs are intended to
18 accelerate the market and they're working exactly
19 as intended. We are selling at three times the
20 rate of hybrids from when they were first
21 introduced and weren't getting incentives. So
22 the incentive programs are working. This equity
23 issue that Richard brings up, I totally agree
24 with it. What we need is more money to address
25 that issue, not reducing -- not a reduction in

1 incentive programs either for light-duty vehicles
2 or for the heavy-duty vehicles and trucks
3 because, again, the success of the light-duty
4 vehicle market translates directly to the success
5 of the heavy-duty and truck market and bus
6 market, and so we need both. And now when we're
7 barely barely barely starting to be successful in
8 the market is not the time to dial back on any of
9 this, in fact, it's the time to really think
10 about investing the cap-and-trade revenue at \$1.5
11 billion next year in transportation where it
12 makes the biggest difference. And I would argue
13 that this incentive program is one of the most
14 successful market accelerators that the State has
15 every employed.

16 MR. MCKINNEY: Yeah, and the name of that
17 discussion is the CVRP Work Group. Okay, thanks,
18 Eileen -- and HVIP. Committee members on the
19 phone? Let me go to Bonnie Holmes-Gen while
20 we're waiting for a response there.

21 MS. HOLMES-GEN: Hi, I just can't help
22 but resist commenting on those comments, and I
23 agree with Eileen's comments about needing more
24 money to address the equity issue, but in terms
25 of the dealers, I think there is really more that

1 can be done and needs to be done to ensure
2 there's strong outreach effort from the dealers
3 to educate people and help them to feel excited
4 and comfortable and motivated to buy these
5 vehicles. And I don't know when all that's going
6 to evolve, I know that Alberto is on this issue
7 and that the ARB staff is taking a look at this,
8 and would love to hear him comment about it, but
9 I think it is a missing link that needs to be
10 addressed. And clearly all of us probably know
11 somebody who has been turned away or turned off
12 to a Plug-In Vehicle at a dealership, and that
13 should not be happening.

14 DR. AYALA: Well, thank you. Not to get
15 too much off topic here, but I guess that's the
16 reason this Committee process is so helpful,
17 because we can engage in constructive dialogue.
18 Some of us were at the recent event that the
19 Governor and the Plug-In Collaborative held in
20 San Francisco, the Drive the Dream. And one of
21 the messages that the Governor delivered was that
22 the reason that his Administration and the
23 agencies are so behind the technology is because
24 these vehicles are not mainstream. So I have to
25 wonder, you know, to the extent of what we

1 continue to call these vehicles somehow special,
2 that they are not for everybody. We continue to
3 perpetrate this idea that somehow you have to go
4 through some systematic assessment so that you
5 can find out whether you're the right person or
6 not. I mean, if you look at the driving patterns
7 of the average California driver, EVs are perfect
8 for 99.9 percent of us. And as Bonnie said, you
9 know, it's only natural that those of us that are
10 trying to support this transformation are looking
11 at what other things we can do, what other
12 options we have to make sure that we continue to
13 support this transformation.

14 MR. MCKINNEY: And Peter Cooper.

15 MR. COOPER: Yeah. For the Employment
16 Training Panel, I just wanted to remind the
17 Advisors that we have entered into a pilot
18 funding for training of sales and servicing staff
19 with John O'Sullivan, as well as -- so that's
20 already started into an ETP training program for
21 the sales staff in this area, and we're also
22 looking at options for expanding that model with
23 the California New Car Dealers Association. So
24 we see this as a potential area for training.
25 Obviously not a majority of the funds that come

1 through our program will go to this, but I think
2 it's an important area of support.

3 MR. MCKINNEY: So Charles or André, do we
4 have anybody on the phone from the Advisory
5 Committee? Public comment from the audience?
6 Jamie Hall.

7 MR. HALL: Good afternoon, everyone. I'm
8 Jamie Hall, I'm Policy Director for CalStart.
9 Sorry for not submitting a card. I was going to
10 give nice warm comments, but Eileen summed up
11 everything I was going to say pretty well, so I
12 just want to say this amount of money makes
13 sense. These programs really work; 118 as a
14 program is working overall, and there's no better
15 example of our success than where we are today
16 with Electric Vehicles. As a working program,
17 putting more money into oversubscribed working
18 programs makes sense and all of the talk about
19 how do we handle equity issues, these are all
20 real issues, this is why we need more money, cap-
21 and-trade makes sense for this. So I'd like to
22 reiterate what everyone else has said. Thank
23 you.

24 MR. MCKINNEY: Anybody else in the
25 audience here? Any public comment on the phone?

1 Seeing none, Commissioner, I suggest we move on
2 to the next funding category. Medium- and Heavy-
3 Duty Advanced Vehicle Technology Demonstration.
4 The staff recommendation is \$15 million. Any
5 comments from the Committee? Ralph, then
6 Alberto.

7 MR. KNIGHT: I just want to say thank you
8 to everybody who has put the hard work into all
9 of this whole plan here, and I think, you know,
10 we're in an area near and dear to my heart as far
11 as heavy-duty is concerned. And I think that we
12 really need to move forward. I think that we
13 have convinced people that retrofits is a good
14 thing to do. I think we've got some retrofits
15 that are going to be out hitting the road here
16 very shortly. I know I've got a couple projects
17 myself going on within my operation and I've been
18 playing with electric school buses since about
19 1997, so to see a '97 bus come back up on the
20 road repowered with new technology today is going
21 to be amazing, it's not far down the line. I
22 feel the support of the amount of money in this
23 area could use an increase because I think we're
24 there, we're there to see heavy-duty vehicles
25 come out, we're going to prove it, to do that,

1 and we're going to prove that it's not worth
2 scrapping our old buses to keep them on the road,
3 you retrofit them and put them back out there.
4 The dollars and cents, I think, is in the
5 ballpark to make that happen, to make that
6 worthwhile vehicle. And there's just that gitch
7 (*sic*) in my craw that to scrap a bus and get rid
8 of it after you've paid so much for it to start
9 with, to turn around and not re-use it and put it
10 out there, I can make that bus look just as shiny
11 as a brand new vehicle rolling off the road, and
12 do the same job and do the same thing for the
13 same amount of money as I would with any other
14 vehicle out there, and I think that's good.

15 But I passed out a letter for everybody
16 to see with the initiative that's going on with
17 the Electric Vehicles, and I think there are some
18 key issues in here that I think that you need to
19 think about this, 1) being that this big Heavy-
20 Duty Electric Vehicle is your backup for a
21 natural disaster. What's the first thing that
22 you'd take down to the fire department, or
23 dispatch area, or whatever to put out there?
24 Your portable power unit. I mean, that bus can
25 do just as much as any generator sitting out

1 there to do, or any truck that's got that amount
2 of power sitting in the belly of it. And I think
3 when we talk about the Vehicle to Grid, how much
4 better can you have again? You've got a big
5 vehicle to be able to make that Vehicle to Grid
6 shine like a big sunshine out there, and I think
7 that, you know, we're looking to do solar
8 charging with the buses that we're going to be
9 bringing into the operation that are electric. I
10 think that's just a plus. You know, I think this
11 is just one of the largest deals for school buses
12 right now there is, is going to be this electric
13 bus and retrofits.

14 MR. MCKINNY: Alberto.

15 DR. AYALA: Thank you. Briefly, just
16 again want to express our support and make the
17 statement that, you know, we think it's
18 critically important for us to continue to invest
19 in the Heavy-Duty sector. I already talked
20 about, you know, what we expect to see. And as
21 CEC staff accurately noted, we ourselves had to
22 make some really difficult decisions not long ago
23 where we had to zero out some of our Advanced
24 Technology Investments so that we could use the
25 money to support CVRP, so it was really good to

1 be in a much better place now where we can
2 continue to support a demonstration with advanced
3 technologies, again, that heavy-duty sector, both
4 the on-road that the CEC is focusing on, as well
5 as the off-road that the ARB is focusing on are
6 going to be critically important for us to be
7 able to meet our goals. Thank you.

8 MR. MCKINNEY: Tim.

9 MR. CARMICHAEL: Tim Carmichael, Natural
10 Gas Vehicle Coalition. I personally am very
11 supportive of this category, advocated for the
12 creation and the expansion of this. But I'm not
13 sure all my members are as enthusiastic about it,
14 and one of the things I was thinking about during
15 your presentation earlier, Jim, is it was helpful
16 for you to highlight one or two examples of
17 projects that have been funded, but I think it
18 would be really helpful for me -- and I assume
19 the rest of the Committee -- to see a summary
20 table of what's been funded to date and the
21 status. You know, in some cases it's still in
22 the workshop, but in other cases these vehicles
23 are operating in fleets. And I know there's a
24 good spectrum of technologies that have been
25 funded. So I don't know if you already got that

1 ready, or it's something you can put together,
2 but I think it would be really helpful for us in
3 the coming months.

4 MR. MCKINNEY: I think that's a good
5 observation. So a lot of our project information
6 is available on the DRIVE website, although it
7 does not always have the most current NOPAs in
8 there. We also have something called The
9 Compendium that we put out with the Benefits
10 Report, but upon request -- or actually we could
11 just send that to everybody on the Committee, the
12 current catalogue of all the funded projects, so
13 the 255 projects we referenced in the opening
14 presentation.

15 MR. CARMICHAEL: Just to clarify, will
16 the next round of the Benefits Report, which I
17 think comes at the end of the year, will that
18 include a section on this category? Or is it --
19 I can't remember, is it more high level than
20 that? Or will it actually include a section
21 describing the benefits of this category? And
22 should we wait for that as a convenient time for
23 you to give us some more details on what's been
24 funded in this category to date and the benefits
25 of that? I'm not asking for a summary table of

1 every project that's been funded, I'm talking
2 about in this category in particular, I think
3 it's twenty-something, if I remember right from
4 reading it, it's twenty-something projects that
5 have been funded.

6 MR. MCKINNEY: Yeah. So, I don't know,
7 Mark, do you want to talk a little bit about kind
8 of the more forward-looking benefit categories
9 that your team is creating with -- I know there's
10 no numbers in there yet, but I think this
11 conceptually -- the market growth and market
12 transformation benefit category. So, again, I'd
13 like to introduce Dr. Mark Melaina of NREL. He's
14 Team Leader for our Technical Support Services
15 Contract.

16 MR. MELAINA: Thank you. I think in
17 response, we've done market projections of the
18 impact on future markets for a select number of
19 projects, but we haven't done it consistently
20 across every single project that's been funded.
21 We have done it for the specific vehicles and
22 equipment on the road, but not necessarily the
23 impacts on future markets for all of them.

24 MR. CARMICHAEL: Given that -- I do think
25 it would be helpful at some point, it doesn't

1 have to be this month, but during this process to
2 get a summary table of what has been funded in
3 this category to date and the status of those
4 projects. Thank you.

5 MR. MCKINNEY: Okay, any other -- Bonnie.

6 MS. HOLMES-GEN: Thanks. And you know,
7 we have a lot of positive comments today, have
8 you noticed, on this plan? It's really nice,
9 isn't it? But I think we've commented over
10 several Committee meetings that, you know, this
11 category is really important to us, and so I'm
12 glad to see it in here and see this amount -- for
13 all of these it's hard because, you know, I'd
14 like to say, well, maybe we could increase it,
15 but I know we're dealing with a set amount of
16 funds, and those are really hard choices how to
17 slice it up. But you know, especially in terms
18 dealing not only with GHG, but near source
19 criteria air pollutant problems, you know, we're
20 very pleased to have this category move forward
21 and to see cleanup and advanced technologies in
22 the medium- and heavy-duty sector. We've been
23 very supportive of continued work in goods
24 movement, in general, to try and move towards
25 zero emission strategies. ARB is very soon going

1 to be discussing their goods movement
2 sustainability -- I'm sorry, that's not the right
3 name, but -- sustainable goods movement strategy.
4 And it seems like maybe some comments on that
5 could be integrated into this Investment Plan
6 since you're talking about all the different
7 drivers towards the sustainable goods movement,
8 and that hopefully will be another driver and
9 another important effort that should be noted.
10 But in terms of, again, community impacts, in
11 terms of criteria pollutant and soot issues that
12 are being experienced, this is a very important
13 area. So we are supportive of this.

14 And I would just comment that, you know,
15 I asked earlier about the Benefits Plan, Benefits
16 Report, I'm glad that's coming out, I certainly
17 do note that you have a summary of benefits at
18 the beginning of this Investment Plan; but I
19 think it would be helpful to include a little
20 more, just some high level information from the
21 Benefits Plan, and integrate that into this
22 Investment Plan so that when folks -- let's say
23 legislators when they sit down to read this, you
24 know, they will see some of that information
25 incorporated in here that we do have about the

1 progress that's been accomplished in each of
2 these areas. So just wanted to make that -- I'm
3 not trying to give you more work, as always, but
4 I do think that would help to balance out this
5 discussion because we do have that information
6 available and it would make it a stronger
7 document.

8 MR. MCKINNEY: Any other comments from
9 Committee members in the room? Committee members
10 on the phone?

11 MS. TUTT: Eileen at Cal ETC. Just one
12 quick comment. I just want to say that, as Tim
13 mentioned and Chris, as well, that the natural
14 gas vehicle incentives are important for that
15 market, I would say, you know, times 10 or 100
16 for this market. These vehicles are much much
17 more expensive, they are nowhere near cost-
18 effective at the moment, and we need many more
19 demonstrations really before we launch into full
20 market, the demonstrations are going to be
21 absolutely essential. So I think the amount of
22 money here is good, I'm glad that you ramped up
23 over the last couple of years. But just to
24 clarify, this funding is very very critical
25 because I don't -- unlike natural gas vehicles,

1 natural gas heavy-duty vehicles that are in the
2 market and are relatively commercial, these
3 vehicles that this program is funding are not and
4 they won't be without the money. So, thank you.

5 MR. CARMICHAEL: For a second there, I
6 thought Eileen was going to say "and they are
7 relatively cool," referring to natural gas
8 vehicles -- that's what I think she was trying to
9 say!

10 MR. MCKINNEY: And I think we have blue
11 cards here in the audience.

12 MR. SMITH: The first blue card is from
13 Jamie Hall, CalStart.

14 MR. HALL: Good afternoon again. And
15 thank you for the opportunity to provide comments
16 on the plan. I just wanted to take a step back
17 because I didn't do this when I was providing my
18 earlier comments, and just note that this program
19 is really an essential tool if we want to meet
20 our longer term goals as a state and clean up the
21 transportation sector. This is why we co-
22 sponsored AB 8, very happy to see that that bill
23 passed, as I imagine most of you are. And with
24 the passage of that bill, we really have an
25 opportunity and a responsibility to invest in

1 projects that have the potential to help us meet
2 our near term and long term goals, and really
3 transform this transportation sector. On that
4 front, this draft is a really good start, I think
5 most of the comments have been positive, and
6 today's discussion has been a really good one,
7 always a good way to spend the day.

8 Moving to this category specifically,
9 medium- and heavy-duty vehicle investments are
10 vitally important for our goals as a state.
11 CalStart has been active in the truck and bus
12 sector for quite some time now. Leveraging CEC
13 funding from a PIER grant, we created the CalHeat
14 Truck Research Center and developed a roadmap for
15 clean technologies for the truck and bus sector
16 with an eye towards achieving our longer term
17 greenhouse gas and criteria emission goals. This
18 was developed with input from more than 30
19 leading experts in industry, as well as a
20 steering committee of policy makers and other
21 stakeholders. The analysis showed that continued
22 targeted research development and demonstration
23 investment across the whole spectrum of
24 innovation is needed if we want to come close to
25 meeting our goals, and so we really support the

1 staff's recommendation for putting another \$15
2 million in this sector. The actual needs, as is
3 probably the case for all these categories, are a
4 lot greater, but we know you have limited
5 resources and think that you struck the right
6 balance here.

7 I want to put three specific
8 recommendations on this today. First, we see
9 value in continuing the CalHeat Research Center,
10 itself. There are several key players in this
11 sector, the Energy Commission's investments are
12 important, but there are a lot of others, the
13 Ports, the Air Districts, the Federal Government,
14 lots of people who can sort of have an impact
15 here, and there's a lot of value in having one
16 place where these activities can be coordinated
17 and a group with a lot of external expert input
18 that can help prioritize investments and make
19 sure that we're making the most of limited
20 dollars that we have. We recommend making this
21 sort of coordination and analysis eligible for
22 funding potentially as part of this category --
23 or I'm not sure if there is another place that it
24 would make more sense.

25 Second, we recommend that the CEC allow

1 for a broad array of development and
2 demonstration projects from proof of concept
3 prototypes, all the way up through pre-production
4 trucks and buses, they're sort of a broad
5 spectrum, a recent investment that have really
6 done a good job of one sliver of that, but these
7 truck and bus companies don't have the R&D
8 budgets that the car companies have, and if we're
9 not providing help at all points along the way
10 we're going to run into problems.

11 And finally, we recommend that CEC
12 continue to use and improve on the sort of block
13 grant process that you've made use of in this
14 sector. Non-profit institutions are in a good
15 position to administer grants, sort of take some
16 of the workload off your shoulders, facilitate
17 information sharing, and ensure that we're
18 investing in the right mix of things and getting
19 all the information out there.

20 I don't think we should underestimate the
21 scale of the challenge in truck and bus. I think
22 the fact that you're putting a significant amount
23 of money here shows that staff really understands
24 the issue here, so we encourage continued focus
25 on this sector and sort of a flexible approach

1 that ensures that we can get all the way through
2 the commercialization process. Thank you.

3 MR. MCKINNEY: Yes.

4 MS. MCMONIGLE: I'm so sorry, it's 3:00
5 and I have to run, I just have one quick comment
6 to make -- and on a different section, so I
7 apologize.

8 MR. MCKINNEY: Can you just identify
9 yourself, please, for the record?

10 MS. MCMONIGLE: I sure will. Sorry, Anne
11 McMonigle, California Labor Federation, sorry to
12 intercept here, I just have one quick comment on
13 the Workforce Training Funds portion. We're fine
14 with the dollar amount and we'll be submitting
15 comments. But I would just like to see the
16 language referencing Prop. 39 removed. Those are
17 two entirely different funding streams, and I
18 would hate to see that an unintended consequence
19 be that a precedent be set moving forward that
20 could possibly subvert necessary workforce funds
21 going forward. Thank you.

22 COMMISSIONER SCOTT: And thank you for
23 joining us today.

24 MR. MCKINNEY: Okay, do we have other --

25 COMMISSIONER SCOTT: A quick time check

1 with folks. I didn't want to sort of rush the
2 different conversations, and so I hope that most
3 folks have time to continue kind of working our
4 way through. We still have a few more, but I
5 just want to make sure we don't lose the whole
6 committee either, so do folks -- okay, I'm seeing
7 nods. Okay.

8 MR. MCKINNEY: It looks like a pile of
9 blue cards there, Charles.

10 MR. SMITH: Yeah, the next one is from
11 Jaimie Levin, Center for Transportation and the
12 Environment.

13 MR. LEVIN: Thank you again. I would
14 like to tell you what the State of California has
15 invested in the Fuel Cell Bus Program in the Bay
16 Area: to date, over \$30 million as part of \$88
17 million program. And I'd like to give you some
18 sense of what the return on investment of that
19 contribution has been. There are over 800,000
20 miles of service on these Fuel Cell Vehicles,
21 they are now generating 32,000 to 36,000 miles a
22 month. There are more than three million people
23 who have ridden those buses at the rate of over
24 135,000 passengers a month, and most of those
25 passengers are from Title 6 Environmental Justice

1 neighborhoods. The vehicles are getting 1.9
2 better fuel economy over conventional vehicles.
3 The lead Fuel Cell in that fleet of 12 buses has
4 over 15,000 hours of continuous service,
5 continuing to operate. That is an older
6 generation fuel cell that was only expected to
7 last 4,000 hours.

8 The availability and reliability of this
9 fleet is equaling that of a diesel conventional
10 fleet. Over 165,000 kilograms of hydrogen have
11 been dispensed with more than 6,000 fills; 130
12 kilograms of hydrogen per day are being produced
13 with renewables from solar and biogas production.
14 And the operator/driver acceptance, as well as
15 passenger acceptance is phenomenal, it's in the
16 70-80 percentile.

17 And so these vehicles are providing
18 value-add in several key areas: range, the
19 vehicles go out for up to 18 hours without need
20 of refueling; sustained power to maintain
21 schedule adherence throughout the 18 hours -- I'd
22 like to point out that the power with these
23 vehicles is the same with the last molecule of
24 hydrogen as the first molecule of hydrogen; the
25 refueling time is compatible to internal

1 combustion engines, six to eight minutes to
2 refuel buses; the full flexibility of this
3 technology to accommodate changes in route
4 structure, recognizing that the backbone of
5 transit throughout the world is really with buses
6 that can be made portable, and you can adjust
7 routes, these vehicles can meet all of those
8 adjustments; as well as deployment flexibility at
9 the last minute when you're pulling out vehicles
10 and need to meet the schedule adherence.

11 Additionally, this is setting the stage
12 for heavy-duty truck applications given the kinds
13 of demands that these vehicles demonstrate in
14 everyday service. The Fuel Cell Partnership has
15 adopted a bus roadmap to create centers of
16 excellence, two, one in Southern California and
17 one in Northern California, to leverage the
18 investment the state has already made, so that we
19 don't spread these wonderful investment dollars
20 that the staff has recommended -- we don't spread
21 them out too thinly in order to keep pushing
22 volume up, and driving down the cost.

23 The roadmap that the Partnership has
24 adopted develops the direction for us to meet
25 that commercial objective, and I encourage the

1 Energy Commission and this Advisory Group to
2 really stay on target and stay on path. We are
3 making great progress in making this commercially
4 viable and meeting the 2050 goals the State of
5 California has adopted. Thank you.

6 MR. MCKINNEY: Thank you.

7 MR. SMITH: Okay, the next blue card is
8 from Joshua Goldman, TransPower.

9 MR. GOLDMAN: Hello, Commissioner Scott,
10 staff. I want to thank you for this Investment
11 Plan showing the increase in these dollars for
12 these advanced heavy-duty vehicles. It shows
13 your commitment to these long term chassis and
14 electric drives so that we can tell the industry,
15 which we are part of, that this is not going
16 away, this is only increasing in value, this is
17 increasing in market, and we have a few users
18 here of some of those early Electric Vehicles
19 that are continuing to adopt those Electric
20 Vehicles. This is a very broad category, Medium-
21 Duty and Heavy-Duty Vehicles just in its own
22 right, let alone the types of hybrids or advanced
23 electrics, or even all-fuel vehicles you can have
24 in this category.

25 As you go through with this funding,

1 seeing as you have eliminated the Electric
2 Vehicle portion of the Heavy Duty incentives that
3 you had from previous years, incorporating that
4 into this plan, I want to make sure that there
5 still is the carry forward for that next
6 generation of zero emission heavy-duty vehicle,
7 as a direct part of this plan laid out as such,
8 so that it gives more definition to manufacturers
9 like ourselves, so we know that our designs,
10 which have a good 12, 20, 30 years of potential
11 operation, and will be meeting today's advanced
12 needs, but also carry forth into production.

13 And I want to say that these vehicles you
14 can see we're starting to get them out into the
15 public, we're starting to get data from them,
16 which is one of the most important aspects that
17 this kind of program is showing to those both
18 public and private cash strapped operators, that
19 they can use these incentives and get these
20 vehicles on the road, and generate their return
21 on the investment from the lower cost pool of
22 electrics. And that data is critical to the
23 commercialization of this kind of technology. So
24 thank you very much, and thank you for supporting
25 us and all the projects we've been in partnership

1 with you.

2 MR. MCKINNEY: So, Mr. Goldman, why do
3 you think we are changing our funding for ZEV
4 trucks? Because we're not, it's always been an
5 open category.

6 MR. GOLDMAN: It's not as a line item
7 like it was in the 2011 plan -- as I read it,
8 right, you had in the charts of previous
9 investments it showed the four projects at a
10 million dollars?

11 MR. SMITH: I think, if I may, part of
12 what you may have been looking at was the one
13 time transfer that we did to the ARB's HVIP --

14 MR. GOLDMAN: Got it.

15 MR. SMITH: -- to supplement their
16 funding program, specifically for all-electric
17 trucks. And I believe that program is still
18 ongoing at the ARB.

19 MR. GOLDMAN: Okay, good.

20 MR. MCKINNEY: Yeah, no, ZEV technology
21 trucks are exactly what this category is aimed
22 at, so....

23 MR. GOLDMAN: Thank you for clarifying.

24 MR. MCKINNEY: And it's good to meet
25 somebody else -- Mike Simon is always a great

1 speaker, it's good to have somebody else from
2 TransPower, as well.

3 MR. GOLDMAN: (Laughs) I'm very lucky to
4 be on his team. Thank you.

5 MR. SMITH: Okay, the last blue card that
6 I have on this subject is Bill Elrick from the
7 Fuel Cell Partnership.

8 MR. ELRICK: Thanks again. Bill Elrick,
9 California Fuel Cell Partnership. I just want to
10 thank the staff, Commissioner, and the Advisory
11 Committee here for the medium- and heavy-duty
12 funds. We think these will go a long way towards
13 the support of the next stage of fuel cell bus
14 commercialization. A little bit, as Jamie
15 mentioned, what we're focused on in the roadmap,
16 which has been submitted, it's really cost
17 reduction. We think these funds will help match
18 some other funding opportunities we're looking
19 at, not just to reduce cost, but to establish
20 these Centers of Excellence. As Jamie said, the
21 durability and the technology is showing where
22 they need to be, but we really need these cost
23 reductions to come with it. That will make the
24 cost competitive in every way, from cost to
25 performance to the conventional vehicles that are

1 out there now. And I think the other thing
2 that's important pointing out is that this will
3 be a very good compliment to the Light Duty
4 sector because these two segments reach different
5 markets and it's great so that we can have these
6 technologies reach every segment of the
7 population we can, in every way possible.

8 And I think the only other suggestion I might
9 make is just that potentially adding a fuel cell
10 bus reference to the dialogue or the text,
11 there's a few other examples in there, but there
12 are AC transits, SunLine, and many other
13 examples. It might just highlight not just the
14 progress, but the importance of going forward
15 with this category.

16 MR. MCKINNEY: Thank you, Bill.

17 MR. SMITH: So we do have one more,
18 Richard Schorske, EV Communities Alliance.

19 MR. SCHORSKE: Hi. I just wanted to make
20 a comment on some program synergies in this area
21 that are in front of us. We heard from a
22 gentleman on the school buses and the link to
23 Vehicle to Grid, and I just wanted to note that
24 in that category I was recently talking with a
25 UPS National Fleet Manager who was noting that

1 they're actually within about \$10,000 a vehicle
2 now of price parity with ICE's on a TCO basis for
3 the main cargo van that they use nationwide,
4 which is similar to the FedEx, some of the FedEx
5 vans, as well. And they're looking to have a
6 production line of 3,000 to 4,000 a year to
7 basically get that cost gap covered. And one of
8 the key enablers for that would be a viable
9 Vehicle to Grid revenue stream, which could be
10 worth a couple thousand dollars per vehicle per
11 year for certain kinds of fleet applications. So
12 just to encourage the staff and Commission to
13 look at a pilot program that would prioritize a
14 Vehicle to Grid demonstration for those users,
15 both I think the school buses and the cargo vans
16 with the fixed routes and the relatively long
17 dwell time overnight and weekends, and so forth -
18 - in this case school buses, it's most of the day
19 -- there's just a really great value proposition
20 there that can be unlocked once there's a Vehicle
21 to Grid revenue stream in the state, and that's
22 hopefully moving forward with CAISO sponsorship
23 this year. So just something that could be
24 applicable to the 2014-2015 category would be
25 integrating that program demonstration with the

1 medium-duty -- medium- and heavy-duty -- or
2 medium-duty in this case -- category. Thank you.

3 MR. MCKINNEY: And is there anybody on
4 the phone who wants to comment from the public
5 perspective?

6 MR. GRANT: Yeah, this is Jeff Grant from
7 Ballard Power Systems.

8 MR. MCKINNEY: Sorry, you don't have a
9 real clear connection. Can you repeat your name
10 and affiliation, please?

11 MR. GRANT: Sure. This is Jeff Grant
12 from Ballard Power Systems.

13 MR. MCKINNEY: Ballard, okay. Thank you.

14 MR. GRANT: Thanks. So I'm the Chair of
15 the California Fuel Cell Partnership, Fuel Cell
16 Electric Bus team, and the commercial lead at
17 Ballard for our transit bus market. We've been
18 manufacturing fuel cell engines for transit buses
19 since 1991 and there are about 40 buses currently
20 on the road being powered by Ballard. And right
21 now, actually, the first California built fuel
22 cell bus is being assembled at El Dorado National
23 in Riverside, and that's something that's new and
24 we expect to see more of that in the future.

25 I don't want to repeat what Bill and

1 Jamie eloquently said about the Centers of
2 Excellence and the Roadmap, I just want to speak
3 from an industry standpoint, though, that we're
4 at a point where most of the technical challenges
5 have been overcome, things like reliability,
6 durability and performance, and we have data that
7 proves that out, this isn't speculation, we've
8 had enough demonstrations now to show that.
9 What's really left is the remaining challenge of
10 the capital and operating costs that need to be
11 addressed through -- including economies of
12 scale. And that's where these 40 vehicle
13 deployments really fit in. It's critical that we
14 look at things like manufacturing process and
15 tooling and some of the low tech advancements
16 that we really require to get the buses down into
17 a commercial standpoint.

18 The last thing I'll say about the funding
19 for the Centers of Excellence, primarily that
20 comes through the Federal Government, but we
21 would like the CEC to consider augmenting that
22 FTA funding to support this vision in this 2014-
23 2015 Investment Plan. So we'll be submitting
24 comments, the Partnership will be, but I'll be
25 submitting comments as well on behalf of Ballard

1 that support that. Thanks for your time.

2 MR. MCKINNEY: Great. Thank you.

3 Anybody else on the phone? Okay, should we go to
4 the next category? Down into what we're calling
5 Related Needs and Opportunities, so the first is
6 the Emerging Opportunities -- and we used to have
7 Advanced Technology on there -- Emerging
8 Technologies, Federal Match. So the staff
9 recommendation is \$7 million. Do we have any
10 comments or observations from the Committee
11 members? Any Committee members on the phone?
12 Okay, Bonnie really wants to jump in.

13 MS. HOLMES-GEN: Well, I just wondered if
14 you could tell us how you plan to spend that,
15 those \$7 million, how you plan to spend the
16 money?

17 MR. MCKINNEY: Charles, can I ask you to
18 take that question, please?

19 MR. SMITH: I didn't quite hear it.
20 Could you repeat it again for me, Bonnie?

21 MS. HOLMES-GEN: Just could you again
22 just remind us how you plan to spend that money?

23 MR. SMITH: Right. So right now, we have
24 a solicitation that takes Emerging Opportunities
25 funding from -- is it the '13-'14 Investment Plan

1 -- well, Existing Emerging Opportunities funding.
2 And it's an open solicitation right now,
3 essentially proposals come in with either -- I'm
4 looking at André who actually helped compose most
5 of the solicitation -- that come in with a letter
6 of approval, or a letter of pending approval --
7 sure, why don't you come up here?

8 MR. FREEMAN: So we do have a
9 solicitation out, it's an attempt to get people
10 who have either tentative funding or of
11 solidified funding from a Federal agency, to come
12 to us with their solicitation, with their
13 agreement, which we'll run through our own
14 competitive solicitation process to kind of help
15 co-fund those different projects with the other
16 Federal agencies.

17 One of the issues we've had in the past
18 is a lot of companies will come to us asking for
19 funding ahead of time so that they can have that
20 match when they go to the Federal solicitation;
21 unfortunately due to the State process and the
22 time it takes to put that together, it doesn't
23 always line up with the Federal solicitation
24 timeline. So this latest solicitation hopefully
25 will deal with that issue and, since this will be

1 the first time we've run this solicitation, we'll
2 have to definitely see what type of proposals we
3 get, if it's worthwhile to do the same thing with
4 this additional funding pot. But this should
5 tell a lot. And we do expect to have a NOPA out
6 prior to the final Investment Plan going out, so
7 depending on if we learn new things from our
8 solicitation, we can definitely notify everybody
9 and kind of integrate that into the thinking.

10 MR. MCKINNEY: Did that answer your
11 question?

12 MS. HOLMES-GEN: Well, no, it's really
13 helpful, I'm just wondering maybe by the next
14 meeting we could get a little more description of
15 what kinds of projects you expect?

16 MR. FREEMAN: Sure. So tentative date
17 for a NOPA is January --

18 MS. HOLMES-GEN: Oh. When is the next
19 phase of this coming out?

20 MR. FREEMAN: So we do have a track team
21 scoring these things, so we will get it done as
22 quickly as possible, hopefully we will have that,
23 and also the results from several other
24 solicitations such as the EV Infrastructure
25 solicitation out by then to kind of update

1 everybody on the status of that, and if we see
2 any, you know, new information or drastic changes
3 that we should make to the Investment Plan, we'll
4 hopefully have it in time, but we can't really
5 guarantee that.

6 MS. HOLMES-GEN: I'm, you know,
7 supportive of this category, I just -- it's hard
8 to pin down exactly what we're going to get out
9 of this, so I'm just trying to get a clear idea.

10 MR. FREEMAN: We will all see come
11 January.

12 MR. MCKINNEY: If I can add to what André
13 is saying, I think many of the letters of support
14 -- and André authors a lot of these -- have been
15 in the Biofuels arena or the category we just
16 talked about, which is Medium-Duty, Heavy-Duty
17 Advanced Technology Vehicles, so I think that's
18 where most of the requests have been coming in
19 for Federal match.

20 MR. FREEMAN: We've also had a request
21 from a center that U.C. Davis is running for a
22 National Transportation Center, but those are
23 basically the three categories that we've been
24 alerted about before.

25 MR. MCKINNEY: So we'll work to get more

1 information in the next plan.

2 COMMISSIONER SCOTT: Bonnie, one thing I
3 might add, and André or Jim, correct me if I'm
4 wrong here, but the Emerging Opportunities is
5 also -- it's open to anything that could be
6 funded under the plan that has the matched share
7 with it, and so it is pretty broad.

8 MR. MCKINNEY: Okay, so I think that --
9 any comments on the phone from Advisory Committee
10 members? Did I miss one? Oh, I'm sorry, Joe.

11 MR. GERSHEN: That's okay, I'm used to
12 it. So a though is, I agree, maybe it's a little
13 vague and just a suggestion might be if it
14 doesn't get subscribed, perhaps that money can
15 get poured back into Biofuels Production as
16 that's been underfunded in our opinion. Just an
17 idea, a recommendation. Thanks.

18 MR. MCKINNEY: Thanks. Any Committee
19 members on the phone? Do we have Committee
20 members on the phone still, Charles? Or André?
21 Okay, any public comment? And any public comment
22 on the phone? And Robert, do you want to say
23 anything in closing as you wave good-bye?

24 COMMISSIONER SCOTT: Thank you for
25 joining us, Robert.

1 MR. MCKINNEY: Okay, I think we've closed
2 out discussion on this item. The next category
3 is Manufacturing. The staff recommendation is \$5
4 million. Committee comments?

5 MR. CARMICHAEL: I'm supportive of this
6 category from the get go, still am. But I just
7 wanted to note, obviously your project selection
8 to date has been EV oriented and I understand,
9 you know, I'm not questioning any of those
10 projects being funded, I just want to note that
11 there is natural gas vehicle manufacturing
12 happening in the state and there's the potential
13 for more, and I want to encourage the staff to be
14 open to proposals for that type of vehicle
15 technology, as well.

16 MR. SMITH: Yeah, thank you, Tim. And I
17 think we have been and I think the last
18 solicitation was fuel-type agnostic, but that is
19 certainly something that we'll consider in the
20 future, as well.

21 MR. MCKINNEY: Comments from Committee
22 members? Do we have public comment in the room?
23 We don't have coffee service today, I apologize,
24 but it looks like we're all getting sleepy here.
25 Okay, and anybody else on the phone on this one?

1 MS. HEYDORN: This is Barb Heydorn. Am I
2 unmuted?

3 MR. MCKINNEY: Yeah, go ahead.

4 MS. HEYDORN: I apologize; I had a little
5 glitch on figuring out how to get in remotely.
6 May I still make a comment on the Emerging
7 Opportunities?

8 MR. MCKINNEY: You bet. Can you identify
9 yourself, please?

10 MS. HEYDORN: Yeah, sure. This is Barb
11 Heydorn from SRI International. I just wanted to
12 say we're really happy to see the Emerging
13 Opportunities and the cost share match as part of
14 the budget. We think it will go a great way
15 towards enabling more California companies, and
16 in particular, nonprofits and even educational
17 institutes to participate in Federal
18 solicitations, and in addition to be able to
19 respond to a greater portfolio of the
20 solicitations, it will help us request larger
21 amounts for Federal funding. It's a really easy
22 way for California to double, quadruple, or in
23 some cases even lead to larger increases in the
24 total amount of funding that a small amount of
25 California can help access.

1 So I do have a comment. We're really
2 happy to see the Opportunity Notice for 13604
3 announced, but we noted that it's for
4 solicitations that already went out, and we had
5 received acceptances or grant notices between
6 July 1st and November 1st. For companies that
7 are responding to solicitations, it would be very
8 helpful to us if there were a way to actually get
9 some sense of whether the CEC anticipates
10 providing matching cost share when we structure
11 our budgets and submit. We're very conservative
12 about going out on a limb on what funding we can
13 provide, and so having insight on if California
14 match will be available can really help us take
15 advantage of a broader portfolio of Federal
16 opportunities.

17 MR. MCKINNEY: Yeah, thank you for your
18 comment. I'd really like to encourage you to
19 submit that in writing, and I'm looking to André
20 for confirmation on the date, November 15, I
21 think, is our workshop on the Draft Solicitation?
22 No, it's the Bidders Workshop?

23 MR. FREEMAN: I think this similar
24 question has come through several times, so we
25 will be addressing it at the workshop.

1 MR. MCKINNEY: Okay, great. Yeah, thanks
2 for raising that comment.

3 MS. HEYDORN: Thank you.

4 MR. MCKINNEY: Anybody else on the phone?
5 Looks like none. We'll go to Workforce. And
6 last, but certainly not least, and thank you so
7 much for your patience, Peter and others in this
8 category, Workforce Training and Development.
9 The staff recommendation is \$2.5 million. Go
10 ahead, Peter.

11 MR. COOPER: Peter Cooper with Employment
12 Training Panel, Commissioner Scott. We
13 appreciate all the hard work of your staff in
14 trying to help us figure out what funding amount
15 makes sense for ETP as a part of that workforce
16 category. And as you know, in the spring we were
17 able to get a budget change proposal so that we,
18 ETP, has the flexibility to have ongoing spending
19 authority for \$3 million. This together with our
20 recently having an interagency agreement between
21 ETP and CEC approved by the Business Committee of
22 the Energy Commission, so those two together
23 really put us in a good position to have both the
24 flexibility to roll over funds quickly that have
25 not been encumbered and used for training, as

1 well as the assurance to the Employers that
2 funding will be available.

3 So that being said, we're looking at the
4 \$2.5 million that are allocated for this section
5 and we probably won't be needing -- certainly not
6 that whole \$2.5 million, and we're going to be
7 working together with David Nichols and Elizabeth
8 John on your staff to figure out exactly how much
9 makes sense for us because we have been able to
10 rollover either situations where there's training
11 and maybe they've only trained 90 out of 100, for
12 example, of those trainees that they said they
13 would, so that the other 10 that weren't trained,
14 that funding is re-encumbered to our funding, the
15 available funding that we have. So yeah, we'll
16 work together to figure out the exact amount that
17 we would suggest and share that with you before
18 the next Advisory Committee Meeting.

19 I also wanted to comment that -- I was
20 going to make this before Anne McMonigle
21 mentioned it -- but I would agree that the
22 language around Prop. 39 doesn't make a lot of
23 sense in this context, and I would just pull it
24 out.

25 And then lastly, I think you all know

1 this from our work in the past, but the funding
2 that's available through AB 118 is very helpful
3 for our efforts because it allows us to reach the
4 public sector, the local municipalities, and the
5 transit agencies, those projects have been very
6 successful and they're becoming a key part of our
7 training support through using this funding, so
8 in the future I'll be reporting more back to all
9 of you about the variety of transit agencies,
10 often in cooperation with community colleges, and
11 community colleges have a whole new structure for
12 their workforce section called Sector Navigators
13 -- that's kind of an aside -- but that's really
14 been the core of the high performing training
15 through the CTP process, and probably will be
16 going into the future. So that's kind of just my
17 report out to you of where we are and I look
18 forward to working with you and your staff in the
19 coming months.

20 MR. MCKINNEY: Dave Nichols, did you want
21 to make some comments? Dave is our Team Leader
22 for Workforce Development issues.

23 MR. NICHOLS: First of all, thank you,
24 Peter, thank you, Commissioners, and staff, and
25 all those that are present. One of the things I

1 want to say in comment that's very positive and
2 that I appreciate about ETP, we are very
3 cognizant and they've been very cognizant of the
4 use of our funds in workforce training. And
5 instead of just saying, "Here, give me more
6 money, give me more money, give me more money,"
7 they've actually been what's the most effective
8 way for us to use it while they've been in
9 transition through their own processes and
10 organization as to how they spend and how they
11 effectively encumber the money for contracts, and
12 then contracts drop out and work. And I've been
13 very appreciative of that.

14 As to the '14-'15 funds that are going
15 forward, we are proposing right now with our
16 office a workshop that is going to be occurring
17 on Workforce, that will probably occur sometime
18 in January, or early February. So while I
19 appreciate that you're not going to possibly need
20 all the funds that we had originally discussed in
21 the outlay, there are a number of very strong
22 projects that are going to be brought forward, or
23 areas that we feel like those funds can go to.
24 So I just wanted you to be aware of that.

25 MR. MCKINNEY: And any other comments

1 from Committee members? And we have no more
2 Committee members on the phone, correct?

3 MR. CARMICHAEL: Just this line item, or
4 was that a broader call for comments?

5 MR. MCKINNEY: No. We'll do closing
6 comments after this.

7 MR. CARMICHAEL: Thank you.

8 MR. MCKINNEY: Anybody else in the room
9 want to comment on this funding category?

10 MR. CLEMENTS: John Clements once again,
11 Retiree from Kings Canyon Unified working pro
12 bono today. I'm still into the retirement act.
13 Kings Canyon Unified was a recipient of the ETP
14 funds. We used it for Hybrid Electric training.
15 Now, with the Electric Bus coming back to Kings
16 Canyon again, I anticipate that we'll continue to
17 use those funds as our contract is still in
18 place, so thank you.

19 MR. MCKINNEY: And any public comments
20 from the phone? So, Commissioner, I think that
21 concludes the line item funding discussions here
22 from the Committee and perhaps you want to take
23 it over for the home stretch on closing remarks,
24 or maybe we have closing remarks from the
25 Committee members. Yeah, so if there are any

1 final observations, comments, recommendations,
2 letters or praise, commendation, now is your
3 opportunity.

4 MR. CARMICHAEL: Tim Carmichael of
5 California Natural Gas Vehicle Coalition. I do
6 want to thank the staff for preparing this report
7 and all the work that's gone into it and the
8 program to date.

9 My comment is -- my closing comment is
10 more specific to one of the line items that you
11 are proposing to zero out, which is the Centers
12 for Alternative Fuels and Advanced Vehicle
13 Technology. So my question here, maybe it's just
14 I'm not up to speed on staff's thinking, and
15 that's what I'm asking for, is an update on your
16 vision or your thinking here; but I'm concerned
17 that we're this year going to fund the creation
18 hopefully of some of these centers, and then in
19 Year 2, we're not going to provide any support,
20 and are we setting up a situation where these are
21 going to be very short term centers, or short
22 lived centers? And so can you -- somebody share
23 a little bit more about what the thinking is
24 here, the value of the initial funding, and why
25 it's okay not to continue funding at any level?

1 MR. MCKINNEY: Yeah, I think that's a
2 fair question, Tim. So this particular
3 solicitation is going to combine several fiscal
4 years of funding and this is the first time that
5 we're doing this, so we really want to see what
6 the response is, and I think through that process
7 better understand what the funding resources are
8 for those people that do win the awards. I think
9 the way we intended it here is that we have kind
10 of pent-up money, we want to see what the awards
11 look like, and we're taking a pause here. But
12 it's not the end of the conversation or certainly
13 there's no signal as to our commitment or lack of
14 commitment for Centers-type funding.

15 MR. CARMICHAEL: It'll be helpful to get
16 some more feedback from you or your team once
17 you've got proposals, or you have a clearer
18 picture of what the proposals are and what the
19 needs are because I appreciate what you're
20 saying, but I'm concerned having, you know, I've
21 been involved with different technology centers
22 and run a nonprofit before, and if your set-up
23 funder isn't lined up to give you funding in your
24 second year, it can really be a problem -- maybe
25 not in this case, but in other scenarios it can

1 be a real problem.

2 MR. MCKINNEY: Yeah, I think those are
3 good observations. Thank you.

4 COMMISSIONER SCOTT: This is what we're
5 all here for, so I'm interested in hearing what
6 you have to say.

7 MS. GARVEY: I will. And Tim, I'll get
8 to that because I'm very glad you brought that
9 up, it's been an active thorn in my side for the
10 last month. And I'd like to share a little bit
11 of the experience --

12 MR. MCKINNEY: Shawn, you do need to
13 identify yourself.

14 MS. GARLAND: Oh, I apologize, Jim.
15 Sorry. I got all excited. I'm Shawn Garvey and
16 I'm the Vice President of CleanWorld, which has
17 built several biodigesters with the assistance of
18 the California Energy Commission in the region,
19 giving Sacramento the most anaerobic digestion
20 capacity of any community in the United States --
21 I thought I'd throw that in. I'm also with the
22 Grant Farm, just for disclosure, and I've helped
23 16 Applicants through the California Energy
24 Commission process over the last four years and
25 have been very grateful to have the opportunity

1 to do that. And I'm very thankful for today's
2 presentation, this has been very helpful for
3 planning in the work that we do with clients, and
4 the work that CleanWorld is doing, as well.
5 Although everybody has spent a lot of time
6 rightfully congratulating the Energy Commission,
7 and I will join in that chorus, some of my
8 comments -- I have two of them that are maybe
9 less congratulatory and a little more
10 inquisitive.

11 So one of the -- in my perspective, one
12 of the values that the California Energy
13 Commission brings to the table is that of sort of
14 a neutral facilitator, a place where all parties
15 can come and feel heard through a proposal
16 process, or a hearing like this, and there's
17 tremendous value to having integrity around that
18 and transparency, and I feel that today, and I
19 generally feel that with the California Energy
20 Commission. There have been two exceptions over
21 the last several months that have come to mind as
22 we've been helping folks to submit proposals, and
23 one was the 13601 process. And I'm going to
24 bring up a couple things that occurred there --

25 MR. CARMICHAEL (presumed): First remind

1 us what --

2 MR. GARVEY: -- 13601 was for Advanced
3 Biofuels -- was \$9.3 million, I think, dollars
4 that hadn't been appropriated and were sort of
5 extra pent-up funds, I think would be the word.
6 And there were several addendum -- or post-
7 addenda -- posted to that RFP, or PON as it was
8 initially released, that increasingly clarified
9 to a finer and finer point the exclusion of many
10 projects and the inclusion of only a small select
11 number of projects.

12 There were volumetric requirements there,
13 15 million gallons per year production being the
14 most notable one, and 1.25 million gallons by
15 month 13. Those are numbers that biomethane and
16 biogas projects cannot meet in the State of
17 California; there are no biogas projects in the
18 State of California that come anywhere near that
19 type of production, despite all the other
20 benefits, the GHG benefits and others -- waste
21 reduction benefits, as well.

22 So they were exclusively for a smaller
23 portion of the audience than you might think
24 exists under alternative fuel production, in
25 fact, a much smaller proportion. And I think

1 there were only eight or nine applications for
2 that, and normally under an alternative
3 production PON there are several dozen, or two
4 dozen -- which might be a sign.

5 Although what went out in the community
6 of bioenergy folks -- and I'm the Vice Chair of
7 the Bioenergy Association, so I know this was a
8 conversation there -- was that the California
9 Energy Commission had specific objectives in mind
10 and specific Applicants even in mind; whether
11 they did or not, I don't know, I'm neutral on
12 that, but that's the type of conversation that
13 begins to occur when language in the PONs becomes
14 tortured in order to get a very specific
15 objective. And while I don't share that concern,
16 there are others in the State of California who I
17 look to as being respectable partners to the
18 California Energy Commission that can
19 legitimately execute projects that are in the
20 State's interest, that are turned off by the
21 process when they see stuff like that occur; it
22 mars the reliability of the agency as a partner.

23 The second great concern with 13601 is
24 that there was a posted date of, I believe,
25 September 1st for a notification to go out, for a

1 NOPA to be released, and it's now November 4th?
2 November 4th. And no one has heard. Well, that
3 sometimes happens with funding like this, but
4 there was a very specific objective in that PON
5 which was to produce 1.25 million gallons per --
6 in the 13th month, it was very specific, and it
7 was delineated in some of this kind of difficult
8 language that came out in the Q&A.

9 And the folks that we worked with took
10 great pains and spent great resources, money out
11 of their pockets in order to develop plans that
12 could meet this objective of the California
13 Energy Commission by Month 13, and 15 million
14 gallons per year by month 24 -- a very fast
15 turnaround in the production of a renewable
16 energy project. And we're now 64 days beyond the
17 date of an announcement.

18 These folks are giving up, they're
19 walking away from expansion projects that were
20 very real, that had funding committed to them,
21 jobs are being foregone, seasons are being lost
22 to alternative feedstock production. And I just
23 want to impress upon you, because a lot of this
24 is numbers and there's very real impact out there
25 in the State of California, people aren't being

1 hired today who had planned on building a
2 biodiesel refinery this fall because there hasn't
3 been an announcement, not even the kind
4 announcement of saying "we're going to postpone
5 the announcement." They're just kind of swimming
6 out there, wondering. That type of thing doesn't
7 reflect well on the agency, and I want the agency
8 -- everything to reflect well on the agency; your
9 success in some ways is my success because I help
10 develop proposals for submission here.

11 The second is regarding the Centers, and
12 I'm really glad you brought this up, Tim. There
13 were a lot of folks who were interested in
14 submitting a proposal for Centers for Alternative
15 Fuels and Advanced Vehicle Technology, and people
16 that had watched this for several years, some of
17 them went out of business waiting for this --
18 maybe that was for the best, I'm not a judge on
19 that, but they had been waiting for several years
20 for this PON to come out.

21 There's very tortured language in this
22 PON that gives the appearance, just the
23 appearance -- and I'm neutral on this == but
24 people are coming to me saying this, that the
25 agency has a very specific objective in mind, one

1 project, or two projects. The agency in this PON
2 has eliminated from match -- never mind funding
3 from the CEC -- but even from match any
4 programmatic activity. So the delivery of
5 programs through a Center which is -- how it's
6 described in the Strategic Investment Plan is
7 actually not even an eligible fundable activity;
8 the only real thing that is fundable is to build
9 a facility. And given that most of these tend to
10 be classroom facilities for a renewable energy
11 center, and I just can't imagine there's not much
12 need for classroom facilities for renewable
13 energy facilities, there's actually a need for
14 funding for programs -- marketing, outreach,
15 demonstration. And this PON eliminates those,
16 even from match. Although you have to count the
17 impact of those activities in order to score
18 points in the PON, you can't use them as matching
19 funds, so it's a real problem and we're getting
20 just lots of feedback, and it should have been
21 evident by the fact that there was another Q&A
22 opened a couple weeks and there were 18 pages of
23 questions that just were answered last Monday for
24 a proposal that's due next week.

25 So a lot of -- there's a lack of clarity

1 about that PON and it makes some of the folks we
2 work with concerned about the direction,
3 particularly when they combine it with 13601 and
4 this feeling that there's some over-direction
5 that's going into the development of a PON that
6 should be neutral and competitive.

7 So I hope those are helpful. I don't
8 mean them to be damning because my experience and
9 my relationship with you is important to me and I
10 think you do phenomenal work here, but I would
11 hate to see a pattern develop where PONs become a
12 tool with which to get a specific objective
13 that's not necessarily being clarified at this
14 table here.

15 COMMISSIONER SCOTT: Thank you.

16 MR. GARVEY: Thank you.

17 MR. MCKINNEY: Thank you, Shawn.

18 COMMISSIONER SCOTT: Bonnie. I see
19 people are starting to put things in their bags.

20 MS. HOLMES-GEN: I know, I've got to run,
21 too. On a different topic, I don't know if folks
22 wanted to respond to that?

23 COMMISSIONER SCOTT: No, let's just keep
24 going with closing comments.

25 MS. HOLMES-GEN: Yeah, just some quick

1 closing comments. Thank you, Commissioner Scott,
2 I greatly appreciate this opportunity to review
3 and discuss, and I appreciate your putting
4 together all the major themes and reflecting back
5 our discussion, it's really helpful. And I've
6 said before, but I think every time that the
7 Commission does this plan, it gets better, it
8 improves, and I think this is another step
9 forward, an improvement, and I've supported many
10 elements of it.

11 So the key things I would leave you with,
12 and my parting thoughts, would be as we've
13 discussed, I have discussed other times, I think
14 it would be helpful if there was some way to have
15 more discussion of how this plan, on whole, and
16 with the specific funding categories, moves us
17 forward to reach our 2020 and 2050 goals, our GHG
18 and clean air goals. And I think there's bits of
19 that discussion of course sprinkled throughout
20 it, but I think by drawing on some of the ARB
21 vision document, and some of the benchmarks that
22 are put out for what we need to achieve in terms
23 of vehicle and fuel deployment and how these
24 funding categories and these expenditures are
25 moving us forward in those areas, I think, would

1 be helpful.

2 And the last thing is -- and I think it's
3 helpful to communicate to the folks outside of
4 this process exactly how this is leading us
5 forward, and on the cost benefit provisions I
6 think it would be helpful for the committee to
7 hear a little more about how the Commission staff
8 is going to operationalized that new language and
9 when it comes to -- I know that's in the PON
10 process, but it certainly reflects back on how
11 this money will be spent, so I think a little
12 more detail would be great. I'll leave it at
13 that. Thank you so much.

14 COMMISSIONER SCOTT: Thank you. Are
15 there other closing comments from around the
16 table? Go ahead, Ralph.

17 MR. KNIGHT: I just want to say,
18 Commissioner, it was great meeting with you this
19 summer, getting a chance to have a little
20 conversation with you, that's great, good to see
21 you here today. I think staff did an excellent
22 job. I think this is the second year we've done
23 this November meeting and I think it went great
24 today. I think we had a lot of good conversation
25 from the table, a lot of things went on today. I

1 think it's worked very well to do this November
2 meeting leading up to the work that we've got to
3 do in January and things of that sort. Again, I
4 just want to thank everybody on staff for a great
5 job, and everybody here.

6 COMMISSIONER SCOTT: Thank you. Okay,
7 well, let me just take one more minute -- did I
8 miss anybody? I'm going to take one more minute
9 just to run back through a couple of the themes
10 that I heard this afternoon.

11 I heard Eileen and Ralph and Richard talk
12 about Vehicle to Grid and its potential and its
13 importance, and so that's just something that I
14 heard as we were talking. An over-arching theme
15 was that folks see that these investments are
16 really important, they're critical in many
17 instances for us to make forward progress and
18 transforming the transportation system to meet
19 the climate and clean air goals, and so that was
20 kind of an over-arching theme that I heard as
21 everyone was speaking.

22 I heard quite a few folks around the
23 table highlight the value of addressing goods
24 movement, so that was great, especially when we
25 talked about the Medium- and Heavy-Duty Advanced

1 Vehicle Technology Demonstration.

2 I heard that the incentives that we have
3 in many instances are working and that they've
4 been really successful, and so we need to think
5 about how we continue doing those, that an aging
6 CNG infrastructure for school districts who were
7 early adopters is something that's going to be
8 important and we need to keep our eye on that
9 here at the Commission. Folks also talked about
10 how do we continue spreading the message about
11 this program and telling the good story about
12 what we've done so far, and there was a
13 suggestion for updating the language in the
14 Investment Plan to do this.

15 I also had a bunch of very detail-
16 oriented folks who had specific language changes
17 that they wanted us to make in the Investment
18 Plan, so I very much appreciate you all taking
19 the time to really read it in that much detail,
20 and please do send us those comments, as well as
21 your over-arching comments, they're very helpful.

22 Let me see, and that the Emerging
23 Opportunities was a little bit vague and so that
24 folks are really interested in seeing kind of, as
25 we are ready to make some announcements on that,

1 what that looks like. So we'll be sure to
2 follow-up with you on that. And then I just
3 wanted to say thank you again to everyone --
4 especially those of you who are still here, good
5 job -- for your engaged and constructive dialogue
6 today. I really do appreciate the time that you
7 spent on this. I appreciate your feedback and
8 your expertise and your creativity as we work to
9 continue making this program really successful.
10 And I want to just say congratulations again to
11 everybody on AB 8, I know there are so many folks
12 around the table who just rolled up their sleeves
13 and worked really hard to continue this
14 investment, and I for one, and I know you are
15 too, are just really excited about this. I mean,
16 we've got all the way out until the end of 2023
17 to keep making a difference and keep having these
18 conversations and keep making these investments
19 in California. So thank you so much for your
20 leadership on those issues, and just I'll close
21 with my door is always open and I look forward to
22 working with all of you. So take care. Thank
23 you so much for a great day.

24 [Adjourned at 3:52 P.M.]

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