

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

In the matter of,)
) Docket No. 12-ALT-02
)
2012-2014 Investment Plan)
Update)
_____)

California Energy Commission
DOCKETED
12-ALT-2
TN # 6888
OCT. 02 2012

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

California Energy Commission
1516 Ninth Street
First Floor, Hearing Room A
Sacramento, California

September 19, 2012
10:00 A.M.

Reported by:
Kent Odell

COMMISSIONERS PRESENT

Carla Peterman, Commissioner

ADVISORY COMMITTEE MEMBERS PRESENT (*Via WebEx)

*Shannon Baker-Branstetter, Consumers Union

Tim Carmichael, California Natural Gas Vehicle Coalition

Peter Christensen, Representing Tom Cackette, California Air Resources Board

Catherine Dunwoody, Representing Justin Ward, California Fuel Cell Partnership

*Tyson Eckerle, Energy Independence Now

Lesley Garland, Western Propane Gas Association

Joe Gershen, California Biodiesel Alliance (courtesy of Crimson Renewable Energy)

Bonnie Holmes-Gen, American Lung Association

Steve Kaffka, University of California, Davis-California Biomass Collaborative

Ralph Knight, Napa Valley Unified School District

Peter Cooper, California Employment Training Panel

Anne McMonigle, California Labor Federation

*Simon Mui, Natural Resources Defense Council

*John Shears, Center for Energy Efficiency and Renewable Technologies

Jananne Sharpless, Member at Large

Eileen Tutt, California Electric Transportation Coalition

Clark Williams, Representing Howard Levenson, California Department of Resources Recycling and Recovery

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Fuel and Vehicle Technology Program

Tim Olson, Manager, Transportation Energy Office

Larry Rillera, Division of Fuels and Transportation

Also Present (* Via WebEx)

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Truck Research Center

Kevin Wing, San Joaquin Valley Air Quality Management
District

Mike Simon, Transpower

Matt Miyasato, South Coast Air Quality Management
District

Public Comment

Bob Davis

Trina Martynowicz

Russell Teall

Rebecca Boudreaux

Sashu Constantine

Brad Beauchamp, Roush

Michael Bennett

Paul Staples, HyGen

Colleen Quinn, Coulomb

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P R O C E E D I N G S

1
2 SEPTEMBER 19, 2012

10:06 A.M.

3 COMMISSIONER PETERMAN: Hello, we're going to
4 get started. I know we're waiting for a few nametags
5 and such, but we've got a full agenda and I'd like to
6 proceed.

7 Good morning, I am Commissioner Carla Peterman
8 with the Energy Commission and welcome to today's
9 Advisory Committee meeting. Welcome to all of those who
10 are joining us by WebEx. We look forward to your
11 participation.

12 I'd just offer a few brief introductory comments
13 to why we're having this meeting today. Over the last
14 year that I've been Lead Commissioner in Transportation,
15 I've really appreciated the opportunities we've gotten
16 together and had an opportunity to talk about the
17 funding needs for the State Alternative Fuels, Vehicles
18 and Infrastructure.

19 Indeed, the input of the Advisory Committee, as
20 well as the public, has been instrumental in helping us
21 improve the investment plans each year and to approve
22 our process for getting the funding out.

23 As we're required to do under the AB118 statute
24 we have two public meetings on the Investment Plan, and
25 this is not one of those.

1 I wanted to have a meeting, first, before we
2 have a meeting later this fall to talk about the '13-'14
3 Investment Plan where all of us could get together and
4 just talk about some of the recent developments within
5 the various alternative vehicles, fuels and technology
6 spaces, and infrastructure spaces.

7 So, I appreciate our Advisory Committee Members
8 being willing to present today. I think it's very
9 valuable for all of us to hear about all the different
10 technologies. There is so much happening that one can
11 easily focus on the one area and the fuel, for example,
12 that you work with.

13 But we're supportive of a diversified portfolio
14 and to do that it helps for all of us to be aware of
15 different trends.

16 So, I also welcome feedback about other meetings
17 you might like to have as an Advisory Committee. I know
18 everyone is busy and can't attend everything, but we
19 would like to facilitate more interactions, engagements
20 to the extent the Advisory Committee would like.

21 Again, knowing the importance of the Advisory
22 Committee, I also want to make sure that it continues to
23 be inclusive and reflects the various stakeholders that
24 need to be a part of this conversation.

25 To that effect, as staff will mention in their

1 introductory presentation, we'll be putting out a notice
2 later this week requesting new Advisory Committee
3 Members, in particular with a focus on a representation
4 from the environmental justice community.

5 Through the course of this IEPR we've had
6 participation from EJ representatives in our workshops
7 and, although the IEPR focus has been on renewables,
8 we've heard from stakeholders about their real interest
9 in having cleaner alternative fuels and transportation.

10 As the notice will say, if there are other
11 stakeholder groups that you think are not reflected by
12 the Advisory Committee, please suggest and we'll see if
13 we can facilitate more members.

14 It's also a good opportunity today for staff to
15 give you an update on what's been happening and so they
16 will cover what's been going on with recent
17 solicitations, as well as some recent policy trends.

18 I'd also like to take the opportunity, now, to
19 note that today will be Pat Perez's last Advisory
20 Committee meeting. After serving with us for 32 years
21 he has decided he's had enough and he's taking
22 retirement. No, I know Pat is very devoted to the
23 program; he has been devoted to the Energy Commission.
24 He has worked across many programs and has successfully
25 led the Commission through a number of initiatives and

1 challenging times, including his leadership over the
2 ARRA process.

3 Pat will be retiring in November and so there
4 will be a much longer discussion of his value to the
5 Commission and how much we miss him at a future Business
6 meeting. But I did want the Advisory Committee members
7 to know about this news and to have an opportunity to
8 congratulate and thank Pat, personally.

9 Pat, in his comments, I believe, will talk about
10 his replacement. He has been replaced -- it's hard
11 to -- he's currently serving in conjunction, now, with a
12 newly appointed Deputy Director, Randy Roesser, and
13 we're trying to smooth that transition. And so, Pat has
14 been kind enough to continue to work alongside with
15 Randy to help him get up to speed on the program.

16 We've also had a number of other changes with
17 staff and the program that Pat will speak to.

18 So, with that I will turn the meeting over to
19 Pat. And thank you to staff for preparing this
20 workshop.

21 Oh, one more thing, I should also mention I've
22 had a staff change. I've been able to add Leslie
23 Baroody to my staff as an advisor, a Transportation
24 Advisor.

25 Many of you are familiar with her. She worked

1 in the division as EVT lead. I believe Leslie's very
2 excited to expand her knowledge about all the other fuel
3 types and technologies, and I'm glad to have her working
4 in my office. Thanks.

5 MR. PEREZ: Thank you, Commissioner Peterman.
6 And good morning valued stakeholders, Advisory Committee
7 Members, and the general public.

8 We have a very exciting day ahead for you and
9 what I'd like to do is just briefly go over the agenda,
10 the topics we are going to cover this morning, as well
11 as this afternoon, including some opening remarks.

12 I'd also like to talk a little bit about the
13 program status and Mr. McKinney here, to my left, will
14 be providing an overview of some of the program funding
15 today, the modifications that we're proposing, as well
16 as the recent solicitations that Commissioner Peterman
17 pointed out. And, more importantly, some of the future
18 solicitations that are coming forward.

19 But this is really your day to provide input and
20 comments to us, so we're going to try to keep the staff
21 presentations to a bare minimum.

22 When we get to about 11:00 o'clock we're going
23 to talk a little bit about market and technology, we'll
24 have presentations on workforce training, manufacturing
25 and fuels production, and as well as upstream

1 distribution activities.

2 We'll have a short break for lunch at noon. And
3 then we'll resume at 1:00 o'clock with our market and
4 technology review. We'll hear presentations from local
5 alternative fuel infrastructure with respect to natural
6 gas, hydrogen, electric charging, advanced technology
7 vehicle demonstration, the incentives we have, as well
8 as emerging opportunities.

9 And then most importantly, we'll conclude the
10 day with public comments and input. So, for those of
11 you listening in, as well as here in the audience today,
12 we really would like to encourage your input and
13 feedback as we move forward and lay the foundation for
14 the fiscal year 2013-2014 Investment Plan Update.

15 And then, finally, as Commissioner Peterman
16 noted, a lot of very exciting organizational updates.
17 First, with my departure, I think that's probably a
18 healthy sign. And although I will miss all of you,
19 you're going to be in the very capable hands of Randy
20 Roesser, also a long-term Energy Commission manager and
21 staffer, who will assume responsibilities tomorrow. And
22 you'll get a chance to meet him this afternoon at 1:00
23 o'clock. He, unfortunately, is at a funeral right now.

24 Some other very exciting changes within my
25 division is the Emerging Fuels and Technologies Office,

1 we have a new manager, Mr. John Butler. And I'd like to
2 have John, maybe, just come up and share a little about
3 his background with the group.

4 MR. BUTLER: Thanks Pat. Again, my name is John
5 Butler. I've been with the Emerging Fuels and
6 Technologies Office for about two months, now. I'm
7 really excited to be part of this program.

8 My background; I've been with the Energy
9 Commission for about 20 years, in management for about
10 12 years. And most recently I managed and implemented
11 the ARRA programs for California.

12 So, this is a new challenge and a new, exciting
13 opportunity and I look forward to working with the
14 Advisory Committee and all the stakeholders to make sure
15 the program's efficient and effectively implemented.
16 Thank you very much.

17 COMMISSIONER PETERMAN: And I'll note we're
18 happy to have John on board and particularly his
19 experience with the ARRA program in terms of that
20 contract management, making sure that the work gets
21 done. I think it will be very valuable for the Energy
22 Commission, as we're trying to move through a number of
23 contracts with the 118 program, which you all are
24 familiar with. Thank you, John.

25 MR. PEREZ: Thank you, John. And one other

1 important announcement in the Fuels and Transportation
2 Division is this week we announced that Marsha Smith
3 will be taking over the Special Projects Office. And
4 can I have Marsha Smith stand, if she's here? This is
5 Marsha Smith. Thank you.

6 Many of you will be working with her in the
7 future. One of the programs under the Special Projects
8 Office is the Clean Energy Business Financing Program
9 and we are looking at efforts to better align that with
10 the Manufacturing Program that we have under the
11 Alternative and Renewable Fuel and Technologies Program,
12 and so you'll be seeing more of her down the road.

13 And then, also, many of you may not know this
14 but Tim Olson has also joined the Division and is now
15 heading up the Transportation Office, which used to be
16 called the Fuels Office.

17 So, Tim here, and many of you know him because
18 of his active role as the advisor here and active
19 participant with the AB118 Program.

20 And last, but not least, I'd also like to
21 introduce to you our new legal counsel, Michael
22 Doughton. Michael, are you here? He's in the back.
23 Well, thank you for being here.

24 And one other last introduction I'd like to make
25 is I'd like to acknowledge Carrie Cornwell, Consultant

1 for the Senate Transportation Committee that is here
2 today. Carrie, thank you for joining us.

3 So, that concludes my introductions and look
4 forward to proceeding, and I'll now turn it over to Mr.
5 Jim McKinney.

6 ADVISORY COMMITTEE MEMBER CARMICHAEL: Pat, just
7 a quick question, Tim Carmichael. For those of you who
8 weren't quick enough with your pens, is there a list of
9 those management changes that we can get from you or is
10 it -- you said it was announced; is there an e-mail
11 blast on that?

12 MR. PEREZ: So, what I hope to do is update the
13 organizational chart later this afternoon and,
14 hopefully, we'll just post it to the website.

15 COMMISSIONER PETERMAN: Yeah, and by the end of
16 the meeting if we could just put it on a slide and have
17 it up there, that would be great.

18 MR. PEREZ: Okay.

19 COMMISSIONER PETERMAN: Thank you.

20 MR. MC KINNEY: Okay, good morning members of
21 the Advisory Committee, and public stakeholders and
22 public at large. I'm Jim McKinney, Program Manager with
23 the Alternative and Renewable Fuel and Vehicle
24 Technology Program.

25 If I could make a couple of other staff things;

1 one, Darcy Chapman, our long-time team leader on
2 workforce development has retired.

3 David Nichols is now filling in for her, but she
4 did a yeoman's job in that array.

5 And I think for the first time we're at full
6 staffing levels for the Emerging Fuels and Technologies
7 Office. We just have a bunch of great new hires that
8 we've recruited over the past six months. So, you'll be
9 getting to work with many of them.

10 COMMISSIONER PETERMAN: So, be kind to them
11 because they're new and we want them to stay.

12 (Laughter)

13 MR. MC KINNEY: So, just to situate us as I go
14 through the program status report, these are the
15 allocations for the last two Investment Plans.

16 As we begin the 2013-14 funding cycle let me
17 note that we have allocated nearly half a billion
18 dollars in AB118 funds through this program, and that
19 covers five fiscal years.

20 And we've encumbered \$248 million over 122
21 contracts as of June of this year.

22 So, there are two charts at the back of your
23 packet that provide more information on this.

24 So, a couple of funding modifications, as we did
25 two years ago we are facing a \$10 million reduction in

1 the funds for this year. So, we proposed to use what we
2 call the haircut approach, which is a straight ten
3 percent cut across the board in each category.

4 There are two other minor --

5 COMMISSIONER PETERMAN: And Jim, before you move
6 on from that, let me just note that as we've done in the
7 past we will send this out, the notice about this to the
8 Advisory Committee and the public electronically. But
9 since we were convening this meeting we wanted to first
10 bring this point up here. Thank you.

11 MR. MC KINNEY: Thank you, Commissioner.

12 For the '11-'12 Investment Plan we had allocated
13 a half a million dollars for a propane infrastructure.
14 We received no applications in that funding category.
15 We propose to shift that to the EV infrastructure
16 project area.

17 Similarly, for sustainability we identified no
18 timely sustainability studies that were needed to
19 support the program so we have proposed shifting that
20 half-million dollars over to the medium-duty, heavy-duty
21 vehicle technology category, which has three projects
22 totaling \$4.5 million that passed, but that were not
23 funded because we did not have enough funds for that.

24 Now, I'm going to spend a little bit of time to
25 go through the recent solicitations. So, first, again,

1 medium-duty, heavy-duty vehicle technology, this is a
2 critically important program area right now as we work
3 to get zero emission, and very low emission, and low
4 carbon truck technologies out into the demonstration
5 phase and, ultimately, to the commercial phase.

6 The NOPAs were released in April so in total we
7 put \$22.3 million for 14 demonstration projects in this.
8 And it's really a great mix of companies. We've got
9 some of our super start-up California companies, like
10 EVI, Motive, and Transpower, both Silicon Valley
11 companies and L.A. companies with a series of medium-
12 duty and heavy-duty electric drive trucks.

13 We've got some good developments in the natural
14 gas truck sector with motors that are optimized to use
15 both natural gas and LNG for heavy-duty transport.

16 And then we also have some big companies, like
17 Volvo and Navistar that are active, too, and we're
18 funding our first off-road hybrid excavator project that
19 Volvo has done.

20 So, as a reminder, you know, medium-duty, heavy-
21 duty trucks comprise about two percent of the vehicle
22 fleet here in California, we've got about 27 million
23 vehicles. They consume 16 percent of the fuel, that's
24 primarily diesel, and then you get the commensurate
25 levels of particulate matter criteria emissions, air

1 toxics that go with that. So, it's an important area
2 for us to focus upon.

3 For biofuels production facilities, again, as we
4 announced in the spring, seven projects totaling \$19.5
5 million. That totals about 7.7 million GGE, so gasoline
6 gallon equivalent or diesel gallon equivalent in
7 commercial production.

8 That covers renewable diesel, biodiesel,
9 cellulosic ethanol, we've got a couple of great projects
10 there, and then biogas.

11 For advanced technology manufacturing we made
12 four awards totaling nearly \$20 million. WrightSpeed,
13 their electric truck company in Foster City, in the Bay
14 Area; Zero Motorcycles, just a hoot of a company with
15 great products that are being exported to Europe, now;
16 Tesla, we've provided funding for their Model X line,
17 manufacturing line; and then Quallion which is one of
18 the premier lithium ion battery manufacturers and
19 developers in the country.

20 So, this is also quite important because it
21 reflects ongoing support to meeting the Governor's EV or
22 ZEV mandates for this year.

23 Alternative fuels infrastructure; we talked
24 about the round one NOPA in the springtime. We just
25 finalized what we call the round two notice of proposed

1 award. Nearly \$5 million, totaling over 1,000 charge
2 points.

3 You can see we're getting into the fast charger
4 space for the first time, 59 fleet charging points, 800
5 charge points for single- and multi-family dwellings,
6 and then 118 for the workplace.

7 Continuing, we put \$11.5 million into E85, so
8 125 stations should be constructed with that.

9 Somewhat to our surprise we had a series of
10 categories that were under-subscribed. So, we had
11 nearly \$10 million allocated for CNG/LNG. We received
12 \$6.9 million in funding proposals.

13 Similarly, for biodiesel infrastructure, this is
14 primarily bulk terminal storage and other ways to get
15 the product at the wholesale phase down to retail
16 consumers, underfunded on that.

17 And then for propane infrastructure, as I
18 mentioned, we received zero dollars in proposals for
19 that.

20 The draft hydrogen fueling solicitation, I think
21 as many of you know who have followed us, we had three,
22 and I would say our excellent public workshops this
23 summer, both here in Sacramento and down at the South
24 Coast facilities at Diamond Bar. Thank you, Dr.
25 Miyasato for co-hosting that event.

1 We will have nearly \$30 million available. We
2 expect to fund from 12 to 15 stations, a critical
3 milestone in meeting the projections laid out by the
4 Fuel Cell Partnership and their roadmap, and we'll hear
5 from Catherine Dunwoody later today on that.

6 We released a draft solicitation and comments
7 were due this week. The staff is now going through
8 those comments. We hope to release the solicitation
9 soon, this fall.

10 Future solicitations, I've discussed hydrogen.
11 Charging infrastructure; that's coming up, natural gas,
12 more money will be coming up on that, too.

13 Medium-duty, heavy-duty vehicle technologies,
14 again a critical space, we are considering doing a focus
15 solicitation on electric trucks that can be retrofitted.
16 So, there's something where there was a lot of interest
17 and we've got a lot of good proposals from industry on
18 that.

19 Regional planning; centers for alternative fuels
20 and then emerging opportunities, so these are all
21 categories from the '12-'13 Investment Plan.

22 And then, also, workforce development, it's not
23 on this slide, we're quite pleased with the products and
24 services we get through the Employment Training Panel
25 and California EDD, so we will continue to put money

1 into those areas with the existing contracts.

2 Turning now to policy updates, this is not news
3 to those of you in this room, 1455, from Senator Kehoe,
4 fell two votes short so we will continue to work with
5 our partners and stakeholders to reauthorize the
6 program. That would have extended this program, as well
7 as our sister program at the ARB, our quality
8 improvement program, Peter Christensen's representing
9 that program today, as well as the MOYA Programs.

10 There was a provision for CFO to get money into
11 hydrogen funding so I'm sure we will talk about that
12 quite a bit more as we go through this.

13 AB1900, this is a critical bill, this should
14 help get more landfill gas and biogas into the
15 California pipeline system.

16 What this bill will do will be to remove a lot
17 of the barriers that currently exist, especially for
18 landfill gas.

19 And what the bill does is requires the
20 California PUC to work with a series of offices, so the
21 Office of Environmental Hazard Assessment, CalRecycle,
22 CalEPA and the Air Resources Board to collaborate on
23 public health standards and other reporting requirements
24 for this.

25 So, we're very excited to see the passage of

1 this. It's primarily for the RPS renewable power
2 sector, but we see lots of crossover benefits as we
3 continue to work to try to get biogas into the
4 transportation system. I think most of you know it is
5 the lowest carbon intensity value for anything
6 commercially available in California right now for
7 biofuels.

8 AB523, Valadao, this was signed into law. And
9 as of July 1st of next year, 2013, we will no longer be
10 allowed to provide funding for ethanol production from
11 the edible portion of the cornstalk.

12 I do want to remind us that the plant remainder,
13 so the stems, the cobs, the kernels and the oil still
14 will be eligible for our funding and those are critical
15 for making cellulosic ethanol and also biodiesel.

16 In terms of regulatory policy, some of you may
17 recall we had a pretty lively discussion this past
18 February on what we call the Section 3103 low carbon
19 fuel standard discounting provision, that's part B of
20 our 3103 regulations.

21 We had a lot of comment from industry that this
22 is not appropriate and should be rescinded. The
23 Commission will be starting a rulemaking on that. I am
24 working with Michael Doughton, we hope to get something
25 on the Business Meeting coming up here shortly.

1 Last, certainly not least, the Governor's
2 Executive Order for zero emission vehicles, I think many
3 of you are familiar with this as well, but it lays out
4 milestones for 2015, 2020, and 2025. The 2025 goal is
5 to hit 1.5 million light-duty electrics on the road,
6 with appropriate supporting infrastructure and other
7 support for that.

8 And Leslie Baroody is working quite diligently
9 on this and it will be part of the action plan
10 presentation on the September 28th summit.

11 COMMISSIONER PETERMAN: Jim, before you move on,
12 I have one other one that we don't have on this list,
13 which is that the State released its latest Bioenergy
14 Action Plan, the 2012 Bioenergy Action Plan which looks
15 at bioenergy resources for electricity and
16 transportation.

17 It was a joint document by a number of agencies,
18 including the California Public Utilities Commission,
19 the Energy Commission, CalEPA, CalRecycle, Food and Ag.

20 And you can find that if you just type out
21 "energy action plan" on our website. I believe you can
22 also find it on the Governor's website, as well as any
23 of the sister agencies. Thanks.

24 MR. MC KINNEY: Thank you Commissioner.

25 And for the '13-'14 Investment Plan, so as we

1 get underway this year, Commissioner Peterman already
2 talked about Advisory Committee membership and
3 environmental justice representation.

4 And again, I'm sure most of you are familiar
5 with this but in many urban and rural parts of
6 California we have communities that are
7 disproportionately impacted from the emissions from our
8 transportation sector. We think it critical that we get
9 the right stakeholders at the table to represent those
10 communities and those issues.

11 And specifically, again as you know, this is the
12 port areas in Southern California and in the Bay Area,
13 at Oakland, as well as the Southern San Joaquin Valley,
14 both of which have some of the worst air quality in the
15 country.

16 And we will have two more formal Advisory
17 Committee meetings. And as you know, those tend to
18 follow the release of the drafts, so one in December and
19 then the other later in the spring.

20 Oh, we do have a slide on that. Here we go.
21 So, December's the target for the release of the first
22 staff draft Investment Plan.

23 Charles Smith, our incredible capable project
24 manager, again will be leading the staff effort on that.

25 We proposed to have an Advisory Committee

1 meeting in January, followed by a second draft report in
2 March.

3 The final draft -- and followed by a March
4 Advisory Committee meeting. The final draft will be
5 released in April and then adopted at the May Business
6 Meeting.

7 And I am available to take questions just on
8 this part, and just clarifying questions, please. Thank
9 you.

10 MR. PEREZ: Hey, Jim, this is Pat again from the
11 Energy Commission. Before we entertain questions what
12 I'd like to do, now that we have a full house, I think
13 this would be a good time to introduce the Advisory
14 Committee members.

15 And let's begin with Bonnie and go around the
16 table. And then we have several members, I believe, who
17 are also participating on the line.

18 ADVISORY COMMITTEE MEMBER HOLMES-GEN: I'm
19 Bonnie Holmes-Gen with the American Lung Association in
20 California. I'm glad to be here, very glad to be
21 extending outreach to Environmental Justice Committee
22 and happy to help with any suggestions.

23 ADVISORY COMMITTEE MEMBER SHARPLESS: Jananne
24 Sharpless, former Chair of the Air Resources Board, a
25 former Commissioner of CEC.

1 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

2 WILLIAMS: Clark Williams here on behalf of CalRecycle,
3 filling in for Dr. Levenson, who sends his regrets he's
4 not able to join you today.

5 ADVISORY COMMITTEE MEMBER MC MONIGLE: Hi, I'm
6 Anne McMonigle, I'm with the California Labor
7 Federation's Workforce and Economic Development Program.

8 ADVISORY COMMITTEE MEMBER KNIGHT: Ralph Knight,
9 Napa Valley Unified School District and we're here with
10 our yellow bus.

11 ADVISORY COMMITTEE MEMBER COOPER: I'm Peter
12 Cooper with the Employment Training Panel.

13 ADVISORY COMMITTEE MEMBER REPRESENTATIVE
14 CHRISTENSEN: Good morning, Peter Christensen with the
15 Air Resources Board. I manage ARB's AB118 program,
16 filling in for Tom Cackette today. Both he and Eric
17 White are out of town.

18 ADVISORY COMMITTEE MEMBER CARMICHAEL: Tim
19 Carmichael with the California Natural Gas Vehicle
20 Coalition.

21 ADVISORY COMMITTEE MEMBER KAFFKA: Steve Kaffka
22 with the California Biomass Collaborative and UC Davis.

23 ADVISORY COMMITTEE MEMBER GARLAND: Lesley
24 Garland with Western Propane Gas Association.

25 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

1 DUNWOODY: I'm Catherine Dunwoody with the California
2 Fuel Cell Partnership. I'm filling in for Justin Ward
3 today. Thank you.

4 ADVISORY COMMITTEE MEMBER GERSHEN: Joe Gershen
5 with the California Biodiesel Alliance.

6 ADVISORY COMMITTEE MEMBER TUTT: Eileen Tutt
7 with the California Electric Transportation Coalition.
8 I also really laud your efforts to include environmental
9 justice and I have a couple of suggestions for later.

10 MR. PEREZ: Okay, great. And how about those of
11 you who are participating online?

12 ADVISORY COMMITTEE MEMBER MUI: This is Simon
13 Mui with Natural Resources Defense Council. Sorry I
14 can't be there in person.

15 MR. PEREZ: Okay, thank you Simon.

16 ADVISORY COMMITTEE MEMBER BAKER-BRANSTETTER:
17 Hi, this is Shannon Baker-Branstetter with Consumers
18 Union.

19 MR. PEREZ: Good morning Shannon.

20 Anybody else?

21 ADVISORY COMMITTEE MEMBER ECKERLE: Hi, this is
22 Tyson Eckerle with Energy Independence Now. I'm sorry I
23 can't be there, also.

24 MR. PEREZ: Great, thank you Tyson.

25 Okay, I don't believe anybody else is online.

1 COMMISSIONER PETERMAN: And I'll say, first of
2 all, great turnout and we promise that next time we'll
3 have more microphones since we had such a good turnout.

4 And also, as a veteran of these water jugs, you
5 have to watch the lid.

6 (Laughter)

7 COMMISSIONER PETERMAN: So, very carefully.
8 Peter, I have been caught in that situation up there and
9 it's not pleasant. Thanks.

10 MR. MC KINNEY: And then Commissioner, if I
11 might, just before I turn over the microphone here, just
12 from staff's perspective we also want to thank and
13 acknowledge Pat Perez for his leadership over the last
14 two years. He's incredibly knowledgeable. He's
15 incredibly articulate in public.

16 And for those of you who haven't worked with him
17 in private, he's got the most wicked sense of humor that
18 just comes out of nowhere and helps keep things light.

19 So, Pat, we've just loved working with you and
20 best of luck.

21 MR. PEREZ: Thank you, Jim.

22 Okay, with that I think we're ready and prepared
23 to move into the market and technology review component
24 of today's meeting.

25 COMMISSIONER PETERMAN: Pat, I know we did

1 interrupt the opportunity for members to ask questions
2 about Jim's presentation in order to introduce the
3 members. So, does anyone have a question about what Jim
4 presented, anything clarifying you want to ask?

5 Mrs. Tutt?

6 ADVISORY COMMITTEE MEMBER TUTT: Just a couple
7 of clarifying questions. On the slide 7 that says the
8 funds will support the EV infrastructure project, really
9 appreciate that. That's very, very needed. I know that
10 was an over-subscribed program.

11 Is the EV infrastructure project, is that a
12 specific project that's already been identified or is
13 that for any infrastructure-related project plug-ins?

14 COMMISSIONER PETERMAN: It's not been finalized,
15 yet, it's just acknowledging the fact that we have seen
16 a lot of requests in the EV infrastructure area.

17 ADVISORY COMMITTEE MEMBER TUTT: Okay.

18 COMMISSIONER PETERMAN: There are some specific
19 projects that have come up but we'll provide more
20 information as it's finally decided.

21 ADVISORY COMMITTEE MEMBER TUTT: Perfect, that's
22 exactly what I wanted to hear.

23 And then I just had one other question on slide
24 11, it looks like there's about \$5 million that is under-
25 subscribed for -- you know, in addition to the

1 additional million that you've moved around. Does that
2 come out of the haircut by any chance, or are you still
3 going to continue to fund those categories for the same
4 amount, even though they're under-subscribed?

5 COMMISSIONER PETERMAN: I'll take a stab at this
6 and Pat, you probably have a more eloquent answer.

7 To the extent possible we like to keep funding
8 in the same areas. So, the funding would be used for
9 other projects. We're looking at what other
10 opportunities there are in the relative infrastructure
11 spaces.

12 And I think the expectation is that the 10
13 percent haircut will apply to all the funding
14 categories, including that one, but that those monies
15 will be used elsewhere. Does that make sense?

16 So, we're not going to -- the haircut is not
17 after excluding this funding. It's been under-
18 subscribed, but we think there are opportunities to have
19 it be utilized.

20 ADVISORY COMMITTEE MEMBER TUTT: Okay, so the
21 funding's going to stay where it's at, it's not going to
22 be moved?

23 COMMISSIONER PETERMAN: For now, yes.

24 ADVISORY COMMITTEE MEMBER TUTT: Thank you.

25 COMMISSIONER PETERMAN: Pat, anything else on

1 that?

2 MR. PEREZ: Simply, our intent, wherever
3 possible, is to maintain the funding in those particular
4 categories. There may be needs down the road whereby we
5 want to capture other opportunities, particularly if we
6 don't receive any requests or applications for
7 solicitations, and then we would have to notify
8 everybody that we are proposing to make changes.

9 COMMISSIONER PETERMAN: And this is a good
10 opportunity; we want to show you where the program is
11 today so that when we do have our next Advisory
12 Committee meeting on the Investment Plan, in December,
13 there aren't surprises about what categories have been
14 under- or over-subscribed, for example.

15 ADVISORY COMMITTEE MEMBER CARMICHAEL: Tim
16 Carmichael with the Natural Gas Vehicle Coalition.
17 Thank you, Commissioner and Jim, I thought the
18 presentation was good and it is really timely to get
19 this update. Thank you.

20 A couple of questions; the haircut, is this
21 really a haircut or is it more permanent than that?
22 Because I know a portion of the funding that we have
23 been working with is the Public's Good Charge piece,
24 which at least right now is not continuing. So, is that
25 this \$10 million or is this a budget, a lower budget \$10

1 million?

2 MR. PEREZ: Okay. Yes, certainly what we have
3 here with respect to the haircut, this resulted, as many
4 of you are aware that the Governor, in his budget, blue-
5 penciled that \$3 million of the proposed \$10 million for
6 this program to the State Parks and Recreation Fund.

7 COMMISSIONER PETERMAN: The \$10 million
8 initially.

9 MR. PEREZ: Yeah. So, essentially where that
10 \$10 million comes from, it's a combination of things.
11 One, it's the revenue that's coming into this fund is
12 actually declining.

13 There's also been a General Fund transfer, \$8.25
14 million that is continuing. It started with the '09-'10
15 period and it has continued. We don't know where that
16 will go in the future so we have that.

17 And then in combination with the Governor's blue
18 pencil, it's roughly \$10 million. So, we're
19 proposing --

20 COMMISSIONER PETERMAN: Pat, I'm going to have
21 to pause you, I did not even understand the explanation,
22 myself, and I'm somewhat familiar with it.

23 MR. PEREZ: Okay.

24 COMMISSIONER PETERMAN: So, I want to make sure
25 that there's a lot of things to follow that everyone's

1 up to speed. So, it was my understanding that there was
2 a transfer to Parks and Rec as part of the budget --

3 MR. PEREZ: Proposal.

4 COMMISSIONER PETERMAN: -- proposal for \$10
5 million.

6 MR. PEREZ: Yeah.

7 COMMISSIONER PETERMAN: And so that's where that
8 \$10 million is. Although there were -- and as, Pat,
9 you're speaking to, there's kind of a blue pencil, which
10 I'm a little less familiar with that process, but there
11 was -- that amount was reduced by the Governor to \$3
12 million, but not actually followed through to the
13 budget. So, we do have to take a \$10 million cut to
14 this investment plan because of that transfer to Park
15 and Recs, so that's what the \$10 million speaks to.

16 MR. PEREZ: Uh-hum.

17 COMMISSIONER PETERMAN: And Pat can clarify if
18 that's not correct.

19 And then Pat's touching upon some larger issues
20 about there is under-collection revenue. Now, as you
21 all know, we fund this program through fees on voter
22 registrations, car registrations, smog checks, and folks
23 are driving less.

24 And so far we have not had to do significant
25 cutting, but these are the types of issues that we're

1 going to start bringing to you if we start seeing, to
2 your point I think, Tim, is there a trend here.

3 Now, is this continuously going to be \$90
4 million or \$80 million, you've discussed that as part of
5 the Public Goods charge there was some money transferred
6 as well, available through the PIER Program, which will
7 not continue.

8 So, again, we're looking at trying to assess
9 where will kind of a steady state for the program be?
10 And that's something we can come speak to the Advisory
11 Group about at the next meeting, as well.

12 MR. PEREZ: And then I just want to echo what
13 the Commissioner just stated in terms of the revenue
14 that is coming in through these four funding sources.
15 It has actually been reduced over the last couple of
16 years so we're not getting that full entitlement that we
17 once had.

18 So, we'll need to revisit this after the budget
19 numbers come out and the revenue, you know, amounts are
20 finally communicated to us, and then we'll come back to
21 this Advisory Committee and say here's what we need to
22 consider for potential cuts down the road.

23 COMMISSIONER PETERMAN: As you all are aware, as
24 well, we have a two-year encumbrance period for the
25 funding and so there are projects that we pay in

1 arrears. So, sometimes there's money that's allocated
2 to the projects that then returns to the fund. If it's
3 not returned during a time period in which we can
4 reallocate it within the Investment Plan then, and Pat
5 you can tell me the exact language, but it goes back
6 into the General 118 Fund and the Legislature can then
7 provide that money as well.

8 MR. PEREZ: Correct.

9 COMMISSIONER PETERMAN: So, we have some
10 expectations around the revenues increasing or not
11 dropping considerably. But again, it's something we're
12 looking at and we'll get back to everyone on.

13 ADVISORY COMMITTEE MEMBER CARMICHAEL: Two
14 thoughts. One is I'm assuming that the transfer to
15 Parks and Recs happened before they found their pot of
16 gold, their hidden pot of gold. And if that's accurate,
17 I think if CEC's going to have a further discussion
18 about maybe asking for that money back, I'd like to be
19 part of that. And I think that a lot of members of the
20 Committee might like to be part of that.

21 Because sometimes it's easier for us to go ask
22 for something than it is for you guys directly to ask.

23 The second thought is CEC has taken some bumps
24 from the Legislature, putting it mildly. But I think
25 going forward it's a good idea for this agency to be

1 more proactive in defending this program in asking for
2 more money for this program.

3 The agency's been a bit timid and with some
4 reason, but I think going forward budgets are going to
5 be tight and if we don't fight for the money, we're
6 going to lose to others that are fighting for the money.

7 And I think that coming into 2013 that's a lens
8 or an approach I would encourage.

9 One other quick question on the review of the
10 draft plan; Commissioner Peterman you said December and
11 I thought December because that's when the draft's
12 coming out, but the schedule here says January. And I'm
13 just wondering, I can't remember exactly how we did it
14 last year, do you actually submit a draft plan?

15 I know you've got an early January deadline, do
16 you actually submit a draft plan before we have the
17 Committee meeting to talk about it?

18 MR. PEREZ: Historically, we have. And on the
19 draft plan, this is simply going to the Legislature as
20 required, you know, under the legislation that was
21 passed a couple of years ago.

22 But we will be taking input prior to that draft
23 plan being delivered, which I believe is due by mid-
24 January to the Legislature, and it's only a draft.

25 And so we'll hold additional workshops following

1 the submittal of that draft to refine it, like we did
2 with the previous plan.

3 ADVISORY COMMITTEE MEMBER CARMICHAEL: Okay, I
4 really think it's a good idea to at least have an
5 opportunity for Committee members and others to give
6 feedback before it's submitted to the Administration and
7 I'm glad that's part of your plan here. Thank you.

8 COMMISSIONER PETERMAN: And I will say, Pat, if
9 I remember correctly, we actually did have our Advisory
10 Committee meeting last before we submitted the plan,
11 there just wasn't much time for turnaround. And so to
12 the extent we can build in more time, if that's
13 possible, we will do.

14 Being aware of everyone's schedules in December
15 and that December can be a little hectic to get a
16 meeting in place, but if we're able to do it by the end
17 of the year, we will.

18 And then regarding your other point, I think
19 what's great about the 118 program is that we have a
20 really diverse stakeholder group. And we really do rely
21 on you as a stakeholder group to keep the Legislature
22 and your members aware of all the things that are going
23 on in the program, and to collectively work to sell its
24 benefits.

25 And as you all know, we talked last meeting

1 about -- we put out a benefits report. I think there's
2 improvement that can be done in the presentation and the
3 information, and we'll be looking to work with all of
4 you over this year about how we get the word out more
5 about what the program is doing.

6 Anyone else from the Advisory Committee, any
7 questions about Jim's presentation?

8 ADVISORY COMMITTEE MEMBER SHEARS: I don't know
9 if people can hear me but this is John Shears, Advisory
10 Committee member.

11 COMMISSIONER PETERMAN: We can hear you.

12 ADVISORY COMMITTEE MEMBER SHEARS: I'm sorry, I
13 had a bad connection earlier and so I had to jump off
14 and try to reconnect, so just to let everyone know that
15 I am in attendance.

16 COMMISSIONER PETERMAN: Welcome John.

17 Bonnie?

18 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Yes,
19 thank you Commissioner Peterman. And I do also agree
20 with the continuing need to package the successes of the
21 program and looking how we can better communicate that
22 to the Legislature and the public, and would like to
23 keep that on the agenda for these meetings, I think
24 that's very important.

25 I just wanted to ask if I could get just a

1 little more detail about the hydrogen funding
2 solicitation in terms of what number of stations would
3 be expected over what timeframe with that \$29.7 million?

4 MR. MC KINNEY: Yeah, so Jim McKinney here.
5 Yeah, I thought I said this but perhaps I did not. We
6 do have it split in two sections, so the first would be
7 about \$19 million, with \$10 million to follow shortly
8 thereafter. We're expecting about ten stations with the
9 first \$19 million.

10 We also have it set up so we would allocate
11 about \$1.5 million per station, so then we would get
12 another six or seven out of the remaining \$10 million.

13 And we really do expect for these to fund a lot
14 of what we call the core cluster, high-volume stations
15 in key ownership, projected ownership areas both in
16 Southern California and Northern California.

17 ADVISORY COMMITTEE MEMBER GERSHEN: Hi, this is
18 Joe Gershen with the California Biodiesel Alliance. I
19 see in slide 11 there was under-subscription of the, I
20 think the biodiesel infrastructure. And I agree with
21 Commissioner Peterman who said there really does need to
22 be better communication because I know folks in our
23 industry were completely unaware of it, and so that's
24 really why it was under-subscribed.

25 So, I think it is important to have better

1 communication between the Commission and industry
2 happen. Thanks.

3 COMMISSIONER PETERMAN: And Joe, if you have
4 suggestions, I mean we have the list serve information
5 on the websites, there's a contact e-mail, if there's
6 somewhere where we should just be getting here's how to
7 contact the Energy Commission because partly it's just
8 getting on the solicitation list.

9 Because as you see there's so many ones
10 happening but if people aren't hearing about the
11 opportunities and there's actually a need, then we want
12 to make sure we reach them.

13 ADVISORY COMMITTEE MEMBER GERSHEN: I think
14 that's part of the reason I'm here, I think, is to try
15 to help that communication open up with our industry.

16 COMMISSIONER PETERMAN: Great, glad to have you
17 join us.

18 ADVISORY COMMITTEE MEMBER GERSHEN: Thank you.

19 MR. PEREZ: Okay, any other questions?

20 ADVISORY COMMITTEE MEMBER REPRESENTATIVE
21 WILLIAMS: This is Clark Williams from CalRecycle.

22 Thank you for the presentation, Jim, very helpful.

23 On slide 9 I saw you mentioned you're expecting
24 to release the round two NOPA for biofuel production
25 facilities. I'm just curious if you have any more

1 details on the timing for release of that NOPA?

2 MR. MC KINNEY: You know, Bill Kinney, our
3 project manager, has been working to finalize this and
4 it is in final review, say, at the executive office
5 level here, so we are anticipating getting something out
6 within the next month.

7 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

8 WILLIAMS: Great, thank you for that.

9 COMMISSIONER PETERMAN: Bonnie, did you have
10 another question?

11 ADVISORY COMMITTEE MEMBER HOLMES-GEN: No, I'm
12 good.

13 COMMISSIONER PETERMAN: Okay, anyone on the
14 line, any Advisory Committee members on the line
15 regarding Jim's presentation?

16 All right, hearing none I think we can move on.
17 We're slightly ahead of schedule, which is great for us
18 because I'm sure we'll be behind soon enough.

19 (Laughter)

20 MR. PEREZ: Great. Okay, we'll move on to
21 market and technology review beginning with Peter
22 Cooper, California Employment Training Panel on
23 Workforce Training. Welcome Peter.

24 ADVISORY COMMITTEE MEMBER COOPER: All right,
25 well, thank you Commissioner Peterman, thank you for

1 giving me the opportunity to give a brief update on the
2 status on the -- sorry, on the status of ETP funding.

3 I have been at ETP for about three months, now,
4 and Brian McMahon has moved onward and upward to the
5 labor agencies, that we're very excited about.

6 Looking at ETP projects, I do really think
7 that -- I think that there's a great opportunity for ETP
8 to be something that can be discussed with legislators
9 and shown as a way that AB118 funding is working well.

10 So, I'm just going to give you a brief overview
11 of where we are with our funding.

12 First of all, I just want to give you an
13 overview of ETP, the Employment Training Panel is a
14 joint business/labor program funding training that
15 supports creation and retention of high-wage, high-
16 skilled jobs, so it really is linked to good jobs. It
17 was created back in 1983.

18 The ETP model, which is very unique for much of
19 the workforce development field, is a pay-for-
20 performance model, meaning that contractors are not paid
21 until after training has occurred and workers have been
22 placed in high-paying jobs.

23 ETP has had a partnership with AB118, with the
24 Energy Commission program for the past two and a half to
25 three years, it started in 2010. And part of this

1 includes frequent reporting back to the AB188, the
2 Energy Commission staff about where we are with our
3 marketing and with our training funds.

4 Just a little bit about our program before I
5 give you kind of an update on our funding. You should
6 know that we fund through two different formats. One is
7 directly with employers and the other is through an
8 umbrella structure, we call it multiple employer
9 contracts. I'll get into this a little bit more, later.

10 Funding is focused at the incumbent workers,
11 although we do have some funding available for
12 unemployed workers coming into employment, so job
13 creation aspects.

14 A lot of what ETP does is makes employers in the
15 State more competitive so they don't have to lay off
16 workers, they can really be globally competitive.

17 One of the way we do this is our funding is
18 fairly flexible. We have a number of different modes
19 for supporting training, whether it's on-the-job
20 training or class lab, et cetera.

21 For the funding status where are we right now?
22 Well, during the last three years we have -- we have
23 approved 22 ETP contracts. This covers 6,630 trainees
24 have entered into training. A number of them are still
25 in training.

1 And ETP has received \$10.3 million thus far.

2 We're awaiting approval for an additional \$2 million.

3 Of that amount, \$7.2 million has been contracted
4 out. Of that \$7.2 million, \$1 million is for what we
5 call job creation, new jobs.

6 Just to give you an idea of what kind of
7 training the population of the trainees is, we're doing
8 a lot of training, funding for electricians,
9 maintenance, fleet maintenance mechanic services,
10 production. We fund a program at Tesla.

11 Some of the sectors are biofuels and a number of
12 the other alternative fuel categories.

13 One interesting category that we started funding
14 recently is first responder and this is funding for
15 firefighters or EMTs that come to an accident scene in
16 which a vehicle that has alternative fuel as part of
17 its -- the way its function is, part of it, they have to
18 have special training to be prepared for that.

19 I just wanted to give you a couple, a flavor of
20 some of the contracts, as I said we have 22. Most of
21 them are still going on. Our contracts run for a two-
22 year period. After the two years workers have to be
23 placed for 90 days at a job, at a specific wage level.

24 So, the Cal Labor Fed. has a -- is administering
25 a multi-employer contract with public sector transit

1 unions and transit agencies. This includes L.A.,
2 Sacramento, and Santa Clara transit agencies.

3 And this really is an interesting example
4 because in this sector there's been, you know, an aging
5 population. A number of a lot of the workforce has
6 retired and there's really a lack of advanced skills
7 needed for maintaining some of the new equipment that
8 they have in the alternative fuels area. This includes
9 CNG hybrid drive training, clean diesel, electric rail
10 and others.

11 Another interesting one I just wanted to bring
12 up, the California and Nevada Labor Management
13 Cooperative Committee, it's a long name, this is the
14 electricians with IBEW working with the National
15 Electrician Contractors Association, NECA.

16 And, really, this is about installing the EV
17 infrastructure, the charging stations. So, this is a
18 wonderful model that is tied to new certification for
19 these electricians.

20 And the third MEC model that I wanted to
21 mention, because we're seeing more of these with the
22 community college district, our marketing staff of two
23 is certainly not enough, but they have been very
24 productive working with community colleges to develop
25 training for maintenance of electric vehicles, CNG

1 hybrid fleets. And we're seeing more of this kind of
2 application come in.

3 Some of the single-employer contracts that we
4 have seen and we've funded recently, Kings Canyon
5 Unified School District. This is for maintenance of CNG
6 school buses.

7 The UPS contract, this is their new fleets, the
8 needs they have for training there, and Tesla, where
9 we've been training frontline workers for production of
10 the Model S.

11 There are many more, obviously, that I don't
12 have time to go into in the details. I do have the
13 details and would be happy to share them with anybody
14 that would like to come up and discuss it with me after
15 the presentation.

16 I would like to speak, briefly, about some of
17 the challenges and on some of the future projects we see
18 on the horizon. One of the main challenges that we face
19 is that our funds -- you know, I mentioned that we have
20 a pay-for-performance model and so if training does not
21 take place in a contract, if they only are able to earn,
22 let's say, 50 to 60 percent of the amount that's
23 contracted for, the remaining amount is carried over
24 into the next year. It's being encumbered by the ETP,
25 so those dollars can then be reinvested to new training

1 contracts.

2 But in order for us to go through that process,
3 we have to have the authority for spending the dollars
4 that are rolled over. And this process, through the
5 Department of Finance and EDD has just been taking too
6 long, two to three months, and it's been causing some
7 difficulties with training entities that really need to
8 get started.

9 You know, I mentioned the Cal Labor Fed's.
10 contract with the public transit agencies. They're
11 interested in coming in with another contract for a
12 million dollars.

13 They've been the most successful project that
14 we've been funding. They want to go in for another
15 round, they want to get started in October, but we only
16 approve contracts at our monthly panel meetings and we
17 have to have the spending authority in order for our
18 panel to even bring up the new contract proposal.

19 So, this has been a hindrance and I look forward
20 to working with Energy Commission staff in figuring out
21 how to move forward on that front.

22 Just one or two words about some of the future
23 projects coming up; the IBEW and NECA project, that was
24 the EV infrastructure, they're going to be seeking
25 secondary curriculum and will go through our amendment

1 process to get additional funding.

2 As I mentioned, the transit program is going to
3 come back in for another project in the neighborhood of
4 a million dollars.

5 And a number of community colleges will have
6 more regional projects focusing on local training needs,
7 mostly fleet conversion and some first responder
8 training. These are in the neighborhood of \$200,000 to
9 \$300,000 each.

10 And then just two more that I wanted to mention,
11 BIOCOM Institute is a trade association that is going to
12 be doing biofuel production and commercialization
13 training that is coming in for a contract this fall.

14 And EV International will be coming in for a
15 contract for medium- and heavy-duty EV manufacturing;
16 they're expanding in the Stockton area. That's a
17 smaller one, 20 trainees at \$20,000.

18 And lastly, my last word would be as we look to
19 the future with the 118 funding I have a question, an
20 area that I would like the advisors to discuss, which is
21 if AB118 funding could be used for some of the high
22 speed rail infrastructure.

23 We know that certain training will be required
24 for that infrastructure. It could be either, such as
25 electric vehicle charging stations at the locations

1 where the high speed rail will have stations, or it
2 could be other components of the high speed rail program
3 going forward in out years.

4 So, that's just a question to leave you with and
5 for further discussion. And that concludes my remarks
6 for now. Thank you.

7 COMMISSIONER PETERMAN: Thank you, Peter. If
8 you wouldn't mind staying there for one second, does
9 anyone from the Advisory Committee have a question for
10 Peter?

11 Jane?

12 ADVISORY COMMITTEE MEMBER SHARPLESS: Peter,
13 thank you. It raises a lot of questions but I'm not
14 going to go into all the questions I have. I just want
15 to make sure I heard you correctly, I wrote down the
16 figure 6,000; 6,000 is the number of people you
17 currently have in the program being trained. Some of
18 them have been placed, but a lot of them are still in
19 training.

20 And so is that 6,000 the number that you would
21 give, if you were explaining the program, that has been
22 impacted by the 118 funding exclusively?

23 ADVISORY COMMITTEE MEMBER COOPER: Six thousand
24 is a good -- it's actually 6,630 have entered into
25 training. They have been impacted by the program to one

1 degree or another. Some of them have gone through all
2 the training that's required to pull down the funding.

3 Some of them may have dropped out of the program
4 because they got a job and did something else.

5 And some of them are -- a lot of them are still
6 kind of in the process. As I was mentioning, we've been
7 doing this through 2010. We have a two-year program.
8 We only have two or three that have actually closed out
9 their contracts.

10 ADVISORY COMMITTEE MEMBER SHARPLESS: Uh-hum.

11 ADVISORY COMMITTEE MEMBER COOPER: So, a lot of
12 them are coming up for finishing their programs the end
13 of this year, the beginning of next year.

14 So, yes, I would say that 6,630 have received
15 some training from dollars from this program.

16 ADVISORY COMMITTEE MEMBER SHARPLESS: Since
17 2010?

18 ADVISORY COMMITTEE MEMBER COOPER: Yes.

19 ADVISORY COMMITTEE MEMBER SHARPLESS: Since
20 2010. Okay, thank you.

21 COMMISSIONER PETERMAN: Ralph?

22 ADVISORY COMMITTEE MEMBER KNIGHT: Peter, I just
23 want to commend you on your talk about the training for
24 first responders. A lot of you may know that I'm out
25 parading my green bus around to try to get the green

1 rails and green bumpers on that bus.

2 So far I'm running head on with CHP, that I
3 don't think feels the importance of first responder to
4 those kids on that bus, or themselves, either one. And
5 that's what we're trying to explain to them, that I
6 think the first responder training is a real necessity,
7 whether it be natural gas, whether it be propane,
8 electric, hybrid electric, any of those fuels, that
9 those first responders need to know what they're walking
10 up to.

11 Because within a matter of seconds saws are
12 starting to chop into the side of a bus and that 300-
13 volt wire running through that flame, or the natural gas
14 that's got a slow leak on a tank that's damaged, or
15 whatever, could be a catastrophic picture out there that
16 we don't want to see in a school bus by any means at
17 all.

18 I know that the State Fire Marshall here does a
19 lot of training as far as vehicles are concerned; they
20 have an excellent program going on.

21 But when I talked to their training officer that
22 puts the trainings on, when I mention school bus it's
23 like, wow, we never thought about that.

24 Come on, this is California, where's most of the
25 alternative fueled school buses at? In the State of

1 California.

2 And so it's -- we're just trying to -- I'm going
3 to go through a little bit of material before we're done
4 today. We're just trying to educate CHP that I think
5 that it is an important situation for the safety of our
6 kids to be transported to and from school, that it's
7 handled right.

8 ADVISORY COMMITTEE MEMBER COOPER: Yeah, thank
9 you. I certainly agree with that and I think it's an
10 area that we can and should be expanding in.

11 As I mentioned, it's an area that some of the
12 community colleges are interested in. And just from a
13 program point of view, going through community colleges
14 and mostly an employer contract model it makes a lot
15 more sense for getting the dollars out where they need
16 to be and not sitting, you know, unused.

17 COMMISSIONER PETERMAN: Thank you. I think we
18 have time for one final question, Anne?

19 ADVISORY COMMITTEE MEMBER MC MONIGLE: Hi, Anne
20 McMonigle, California Labor Federation.

21 Just a question, I don't know if it's directed
22 directly at Cooper, I don't want to make him have to
23 field this on his own, but I pose it to the Committee.

24 My question is in general about the workforce
25 needs that AB118 funds could address, and I was

1 wondering if any career mapping or industry mapping has
2 already been done that shows projections of potential
3 careers that could be gained and what -- not necessarily
4 what sectors, but what those jobs would look like, what
5 the training requirements for those jobs would be?

6 And I'm interested if any of that work has been
7 done and, if not, I'm curious if the Committee has
8 looked at maybe partnering with EDD's LMID Department to
9 go ahead and look at this kind of career mapping?

10 For those of us who work in job training, this
11 kind information is really key for us. And so that's my
12 question, so it's a heavy one so I'm not sure if --

13 MR. MC KINNEY: Yeah, it's a good question, Jim
14 McKinney here.

15 We've talked primarily about ETP this morning on
16 training. There are two other components of our
17 workforce training funding and program at the
18 Commission, so one is EDD.

19 The other is the Community College's
20 Chancellor's Office. And some of the research you
21 alluded to is part of the deliverables from that
22 organization.

23 ADVISORY COMMITTEE MEMBER MC MONIGLE: From the
24 community college?

25 MR. MC KINNEY: Yeah.

1 ADVISORY COMMITTEE MEMBER MC MONIGLE: Is that
2 the CCEOC, is that their --

3 MR. MC KINNEY: Before CC -- CCOC, I believe we
4 call it.

5 Yeah, and then I don't know if Dave Nichols is
6 here, if he would have anything to add. No, he's
7 monitoring upstairs, I think, so does that answer your
8 question?

9 ADVISORY COMMITTEE MEMBER MC MONIGLE: Yes,
10 thank you.

11 ADVISORY COMMITTEE MEMBER COOPER: And I wanted
12 to add, too, that I think that might be an area with
13 relationship to the possible needs of high speed rail
14 that might be explored. You know, what are the needs,
15 so we have a better understanding of that and if it
16 makes sense at all for this funding, I don't know.

17 But additionally to that, I think that the
18 Energy Commission and the 118 program should continue to
19 stay involved with the California Workforce Investment
20 Board as they kind of reconstitute their board and their
21 Green Collar Jobs Council. You know, what role does 118
22 funding have in those discussions?

23 COMMISSIONER PETERMAN: Thank you. And Jim,
24 your comment reminded me of the fact that it's -- you
25 have to make sure everyone's aware that we're talking

1 about the various technologies and fuels today, and
2 we've asked folks to come speak. They're going to
3 provide a perspective. They won't be able to cover
4 everything that the Commission's doing in these areas or
5 even necessarily represent all the diverse stakeholders
6 in those subfields.

7 So, we're not holding you to the task, for
8 example, of speaking for everyone on biofuels or natural
9 gas, but those questions are good.

10 And, really, if there's a request for additional
11 information, then we can connect folks with the
12 appropriate staff who are working on the broader set of
13 contracts. Thank you.

14 ADVISORY COMMITTEE MEMBER COOPER: And here's my
15 contact information, as well as our marketing
16 specialist. I'd be happy to speak with or meet with
17 anybody about these issues. Thank you.

18 COMMISSIONER PETERMAN: Thank you.

19 Next we have Larry Rillera, from the Energy
20 Commission staff, who's going to talk about
21 manufacturing.

22 MR. RILLERA: Good morning everyone, Larry
23 Rillera with the Division of Fuels and Transportation.

24 I will address in a little finer granularity the
25 manufacturing, the two manufacturing solicitations we

1 have issued through the program and then provide a
2 couple of thoughts with respect to impacts on
3 manufacturing, vehicle manufacturing outside of the
4 Commission.

5 The first solicitation we had about 23
6 applications. You see the spread on the technology
7 dominated mostly by electric vehicles, the vehicle
8 sector, and this is across the various stages, pre-
9 development work, early commercial and some commercial
10 ventures.

11 I would note that we also had applications for
12 natural gas and for hydrogen, as well.

13 Eleven of the projects were funded for almost
14 \$25 million. We've spent down or expended about a third
15 of that in funding.

16 I would also note that there was about a one-to-
17 one match funding at this time for this solicitation,
18 meaning \$25 million was approved and about \$25 million
19 was also leveraged in match funding.

20 This solicitation in terms of its hallmark had a
21 lot of pre-development focus to it, which differs from
22 the second solicitation.

23 The second solicitation was issued earlier this
24 year and we had more of a focus on pre-
25 commercial/commercial, a focus on the assets, the

1 equipment that would be used to establish or expand the
2 manufacturing line; we received about 15 applications.

3 Of importance, I would note that we had a
4 significant increase, even though the numbers are small,
5 in the non-EV applications, almost 30 percent.

6 This is still a live application and we've --
7 excuse me, a live solicitation and we've awarded four
8 projects so far for about \$20 million.

9 The other significant item I would note would be
10 the match funding on the magnitude of one-two-three. In
11 the first solicitation it was about one-to-one. And
12 those projects will be coming forward for formal
13 approval as the agreements are being completed.

14 A couple of observation staff has outside of the
15 solicitations that impact vehicle manufacturing and
16 California, nationally, is that some of the applicants
17 have applied for the SB71 sales tax exemption program
18 through the State Treasurer's Office.

19 This is a sales and tax exemption on your fixed
20 asset acquisitions for your manufacturing line. It has
21 a magnitude of a return between 9 and 10 percent so
22 companies that have a portion of their assets can see a
23 return on the back end of about that much.

24 Three of the companies are impacted or have
25 applied and received approval. Expect more as the

1 second -- as the results from the second solicitation,
2 manufacturing solicitation go forward.

3 The other is the Department of Energy's
4 Alternative Vehicle and Technology Manufacturing Loan
5 Guarantee Program.

6 There were over 100 applications that were
7 submitted under this federal loan guarantee program.
8 Five of those were awarded; one of those was a
9 California-based company, to the tune of about \$465
10 million.

11 The underwriting at the federal level is very,
12 very strong, it's consistent with commercial lending
13 standards.

14 I would also articulate that \$25 billion, with a
15 "b", was appropriated for this program. This is the
16 Vehicle Manufacturing Program and not the 1703 program
17 or the 1705 program.

18 Of the five projects I mentioned, about \$6
19 billion was awarded and closed, leaving a balance of
20 about \$19, so there's a strong capacity for some of
21 these companies as we see go through the 118 program
22 should they scale and hit it on the demand side, that
23 might be in the market for additional capital.

24 And that concludes my comments.

25 COMMISSIONER PETERMAN: Thank you, Larry. Does

1 anyone have any questions for Larry? Jan?

2 ADVISORY COMMITTEE MEMBER SHARPLESS: Could I
3 just ask you what the timing on the \$19 billion is; do
4 you know, for the feds?

5 MR. RILLERA: I don't. It still has quite a few
6 more years in appropriation authority.

7 ADVISORY COMMITTEE MEMBER SHARPLESS: So, it
8 could be five?

9 MR. RILLERA: Up to five, I believe, yes.

10 ADVISORY COMMITTEE MEMBER SHARPLESS: Up to five
11 years.

12 COMMISSIONER PETERMAN: I know we have some
13 Advisory Committee members on the line. So, does anyone
14 have a question for Larry on the phone? And then we'll
15 turn to Steve, in the room.

16 Hearing none, Steve, why don't you ask your
17 question and if anyone else on the line has a question
18 we can --

19 ADVISORY COMMITTEE MEMBER KAFFKA: Yeah, this is
20 Steve Kaffka. Larry, you mentioned a California company
21 that's been funded through the DOE program. Can you say
22 which one that is?

23 MR. RILLERA: Yes, that is Tesla.

24 COMMISSIONER PETERMAN: Anyone else? Great.
25 Well, we've got the audience here, as well. Anyone from

1 the public or the audience want to ask a question about
2 the manufacturing solicitations?

3 Or just does anyone else want to add a comment
4 or appreciate Larry stepping up and giving a
5 presentation? I think all our manufacturers are out
6 there making stuff and so they couldn't show up today,
7 but we appreciate his summary.

8 Anyone in the audience?

9 Okay, hearing from no one, let's move on to our
10 next speaker. Thank you, Larry.

11 MR. PEREZ: Okay, biofuels production and
12 distribution, I'd like to welcome Joe Gershen,
13 California Biodiesel Alliance.

14 And then he will be followed by Tim Olson.

15 ADVISORY COMMITTEE MEMBER GERSHEN: Thanks for
16 having me, my name is Joe Gershen. I am the newest
17 member, I think, of the Advisory Committee. I represent
18 the California Biodiesel Alliance, which is a not-for-
19 profit trade association promoting high quality
20 renewable biodiesel use and production in California.

21 CBA represents California producers, feedstock
22 providers, marketers and other stakeholders in the
23 industry.

24 The purpose of this document is to reintroduce
25 the Energy Commission and the Advisory Committee to the

1 biodiesel industry and its potential to expand volumes,
2 and to help California meet its 2020 goals and 2050
3 vision.

4 Based on the Commission's own calculation from
5 the 2011 IEPR Benefits Section, biodiesel use in
6 California provides 34.7 percent of the results, more
7 than all other modalities and, yet, has only received
8 4.8 percent of the funding.

9 In comparison, the cost benefit analysis of the
10 numbers from that same section of the 2011 IEPR shows
11 that other programs were 9 to 20 times more expensive in
12 achieving the same goals.

13 Biodiesel is the lowest cost commercially
14 available, low carbon fuel on the line today. It's
15 produced from diverse low-impact feed stocks that are
16 grown in California and create in-state jobs.

17 All engine manufacturers support the use of at
18 least B5, which is five percent, and there's no NOx
19 increase in new diesels.

20 CBA has conducted in-depth industry-wide surveys
21 and reviewed Energy Commission data on biodiesel versus
22 other technologies that have received funding through
23 this program.

24 We've found that the California biodiesel and
25 diesel substitutes industry has been grossly under-

1 funded to date by the program, especially relative to
2 biodiesel's further potential to meet stated program
3 goals of displacing petroleum, reducing in-house gases,
4 reducing exhaust emissions, and creating and maintaining
5 jobs in California.

6 Based on the IEPR benefits metric, biodiesel
7 provides the greatest return on taxpayer dollars
8 invested, yet receives the least funding support.

9 As required under AB109, we urge the Commission
10 to reexamine and update its analyses. We recommend that
11 an objective, metric-based approach be developed that is
12 transparent to all, especially the AB118 Advisory
13 Committee.

14 By now the Commission must have enough
15 information on each technology's projected performance
16 to present objective and analytical measures to
17 enlighten the decision making used in the funding
18 allocation process.

19 There are currently eight functioning biodiesel
20 production facilities in California with a combined
21 capacity of 46 million gallons per year.

22 These green businesses directly provide
23 approximately 150 family-supporting jobs in the State.
24 As of June of this year, these plants expect to produce
25 26 million gallons during calendar year 2012.

1 In our survey members were asked what the
2 industry needs in order to expand biodiesel production
3 and utilization. In order of importance CBA member
4 priorities are, first, grants and loan guarantees to
5 expand the increase of in-state ultralow carbon
6 production.

7 Second, development of plentiful and inexpensive
8 low-impact feedstocks.

9 And third, grants and loan guarantees for new
10 blending and storage of petroleum distributors and
11 terminal racks.

12 The term ultralow carbon intensity is used here
13 to signify a CI value, carbon intensity value of 20 or
14 less. Ultralow carbon intensity includes a basket of
15 existing, approved biofuel pathways under the LCFS
16 ranging from 5.9 to 18.44, and provides room for the
17 inclusion of new technology in feedstock pathways.

18 It's not a defined legislative or regulatory
19 standard, it's an objective use for comparison of
20 approaches that will facilitate compliance with the
21 LCFS.

22 In 2012, 66 percent of California production was
23 ULCI biodiesel. These gallons represent between 83 and
24 94 percent greenhouse gas production compared to
25 petroleum diesel.

1 Approximately 200 gallons per year, which
2 represents about five percent blend, can be absorbed at
3 fuel blends compatible with existing vehicles and retail
4 infrastructure.

5 This week the Obama Administration announced
6 that the 2013 renewable fuel standard biodiesel
7 compliance volume was set at 1.28 billion gallons.

8 The ARB has stated that obligated parties are
9 incentivized to blend in California where they can
10 essentially comply with two obligations at once, the
11 Federal Renewable Fuel Standard and the California Low
12 Carbon Fuel Standard.

13 This will help significantly grow biodiesel
14 volumes in the State, but we must support this with
15 increased program funding for in-state, ultralow carbon
16 intensity production.

17 A recent review of low-impact feedstock
18 availability concludes that there is a potential to
19 substantially increase these feedstocks to meet higher
20 demand, creating more ultralow carbon intensity
21 biodiesel and green collar California jobs.

22 But current supplies are insufficient and more
23 funding is necessary. Considering, one, the
24 availability of current ULCI feedstock types; two,
25 ongoing development of new ULCI feedstock types, such as

1 algae and; three, the tremendous greenhouse gas CI value
2 reduction and petroleum displacement benefits,
3 California production of ULCI biodiesel should be
4 increased to meet both the mid-term and longer-term
5 goals of LCFS and the AB118.

6 As we compare biodiesel to other fuels and
7 technologies we wonder what metrics were used to justify
8 investment levels in other modalities. We understand
9 that cost effectiveness is not the only decision factor.

10 However, evidence to date and a review of past
11 meeting transcripts indicate that cost effectiveness has
12 not been used or applied to this program.

13 Should this not be used in some way to guide,
14 not dictate, but guide the funding allocation process?
15 We think so.

16 Fuel cell vehicles and electric vehicles are
17 estimated to displace 425 gallons of petroleum fuel per
18 vehicle, per year.

19 In this direct comparison, a 200-million gallon
20 B5 deployment in California is equivalent to putting
21 470,588 fuel cell vehicles or EVs on the road, in the
22 State.

23 Although hybridcars.com reported that only 7,146
24 EVs were sold in the first seven months of 2012
25 nationwide, if we optimistically assume 10,000 EVs and

1 fuel cell vehicles will enter the California each year
2 over the next several years, which is very optimistic,
3 it would take more than 47 years to accomplish the
4 equivalent petroleum displacement and carbon reduction
5 that ultralow carbon intensity biodiesel blended to B5
6 in California can achieve near term.

7 A similar comparison with heavy-duty natural gas
8 vehicles shows that a B5 implementation in California
9 would be equivalent to putting 28,571 heavy-duty natural
10 gas vehicles on the road, which would take more than 22
11 years to accomplish, otherwise.

12 And from a greenhouse gas reduction perspective,
13 that's equivalent to placing 127,819 heavy-duty natural
14 gas vehicles on the road.

15 To put this into very real-world perspective,
16 this year the California biodiesel industry's estimated
17 production of 26 million gallons is equivalent to
18 putting over 61,000 EVs or fuel cell vehicles, or over
19 3,700 heavy-duty natural gas vehicles on the road in
20 California.

21 The CBA recommends that in-state biodiesel
22 production, feedstock and infrastructure development
23 projects receive \$24 million in each of the next two
24 funding cycles to be allocated as shown here.

25 In order to achieve this funding increase, we

1 recommend that a 20 percent incremental amount of
2 funding be reallocated to biodiesel from the other fuels
3 and technologies funding above the parity line.

4 With this adjustment biodiesel is still ten
5 percent under-funded compared to its performance metrics
6 and meeting stated ARFVTP goals, but at this funding
7 level the CEC still retains the ability to fund
8 innovative programs that are not yet justified by the
9 metrics.

10 We also would like to work with CEC to devise
11 and implement a policy for all program opportunity
12 notices to require all proposals to contain a dollar-
13 per-metric unit improvement analysis.

14 In conclusion, biodiesel can displace 200
15 million gallons a year of petroleum diesel, at B5, in
16 the near term. This would satisfy diesel LCFS
17 greenhouse gas reduction targets through 2016. It's
18 equivalent to putting almost 500,000 EVs or fuel cell
19 vehicles on California roads, or its equivalent to
20 putting over 28,000 heavy-duty natural gas vehicles on
21 California roads, and this would take decades for the
22 other modalities to accomplish.

23 Our energy and climate issues need multiple
24 solutions, we absolutely recognize that. Most effective
25 solution for long-haul trucking is biodiesel in the

1 near, mid, and long term. This is an enormous segment
2 and I don't know if it's been adequately addressed.

3 And also, all of this is going out when you
4 review the CEC's own data.

5 What we need going forward is an objective,
6 metric-guided approach for funding.

7 And I'd like to leave you with the fact that,
8 you know, biodiesel creates jobs. Jobs is a big deal
9 right now and I think it always is.

10 This proposal we've put forward would create
11 approximately 500 new production jobs, not including all
12 the ancillary employment that goes with those jobs, and
13 up to 10,000 new agricultural jobs in feedstock
14 cultivation, harvesting and processing. And these jobs
15 are generated in the highest State unemployment areas.

16 These are new jobs, growing new crops on under-
17 utilized land. Thanks.

18 COMMISSIONER PETERMAN: Thank you. Joe, I have
19 a question or two. Joe's recently joined our Advisory
20 Board partly because the perspective of biodiesel, we
21 have not heard as much from that industry, and so I
22 appreciate the background, as well as the information.

23 And I'll assume you'll also give the
24 presentation to staff because you made a lot of
25 suggestions in there.

1 You put forth a number of numbers in terms of
2 what the industry's going to need going forward. What
3 are those numbers based on, did you do a survey, an
4 analysis?

5 ADVISORY COMMITTEE MEMBER GERSHEN: Yes, we did
6 an in-depth survey with our industry and, you know, as I
7 said almost -- I think all but one of the producers is
8 ultralow carbon intensity biodiesel producers. And we
9 surveyed them pretty directly to see what we needed to
10 do, de-bottlenecking to expand production in the State.
11 And this was an extensive series of surveys, I think we
12 did two or three of them, and parsed that data and came
13 back, and got comments to make sure that we were
14 essentially reflecting almost exactly what everyone
15 wanted to do. So, it's a pretty good cross section of
16 responses from our industry in the State.

17 COMMISSIONER PETERMAN: And is that the
18 information that builds up to those funding needs is
19 that available publicly somewhere?

20 ADVISORY COMMITTEE MEMBER GERSHEN: Yeah.

21 COMMISSIONER PETERMAN: Will you be able to
22 submit that to the 118 docket for other Advisory --

23 ADVISORY COMMITTEE MEMBER GERSHEN: I did submit
24 this, I submitted a 9-page white paper that this
25 presentation basically reflects. I tried to get it all

1 in, in ten minutes. I asked for more, but I understand
2 there's not enough time.

3 COMMISSIONER PETERMAN: Well, we appreciate you
4 submitting the white paper. And that's what we want to
5 do is just make sure folks are aware of where they can
6 get more information.

7 ADVISORY COMMITTEE MEMBER GERSHEN: Yes, it's
8 all in there and it's much more detailed.

9 COMMISSIONER PETERMAN: Other questions? Jan?
10 You're quick to the draw.

11 ADVISORY COMMITTEE MEMBER SHARPLESS: I, too,
12 appreciate this, I think it's a lot of food for thought.
13 It raises questions as well, some of which our Chair
14 just raised.

15 But I think your focus in terms of meeting
16 California goals will focus mainly on energy and meeting
17 energy demand in the transportation sector, and also
18 global climate change goals.

19 ADVISORY COMMITTEE MEMBER GERSHEN: Yes.

20 ADVISORY COMMITTEE MEMBER SHARPLESS: Does it
21 assume that in supplying this fuel it's also meeting the
22 low carbon fuel goal and some of the lower out-year air
23 quality goals?

24 For instance, the South Coast Air District is
25 looking at basically taking all of their transportation

1 vehicles down to zero emissions.

2 So, where do you fit on that scale?

3 ADVISORY COMMITTEE MEMBER GERSHEN: I think we
4 fit, and I'd like to also take these questions back to
5 our board, but a short answer that I can certainly
6 expand on later would be that, you know, in the near and
7 midterm, you know, we're still going through -- I think
8 by 2016 or 2017 we're anticipated to be at 4 billion
9 gallons of diesel throughput in the State, so we address
10 that pretty directly with ultralow carbon intensity, and
11 I think I tried to cover that. It's in even more detail
12 in the white paper.

13 But certainly in near and midterm and, frankly,
14 in the long term, too, I think this addresses those
15 goals pretty well. Because I don't think anytime real
16 soon we're going to go to zero emissions in these diesel
17 vehicles.

18 I mean you have this long-haul trucking sector
19 that really needs to be addressed and they're using
20 diesel fuel. And this is a great way -- I mean I know
21 there's been some talk about on a per-vehicle basis how
22 does this work?

23 And in my opinion that might be a little -- I
24 don't know if misguided is the right word, but if you
25 look at the overall sum that we can get to at just a

1 five percent blend, and I'm not suggesting we
2 necessarily stop there, but at a -- but if you use that
3 as just a snapshot metric, to five percent, it reduces
4 carbon and petroleum. It displaces petroleum, it
5 reduces carbon, it reduces tailpipe emissions, and it
6 creates job in a way, really, that nothing else does.

7 So, I think certainly it's easily in the near
8 and the midterm to see how beneficial this can be in all
9 those areas. And, frankly, I think in the long term it
10 will be there.

11 It provides pretty tremendous benefits there, as
12 well, and I know there's work in the sort of diesel
13 substitute area with renewable diesel and other types of
14 diesel substitutes that, you know, will address some of
15 the longer term things as well.

16 But this is something that can be done
17 immediately. And, you know, I got into this industry 10
18 or 11 years ago and it was really, the whole driver for
19 me was climate change and it's a really important thing.

20 And it's great to look at long-term things. I
21 think this is not a one-technology solution, it takes
22 all of the technologies that are represented here today
23 and I'm happy to be part of it, now.

24 But in the short term we really have to do
25 something that helps immediately and I think we really

1 address that very well in ways I think, I hope I
2 demonstrated can be done very effectively.

3 ADVISORY COMMITTEE MEMBER SHARPLESS: Well, I
4 agree that I think that there does need to be a matrix
5 and all of these technologies are on different time
6 frames depending on where they are on this scale.

7 So, your emphasis is this is great for energy
8 security. Right. This is good for global climate
9 change. Yes, it's in the mix of that.

10 Does it deal with some of the air quality,
11 pollution drivers that we have in some of our really
12 severe districts? I don't know.

13 Is it mainly focused toward medium and heavy? I
14 think that's where your emphasis is, rather than in the
15 passenger vehicle.

16 ADVISORY COMMITTEE MEMBER GERSHEN: Yes and
17 they're --

18 ADVISORY COMMITTEE MEMBER SHARPLESS: I think
19 this is a great dialogue, thank you for letting me ask
20 the question.

21 COMMISSIONER PETERMAN: Oh, and I think it's a
22 good question, Jananne, and I think your question
23 relates to all the different technologies and fuels that
24 the program supports. Because, indeed, there are a
25 number of different metrics and goals we're trying to

1 achieve and you've highlighted many of them, in addition
2 to economic development, which has increasingly become
3 an important, co-benefit, potentially, of this funding.

4 And I've asked staff, you know, what you've
5 proposed. You know, I was thinking about the same thing
6 in my head, you know, if there is a matrix you can look
7 at everything. And that can be challenging because it
8 doesn't -- it's hard to encompass everything and compare
9 everything.

10 But I've asked staff, as we're looking with our
11 work, on the contracts we have to do benefits analysis
12 and sustainability analysis to see what's out there in
13 terms of are there models we can follow to do this
14 comparison of cost technologies and fuels.

15 And I think, frankly, it's a valuable exercise
16 for us to collectively engage in, as well, as we look
17 towards reauthorization of this program because, again,
18 the goals are specific and broad within the statute, and
19 we've gone about trying to support kind of all of the
20 above. But it will be a good opportunity for us to
21 refine and think about what's needed in the short term
22 versus the long term.

23 ADVISORY COMMITTEE MEMBER SHARPLESS: I would
24 just absolutely agree that it's complicated and I think
25 it depends on what the questions you're asking, you

1 know, the matrix will take different forms depending on
2 the questions you're asking.

3 COMMISSIONER PETERMAN: And these are the
4 questions we might as well get when we're going through
5 our Advisory Committees on the Investment Plan. But
6 that schedule was so packed because folks are really
7 looking at the dollars that it's -- these are the times
8 to bring these points up, now, and to allow the industry
9 and folks to think about them.

10 Thank you.

11 ADVISORY COMMITTEE MEMBER GERSHEN: Thank you.
12 Thanks very much.

13 COMMISSIONER PETERMAN: We're going to turn to
14 Tim, now, to give his presentation.

15 Oh, we have one more question from Bonnie. And
16 I will say after -- well, why don't you ask your
17 question so that Joe can respond, and then after Tim
18 goes we can get question for him as well, as well as for
19 Joe again, but I just want to make sure we keep on time.

20 Bonnie?

21 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Thanks.
22 Yeah, this is Bonnie Holmes-Gen with the American Lung
23 Association.

24 And I just wanted to comment that we've also had
25 concerns about the air quality impacts of the biodiesel

1 blends and just are looking forward to getting more
2 information from the Air Board. I know there's been
3 some ongoing research on those air quality impacts and
4 maybe we can get a brief synopsis of that as we go into
5 the next -- look to the next Advisory Committee meeting.

6 But I guess my bigger comment, and I think there
7 are mitigation strategies, but we need to get better
8 understanding of if we have -- if those strategies are
9 ready to go or if there's some additional needed work to
10 implement those strategies.

11 And I guess my bigger question or comment is
12 that I think what this raises, and kind of building on
13 Jan's very good comments that, you know, the ARB and the
14 South Coast, and San Joaquin Valley Air Districts have
15 embarked in this visioning process.

16 And I think this is something we raised -- I
17 raised at a previous meeting. And I believe the Air
18 Board's going to be hearing this discussion of division
19 document in October, and I think that that document
20 provides a good framework for our discussion going into
21 the next Investment Plan in terms of what is the
22 emphasis -- what emphasis should we have on different
23 types of strategies and how are we going to best and
24 most effectively spend this money to make sure that in
25 the 2020 time frame that we're on track with the

1 progress that we need to best achieve our air quality
2 and greenhouse gas goals.

3 So, I guess I'm asking for us to again think
4 about how we can inject the work that's been done at ARB
5 on the visioning process into the work that we're doing
6 here on this Investment Plan process.

7 And I know that there's -- as you said,
8 Commissioner Peterman, when we get into the actual
9 Investment Plan it gets to be a very quick, very
10 complex -- or very quick and very intense process that
11 you're under to crank through the numbers and figure out
12 how to distribute the funds.

13 And so I would hope that maybe we could in
14 addition, this time, have some kind of framework where
15 we look at the scenarios that have been proposed by the
16 ARB which, again, I think are showing that we need to
17 move to zero emission as quickly as possible.

18 Obviously, in different sectors there's
19 different challenges and in the medium- and heavy-duty
20 sector that is a very, very big challenge. And we have
21 to look, of course, at some mid-term strategies.

22 But the bottom line is we have a really, really
23 difficult challenge ahead to reach our ozone, and PM,
24 and our greenhouse gas goals together. And this program
25 that we're involved is, I think, really key to making

1 sure that we get the focus on the technologies,
2 especially the zero emission technologies that we need
3 to take us through the long term.

4 So, thank you for letting me comment on that.

5 COMMISSIONER PETERMAN: Yeah, thank you, Bonnie,
6 for your comments. And, obviously, our staff has been
7 in communication with ARB on the vision document that
8 ARB and South Coast has provided, I think it is a good
9 conversation starter.

10 I would say, though, I think we want to think
11 about to incorporate that vision document and how it
12 ties to 118. And just to remember, too, that the 118
13 program, though, addresses the entire State, which has
14 different air districts, different targets, and that
15 focus right now is talking about the challenges in South
16 Coast, but we need to put it in context as well with all
17 the other considerations, including cost, availability,
18 et cetera.

19 And so I think it's a worthwhile conversation to
20 have, but I think it's also a robust conversation even
21 beyond that document and there might be other
22 perspectives and information that folks will want to
23 bring in.

24 Final comment to Joe.

25 ADVISORY COMMITTEE MEMBER GERSHEN: I agree with

1 all of what's been said except that, you know, it's
2 important to understand in the marketplace where I live
3 and I work in this industry every day, you know, it's
4 understood that the gasoline market is flat, but the
5 diesel market is increasing 16 percent a year.

6 So, while I understand certainly for consumer
7 vehicles zero emission -- I mean my next car is going to
8 be an electric-diesel hybrid and --

9 COMMISSIONER PETERMAN: Correct.

10 (Laughter)

11 ADVISORY COMMITTEE MEMBER GERSHEN: -- and I
12 think that's great. But for all those trucks out there
13 that are basically driving the diesel market up 16
14 percent a year, you need to address it, we need to
15 address it, it's really important.

16 You know, I understand the visioning of zero
17 emissions but I think that's not necessarily productive
18 in addressing long-haul trucks and diesel vehicles
19 which, like I said, are increasing. We have to address
20 it, it's important.

21 I mean this last year of storms that we've seen,
22 unprecedented, is really important. This is a great way
23 to address that. Thanks.

24 COMMISSIONER PETERMAN: Thank you. I am
25 enjoying this conversation very much so continue with

1 such good comments and questions.

2 Tim?

3 MR. OLSON: Thank you very much. My name is Tim
4 Olson, Manager of our Transportation Energy Office, and
5 I'm going to try, in ten minutes or less, to discuss a
6 little bit of the landscape on the other part of the
7 biofuels. I'm not going to repeat some of Joe Gershen's
8 information on biodiesel, I'm going to try to cover some
9 of the other areas.

10 Also going to describe some of the findings from
11 our August 1st, 2012 workshop and pose some questions,
12 kind of food for thought looking forward for the
13 Committee.

14 So, just a little bit of landscaping, I hadn't
15 planned to discuss this but I wanted to give you a
16 little background of where we are in kind of current
17 biofuel compared to gasoline diesel.

18 As many of you may know, or maybe you don't
19 know, about 16 billion gallons a year of gasoline
20 consumption in the State, E10 is the main. Ten percent
21 ethanol blended into that gasoline is the main biofuel
22 channel into the market. That accounts for about 1.5
23 billion gallons per year.

24 Most of that's imported from outside the State
25 and a little bit produced in the State, mainly from corn

1 ethanol plants, around maybe a little over 150 million
2 gallons per year.

3 And in the diesel area we consume about 4
4 billion gallons a year. And as Joe pointed out, 46
5 million gallons biodiesel tends to be B5 blend. So, you
6 can see the kind of scale of where we are.

7 And there is some contribution in ethanol E85,
8 that tends to be pretty small. I'll give you a frame of
9 reference, about 10,000 gasoline stations and pumps in
10 the State, about 7,000 diesel co-located with those
11 stations. And E85, I think we're around 40 E85
12 stations.

13 So, general rule of thumb, most industry people
14 say you've got to get about a 10 percent, 20 percent
15 market penetration to make a difference. That looks
16 like around -- if E85 makes any sense, it looks like
17 around 1,800 to 2,000 stations or islands have to be
18 installed.

19 And the Energy Commission is funding some of
20 that seed money to get some of that started.

21 Just wanted to kind of recap some of the kind of
22 direction, the point here that the Commission's policy
23 objective is to accelerate commercial development of
24 advanced biofuels and we have lots of ways we can do
25 that.

1 But for the most part it's driven by some --
2 well, definitely seeking lower carbon fuels. Jim
3 McKinney pointed out most -- I think all of our projects
4 in biofuels are 20 grams per CO2 equivalent per mega
5 joule compared to the gasoline, 95.7, I think.

6 But there others that are kind of transitioned,
7 maybe, in the 40 to 50 grams per CO2 per mega joule that
8 also may make sense in the near term.

9 And so, you know, part of what we're looking at
10 is we want to -- not only do we want to go in this
11 direction of stimulating commercial scale advanced
12 biofuels in the State, low-carbon, petroleum-displacing
13 biofuels, but also that we want to build as much as
14 possible in-state, and for a lot of reasons.

15 Mainly, economic development reasons, but closer
16 to the market and, in essence, looking at how we can use
17 our projects to meet our policy goals, which also
18 include low carbon fuel standard.

19 And so, as you may know, of these 19 or so
20 scenarios produced by the ARB, biofuels are a big
21 contributor, almost every single one of those projected
22 into the 2020 time frame.

23 In addition, there is some -- besides that
24 liquid fuel pathway we have a gaseous fuel pathway, a
25 biofuel source, and that's the biomethane, directed

1 mainly into natural gas stream, natural gas pipelines,
2 CNG/LNG vehicles, natural gas fueling stations.

3 So, it's the so-called green natural gas and
4 we're funding projects out of that area, too, but it's
5 really minimal numbers of projects at this point.

6 Most of our projects are in pre-development
7 stages. And as we pointed out in previous Advisory
8 Committees, that these biofuel projects tend to have
9 feasibility, pre-development, pilot project, kind of
10 near-term, early commercial, and then commercial scale.
11 Sometimes that time frame is two, three, five, seven
12 years to do that.

13 And so the results, the progress needs to be
14 tracked very carefully and I'm going to go into a little
15 bit more detail about how that can occur.

16 What we're seeing is the main -- to date, the
17 main way that biofuels are getting into the marketplace,
18 the commercial market is through a venture capital-
19 driven business model.

20 And that is basically kind of lots of capital
21 infusion, hoping that something happens, either
22 technology breakthrough, cost reduction.

23 And venture capital investors don't necessarily
24 have a long-term horizon to stay into that two- to
25 seven-year time frame.

1 And so we're seeing some dropping out, some
2 staying in, but that's been the primary direction of
3 what we've seen to date.

4 A couple other -- so that's kind of a little bit
5 of the landscape.

6 Also, what's not on here is the RFS2, the
7 federal requirement to, for the most part, include corn
8 ethanol as an additive into gasoline. This is a
9 nationwide policy to diversify petroleum, diversify our
10 dependence on petroleum.

11 And there's a requirement under the Renewable
12 Fuels Standard that every year there's a certain target
13 for advanced biofuel, cellulosic, renewable diesel, and
14 there's another category.

15 That those targets have never been met, the U.S.
16 EPA and DOE have waived those virtually every year, so
17 that's another factor in this.

18 COMMISSIONER PETERMAN: Tim, before you move on
19 from that slide I wanted to kind of ask the question,
20 and it might be to you or to Peter, about the
21 contribution to the LCFS because I think this gets at
22 the timing question about the short-term needs.

23 And my recollection is that right now corn
24 ethanol is the only fuel that's being produced at scale
25 to satisfy the LCFS; is that correct, or something --

1 can you comment on that type of comment?

2 I think that's what we've heard from parties,
3 that the need for biofuels in the near term from the
4 LCFS.

5 MR. OLSON: That's correct. And it's three
6 plants in California that produce biofuels, but there
7 are imports from the Midwest.

8 So, the CI levels vary on what the feedstock,
9 what energy's used in the production plants. Here we
10 tend to use more natural gas.

11 One of the byproducts, what the -- the grains
12 here, in the Midwest that's dried, it takes more energy
13 to do that.

14 Some of the sources in the Midwest are primarily
15 coal, even though some plants are switching to natural
16 gas, so there's a differential.

17 So, a corn ethanol plant in California has a
18 lower CI than an equivalent plant in the Midwest that
19 uses coal for the most part, even counting the transport
20 of corn to California.

21 There are other sources from Brazil, Brazilian
22 sugar cane ethanol, coming into California that are also
23 low CI, carbon intensity values, and those are likely to
24 be contributors in the future.

25 But for the most part we're dependent on Midwest

1 corn to meet our E10 blend for gasoline.

2 COMMISSIONER PETERMAN: And I'll just add on
3 that before you have a question or comment, Tim, that
4 for those who weren't aware, in August we had a workshop
5 on the transition from corn ethanol to advanced and
6 cellulosic biofuels, and heard from members of the
7 industry.

8 And the CEPIP program that the Commission funded
9 for corn ethanol facilities had a requirement that these
10 facilities improve their carbon intensity and their
11 efficiency.

12 And I think that, combined with the Valadao
13 bill, recently we've seen, I would say in the last
14 couple of months, an expedited move by some of these
15 facilities to lower carbon feedstocks, besides corn.

16 You know, I want to -- I don't know how public
17 their numbers are, yet, so I won't want to quote them,
18 but looking towards the end of next year to having a
19 significant share of their production coming from
20 alternative sources such as milo, for example. And
21 that's something, we've been observing that trend and we
22 can report back to the Advisory Committee on in future
23 meetings.

24 And we can see a transcript, as well, from that
25 meeting online.

1 MR. OLSON: And I'm going to go into that, the
2 description here in a second.

3 COMMISSIONER PETERMAN: Okay. Tim, did you have
4 a quick question or comment?

5 ADVISORY COMMITTEE MEMBER CARMICHAEL: I just
6 wanted to qualify your comment. When you said "at
7 scale", you know, the fuel at scale supplying the LCFS
8 when, in fact, people may not be aware but natural gas,
9 for example, had member companies that are selling
10 credits in the LCFS market right now.

11 It may not be on the same scale as ethanol but
12 it's an active part of the program already.

13 COMMISSIONER PETERMAN: And that's great and I
14 kind of asked it with a lilt in my voice, more as a
15 question because, you know, you're trying to process the
16 general point that as we balance where we're going to
17 make our investments that you do have fuel sources,
18 biofuels, natural gas that have carbon and, therefore,
19 may not fare as well in the greenhouse gas assessment.

20 But there's also been requests for those types
21 of fuels in the near term, in terms of LCFS, and so I
22 think your comment adds to the understanding of what
23 we're seeing right now in terms of meeting compliance.

24 MR. OLSON: So, when we look at the -- kind of
25 the policies, the how do we -- how do biofuels help

1 comply, help the State comply with the Low Carbon Fuel
2 Standard and so we started looking at, you know, adding
3 these projects up what do we really need?

4 And we're looking at like 1.5 billion gallons of
5 ethanol used as an E10 blend and you want to displace
6 that with a biofuel source.

7 We're in the range of, we think, 12 to 16
8 projects that are equivalent to a 50-million, 100-
9 million-gallon-per-year facility.

10 Now, we know that we're seeing lots of smaller
11 ones that might be 5 or 10 million, but then there are
12 more of them that you need.

13 But just for comparison's sake, this is the kind
14 of range that we will need if biofuels are a good
15 contributor to this market.

16 For a low carbon fuel standard stand point,
17 Bioenergy Action Plan stand point, just put petroleum
18 displacement.

19 And we think that that capital investment is in
20 the range of \$4 to \$5 billion.

21 Now, you know, I mentioned the venture capital
22 is -- some of the early projects we thought were going
23 to be online, like Amyris, the Solazyme projects,
24 they're kind of slowing their development, moving --
25 because their venture capital investment is requiring

1 returns, they're shifting their production to green
2 chemicals and cosmetics.

3 And so we're now looking at these other projects
4 which we, the Energy Commission has funded now over 30
5 of these kind of biofuel projects, and spent nearly \$200
6 million of Energy Commission money, plus private
7 capital.

8 And we're seeking kind of a trend in a couple of
9 things. One, in our look at the corn ethanol plants
10 we're seeing a kind of a merger of advanced biofuel
11 technology and the corn ethanol, co-locating these
12 advanced biofuel projects at the corn ethanol
13 facilities.

14 I'll kind of mention that was one of the
15 findings of the August 1st workshop. That's the so-
16 called bolt-on business model. We think that's probably
17 a good trend, that that's how we see advanced biofuels
18 coming to the market.

19 We also, when you step back and look at what
20 feedstocks, what technologies are making sense, we're
21 doing parallel investments in over 30 projects, I think
22 it's 38, now. Primarily for agriculture, forestry,
23 urban waste residue, probably, I think it's at least 15
24 different feedstocks in these areas, plus purpose-grown
25 crops, and at least ten technologies all kind of running

1 parallel.

2 It's part of our -- we're not trying to pick
3 winners, we want to seed some of these areas and
4 facilitate getting these projects on the ground.

5 We also kind of looked at -- when you look at
6 this \$4 billion to \$5 billion need between now and, say,
7 2020, 2022 time frame that the Energy Commission AB118
8 investment is averaging around \$20 to \$30 million per
9 year in any single cycle and that's definitely not
10 enough to provide the full \$4 billion, \$5 billion.

11 So, we're looking at other partners here, how do
12 we use this to attract private investment.

13 COMMISSIONER PETERMAN: Tim, can you say again
14 for at least my benefit where the \$4 to \$5 billion comes
15 from? So, that's based on --

16 MR. OLSON: Total capital costs to build these
17 projects to commercial scale. In some cases, where the
18 bolt-on idea looks like it's an incremental development
19 over time, you don't have to have \$250 million up front,
20 but you might be able to do it with \$5 million, \$10
21 million per year, gradually increasing commercial scale.

22 But these plants tend to cost, for a 50-million,
23 100-million-gallon-per-year plant around \$200 million
24 capital costs.

25 And that -- we think that has to come from the

1 private sector, most of that.

2 COMMISSIONER PETERMAN: And you said that would
3 be the equivalent to displacing --

4 MR. OLSON: About the equivalent of about 40
5 percent of the amount of fuel used in the E10 blend.

6 COMMISSIONER PETERMAN: Okay, that's fine.
7 Okay.

8 MR. OLSON: So, 1.5 billion gallons is what we
9 put into E10, that's what that amounts to per year, now.

10 When we looked at this, how do you make any
11 substantial difference? Got to be in about 40 percent
12 displacement of that for the Low Carbon Fuel Standard,
13 Bioenergy Action Plan, the Alternative Fuels Plan
14 targets. And if you want to meet that, that's kind of
15 the early, between now and 2020 kind of target that you
16 have to reach.

17 COMMISSIONER PETERMAN: Thank you. I want to
18 make sure we leave time for a couple of questions and so
19 I'll let you get back to it.

20 MR. OLSON: Okay. So, August 1st workshop
21 highlights this. As the Commissioner had described, we
22 have conducted this CEPIP workshop. Without going into
23 a lot of detail, it's a production incentive based on
24 production of ethanol produced from corn in this State.
25 Three projects are receiving -- have received money from

1 that.

2 We were worried about volatile market conditions
3 because the money was drawing down real fast, and we're
4 subject to commodity pricing in corn, and a national and
5 international market that is very volatile and has been
6 for, now, three or four years.

7 So, we suspended any new investment, any new
8 money into that, have not eliminated the program because
9 we want the reporting on those plants, but we're in this
10 process.

11 This August 1st workshop was to look at where
12 are -- what's the status of these projects, what's the
13 future and when are the advanced biofuel projects going
14 to come in either separately or, as we found, as part of
15 this bolt-on idea.

16 The amount of money spent was \$6 million to
17 date. We have not put anything else into it. We're
18 reevaluating that, now.

19 What we found in this workshop is that these
20 corn ethanol plants are listening to what we're saying,
21 we want to go to advanced biofuels and they're beginning
22 to make that shift in their plants, that they're using
23 other feedstocks. Milo is one example. They're using
24 biogas to produce electricity for on-site use, that
25 there's a shift happening.

1 And one part of the kind of market dynamic is a
2 national trend to E15, so more ethanol allowed as a
3 blend in gasoline, and which would have an effect on the
4 national market dynamics.

5 We also --

6 COMMISSIONER PETERMAN: Tim, I want to make sure
7 we have time for questions and we're pushing the lunch
8 hour, can you start to wrap up, please?

9 MR. OLSON: Yeah. So, our kind of final look at
10 this is we wanted to kind of -- well, what's happened in
11 this area and Jim McKinney and his staff put together a
12 report, AB109 report. Now, it's a little over a year
13 old, now, a year and a half.

14 But they pointed out in biofuels that with the
15 projects that had been funded at that point in time that
16 looking forward to the 2020 time frame that we had -- we
17 had this possibility of producing 90 million to maybe
18 close to 600 million gallons of biofuel, low carbon
19 biofuel from projects in California.

20 But there are lots of conditions and
21 circumstances to reach that. These are kind of
22 projecting where early development stages of projects
23 will reach commercial scale.

24 But that was their assessment based on kind of
25 low end 90 million, high end 600 million.

1 E2, Environmental Entrepreneurs just produced a
2 report stating that by 2015 they see, nationwide, about
3 a 1.6 billion to 2.4 billion-gallon-per-year development
4 in this area.

5 Implied that California would be in the range of
6 400 million gallons by 2015, the same thing, lots of
7 circumstances, lots of caveats for that.

8 The Boston Consulting Report, recently done on
9 behalf of oil companies, basically concluded that not
10 much biofuels at all would be produced in this State by
11 2020. So, there's lots of assessments out there.

12 What we're looking at here is we have minimal
13 amounts of money compared to what this need is and we're
14 posing this question; what's the best way to use that
15 money?

16 Should we continue doing our grant funding with
17 matching fund type of building the stable of pre-
18 development projects?

19 Should we look at how to -- now, we're at close
20 to 38 projects, now, with these new awards, should we be
21 looking at ways to stimulate private investment into
22 those projects, maybe co-funded with some of our money,
23 maybe in partnership with the USDEA or USDOE loan
24 guarantees.

25 Basically, we think we need to look at those.

1 How much, what's the amount that we can really get in
2 terms of fuel into the marketplace, low carbon fuel, and
3 what are the mechanisms we can use in our programs here
4 to -- maybe in conjunction with others to achieve that,
5 and that's kind of where we want to leave that.

6 COMMISSIONER PETERMAN: Thanks Tim. I know it's
7 a big topic and it's hard to summarize an entire day of
8 another workshop in about a minute. But it's just to
9 tease up the topic for all and everyone to hear,
10 basically, some of the issues and comments that are
11 coming back to us and there has been a lot of movement
12 in this space over the last year.

13 Very quick set of questions, Eileen.

14 ADVISORY COMMITTEE MEMBER TUTT: Thank you,
15 Commissioner.

16 I guess I just wanted to know -- I mean I don't
17 even like that slide, it's hurting my eyes, because I
18 think some of these biofuel reports they're all -- kind
19 of all over the map.

20 So, I think the relevant question is the one you
21 asked; how can this funding be used to make sure that
22 enough biofuel is available to meet the Low Carbon Fuel
23 Standard, which is a huge priority in this State?

24 I want to point out that, as Tim said, there's
25 natural gas that's already available for Low Carbon Fuel

1 Standard credits, there's also electricity credits.

2 And I think that will get us a large, you know,
3 a large component of the 15 or so million metric tons
4 that the oil companies need.

5 But it's very clear that biofuels is going to be
6 important. And my sense is that if you combine the
7 natural gas and electricity, you can probably get a
8 pretty significant chunk of credits available to the oil
9 companies and then we can figure out how much biofuels
10 is needed, and I think that would really help inform the
11 Investment Plan.

12 So, I know you're working probably with CARB.
13 We're actually working with CARB to see exactly how many
14 credits might be available for the electricity sector.
15 I assume Tim is doing the same thing for natural gas.

16 I'd like to just offer our services in
17 coordinating with you because I think that will give you
18 a good idea of at least some range of biofuel that we're
19 going to need in this State.

20 And I will say that the Boston Consulting Group
21 study says this today, but just a few years ago they
22 were saying something very, very different.

23 So, that market is in flux, to say the least.

24 COMMISSIONER PETERMAN: Jan, you had a comment?

25 ADVISORY COMMITTEE MEMBER SHARPLESS: This is a

1 really broad area, so I appreciate that. But one of the
2 things I got, Tim, from your presentation was, and I
3 just want to check to see if I'm understanding you
4 correctly; when we talk about the biofuel area versus
5 the biodiesel area are we talking about primarily using
6 that fuel as a blending or is it going to act as a
7 separate fuel to meet the Low Carbon Standard?

8 Is it blending you keep talking about backing
9 out, you know, a portion of what currently is in the
10 fuel composition and substituting this for that? At
11 least that's what I thought you were saying; is that the
12 case?

13 MR. OLSON: I think what I refer to is really
14 time frame-wise it is a blending, a blending market,
15 what we -- that's the flow of where biofuels we think
16 will go.

17 Now, there's also a lot of insight about drop-in
18 fuels which could be blended or it could be a separate
19 type of approach. But we don't have a lot of
20 information on drop-in fuels.

21 COMMISSIONER PETERMAN: And Jan, just following
22 up on your question, I think the observation is that
23 within the biofuel space there's a continuum of carbon
24 intensity. And with the requirement, now, for E10, that
25 ethanol component is being made up primarily from

1 imported ethanol, which will have a higher carbon
2 intensity.

3 So, there's a need to both lower -- make a lower
4 carbon intensity on the E10 we're using and then there's
5 the question, the general issue about how much you want
6 to expand biofuels beyond that, as well. So, it's got
7 two parts.

8 ADVISORY COMMITTEE MEMBER SHARPLESS: Yeah, it's
9 almost like it's not two separate pieces, though, it's a
10 continuum, right?

11 I mean if you're market is being driven right
12 now to meet the requirement for low carbon fuel and
13 you're building a manufacturing base to do that, and
14 you're building that base to increase its capacity to
15 meet increased demand, there's a -- at some point
16 there's a drop off of where government plays a role in
17 startup and research.

18 But when it comes to actually investors
19 investing because there's a return on that investment
20 and profit, I think you need to do your analysis to see
21 where that is going to occur and where your stuff is on
22 that, on that line.

23 But there's a whole lot more people in this room
24 that know a whole lot more about it.

25 But just judging from what I've been involved,

1 that's what I'd kind of be looking at, to answer your
2 question.

3 COMMISSIONER PETERMAN: And thank you. And I'll
4 say if we could predict when the markets would be
5 profitable and not need government intervention, I think
6 we all could invest in all these technologies
7 successfully elsewhere.

8 You know, but I think your --

9 ADVISORY COMMITTEE MEMBER SHARPLESS: Investors
10 know.

11 COMMISSIONER PETERMAN: I wish they'd tell us.

12 You know, I think your points are well taken.

13 We really do need to break for lunch so, Joe, if
14 you wanted to say something very quickly, but then I'm
15 going to ask that we break.

16 ADVISORY COMMITTEE MEMBER GERSHEN: Just
17 briefly, you know, biodiesel is a biofuel. It's the
18 only advanced biofuel actually available today. And
19 focusing on, you know, developing -- at the risk of
20 sounding repetitive here, since I just gave my
21 presentation, I think expanded investment in biodiesel
22 and ultralow carbon intensity biodiesel in the State
23 really will change the dynamic and it really creates the
24 best bang for the buck.

25 COMMISSIONER PETERMAN: All right. Well, on

1 that note --

2 ADVISORY COMMITTEE MEMBER MUI: This is actually
3 Simon Mui on the phone.

4 COMMISSIONER PETERMAN: Okay.

5 ADVISORY COMMITTEE MEMBER MUI: I thought you
6 would turn to the --

7 COMMISSIONER PETERMAN: Yes, sorry, Simon.
8 We're just running behind time, but please go ahead.

9 ADVISORY COMMITTEE MEMBER MUI: Yeah, I have a
10 quick comment for Tim, and this very helpful. But to
11 the extent, you know, there's about 20, 24 or so biofuel
12 companies in California. But there's also actually a
13 large, an increasing number, I guess, I would say a
14 handful of commercial plants being built right now
15 within the U.S, Abengoa, you know, DuPont Cellulosic,
16 Fiberight, there's a POET Plant.

17 It would be good, probably, to go to these
18 companies to basically find out how they bridge that gap
19 from demo to commercial scale.

20 And also, I think to the extent that you're
21 focusing your efforts on trying to figure out where the
22 right place to put government funds is, I would tend to
23 agree that this market right now is going through, you
24 know, a kind of a shakeup in terms of going from the
25 venture to the private equity, kind of private financing

1 market.

2 So, to the extent that you focus on some of the
3 maybe getting it to a point where the private equity can
4 take it over I think is a good area to focus on.

5 And I would comment that what is really needed
6 here, you know, in terms of the volumes is really an
7 understanding of how things like the LCFS and AB118
8 funds, you know, how much additional volume can we
9 expect from these policies and what's kind of the
10 magnitude necessary. Thanks.

11 COMMISSIONER PETERMAN: Thank you for that. And
12 I'll just end with one comment because you touched upon,
13 you know, private equity.

14 So, when parties come in to talk to us about
15 different technologies and fuels, and we ask about,
16 well, where's the private investment? Because,
17 ultimately, we know all these funds are over-subscribed
18 and we want to put in as limited amount as possible.

19 And what we hear and, you know, we can vet it
20 and discuss it more, is that there's probably funding
21 available, but no one wants to trigger the private
22 funding if the government hasn't put a dollar in. And
23 sometimes the amount being asked for isn't a tremendous
24 amount. You know, if the project's \$100 million and
25 they'll say, you know, a signal from a million dollars

1 from the government, and we've heard this as investors
2 as well.

3 So, that's the challenge for all of us about,
4 you know, how do you assess that? You know, the sign,
5 the signal of what the government investment is
6 oftentimes worth more in leverage than the actual dollar
7 amount.

8 At the same time we are investing taxpayer
9 money, our own money, and we want to do it smartly, and
10 so you don't always want to be the first one out the
11 door.

12 And that is the challenge that we're facing here
13 as a State, as we're trying to stimulate these markets.

14 So, let's break for lunch. We'll get going
15 again at 1:10. Thanks a lot.

16 (Off the record at 12:11 p.m.)

17 (Reconvene at 1:15 p.m.)

18 COMMISSIONER PETERMAN: All right, everyone, we
19 are going to get started. Welcome back, hope you had a
20 very good lunch. I am sure we'll see some folks come in
21 over the next few minutes but we want to keep as closely
22 as we can to the agenda.

23 I want to take a moment to introduce Randy
24 Roesser. Randy is now Deputy Director. Director
25 Deputy? Deputy Director, I never quite get the term

1 right.

2 He is Deputy Director and replacing Pat Perez as
3 Deputy Director.

4 Randy, would you just take a moment and
5 introduce yourself and tell folks what you've been
6 working on prior to taking on this role?

7 MR. ROESSER: Okay, good afternoon. Yes, my
8 name is Randy Roesser, I've been at the Commission for
9 about 22 years. For over a decade I was the budget
10 officer so I know a lot about the finance side of it,
11 the money side, which I think is a good -- you know,
12 which is very important, obviously, with this program,
13 for this money coming every year.

14 I have giant shoes to fill here, Pat's. I know
15 because he -- actually, I'm serious, size 16? What size
16 shoe do you wear, Pat?

17 (Laughter)

18 MR. ROESSER: They're very large. But you all
19 know Pat and Pat's just a great guy. He's been in the
20 Commission I think back when I was in high school, so he
21 has a lot of --

22 (Laughter)

23 MR. ROESSER: How am I doing? How am I doing?
24 But I'm looking forward to working with everybody and
25 getting up to speed on the technical side. We have some

1 great staff, with a lot of great technical knowledge,
2 Jim McKinney, John Butler's new in the program, he has a
3 lot of great process background, and a lot of the staff
4 here and, of course, all of you. So, I'm looking
5 forward to getting up to speed and, hopefully, showing
6 Pat up before too long.

7 (Laughter)

8 MR. ROESSER: Thank you.

9 COMMISSIONER PETERMAN: Well, welcome.

10 And before we start with the first presentation
11 from Tim Carmichael, Peter Christensen with the ARB has
12 volunteered to give a couple of remarks and reflect on
13 some of the comments that were -- some of the discussion
14 earlier, as some of the discussion pertained to some of
15 the policies and programs at ARB.

16 And so, Peter, appreciate your update.

17 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

18 CHRISTENSEN: Certainly. And I guess my first
19 observation is that I have even more appreciate for Tom
20 Cackette and his background over the past 30 years at
21 ARB.

22 But, no, I do appreciate the time. I just
23 wanted to make a couple of observations and then throw
24 out a couple of dazzling facts and figures that you
25 might find interesting.

1 I did have the chance to run into a couple of
2 the LCFS staff on my lunch break and I asked them about
3 some of the things that we talked about earlier today in
4 terms of LCFS, the fuels that are available to meet the
5 LCFS standard, those kinds of things.

6 Right now they are reporting to me that about --
7 and don't quote me on this -- but about 85 percent of
8 the fuels currently available are ethanol, of various
9 different feedstocks.

10 And we do see that that is going to be changing
11 as we move into the future, certainly with natural gas,
12 the economics of natural gas and electric. We do see
13 those increasing as time moves on.

14 We talked a little bit about the vision. And
15 just for the folks that haven't heard too much about the
16 vision before, the need for emission reductions is quite
17 dramatic.

18 The vision, it was pointed out, is focused
19 primarily on South Coast and the San Joaquin Valley
20 because those are where the -- we'll face the toughest
21 challenges in meeting the federal standards.

22 We're going to need approximately an 80 percent
23 NOx reduction by 2023, from the 2010 inventory. An 80
24 percent NOx reduction is substantial and it's going to
25 require not just one strategy, but a variety of

1 different strategies.

2 And that's -- what I think, really, the vision
3 lays out is it's important to recognize that it's not a
4 solution, it's not the map, but it lays out where we
5 need to get to and some of the scenarios and pathways to
6 get there.

7 You'll see that there are reductions from fuels,
8 from vehicle technology, and also reductions from VMTs.
9 Not something that we talk about in this setting very
10 often, but there are a variety of solutions that we
11 really do need in order to get to that NOx reduction by
12 2023.

13 Let's see, so with that as a little bit of
14 background on LCFS and the vision, I did want to just,
15 if I could, take about 30 seconds to give you some facts
16 and figures from the program that I manage, which is
17 ARB's part of the AB118 program or the Air Quality
18 Improvement Program.

19 COMMISSIONER PETERMAN: You can take more time
20 than that.

21 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

22 CHRISTENSEN: Oh, good.

23 COMMISSIONER PETERMAN: We all appreciate the
24 update.

25 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

1 CHRISTENSEN: Good. Well, I have charts and graphs.

2 No.

3 (Laughter)

4 COMMISSIONER PETERMAN: As he picks up a big
5 volume of paper, for those on the phone who can't see
6 it.

7 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

8 CHRISTENSEN: So, we really do appreciate in the last
9 Investment Plan the Energy Commission allocated \$5
10 million towards the Clean Vehicle Rebate Project, which
11 is our light duty incentive program.

12 And now that we're into the program, into the
13 fiscal year a bit more, we see that that really is going
14 to be essential. It may not be \$5 million, it may be a
15 haircut although I'm not sure I'm happy with that term.
16 But, okay, we'll call it a haircut.

17 (Laughter)

18 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

19 CHRISTENSEN: We have seen a pretty market increase in
20 participation in CVRP, just since about the -- since
21 about March of 2012, March of this year.

22 That's, coincidentally, when the Chevy Volt and
23 the Toyota Plug-In Prius were added as eligible vehicles
24 for CVRP.

25 We are now looking -- we are now receiving about

1 a thousand applications a month in that program, which
2 is really, really substantial. That's approximately \$2
3 million a month in funding for the clean vehicles for
4 California consumers.

5 And what that means is that with the \$18 million
6 that ARB has allocated for the program, along with the
7 Energy Commission's allocation as well, we will probably
8 be only about \$1 million short at the end of the fiscal
9 year if everything stays about the way it is right now.

10 Which is, honestly, it's tough to be in a
11 position where we don't have enough funding, but that's
12 not bad. We probably won't have to make dramatic
13 changes to the program during this fiscal year. So,
14 that's good news, we're close to meeting demand.

15 The other thing that we talked about in the last
16 Advisory Committee meeting, I believe, is the slowdown
17 in demand for medium- and heavy-duty truck funding
18 through our hybrid and zero emission truck and bus
19 voucher incentive project, or HVIP for short.

20 And we have seen a slowdown over the past couple
21 of years in that program.

22 The good news that I'll give you, breaking news
23 today, is that over the past three weeks or so we've
24 seen a pretty significant increase in applications in
25 that program, as well.

1 The reason for that is that the board adopted
2 changes to the funding levels and some of the other
3 criteria for that program, and it looks like it's having
4 the desired result.

5 So, we're looking at increased demand in the
6 HVIP program as well, which is good news for deployment
7 of those advanced technologies over the coming fiscal
8 year.

9 So, with that I would just remind folks that at
10 the same time that CEC is developing their Investment
11 Plan, ARB will be developing our funding plan for the
12 next fiscal year and we'll be kicking that off in the
13 near future, and we encourage your participation in
14 that, as well.

15 We are currently anticipating board adoption of
16 our next funding plan in June.

17 So, with that I'll turn it back.

18 MR. MC KINNEY: Peter, if I can ask you a
19 follow-up question on HVIP. So, we'd love to see the
20 data from that, on these new applications coming in.

21 And I was very pleased to learn, last week I was
22 in Bakersfield and learned about HVIP Plus-UP or a Plus
23 program with the San Joaquin Air District.

24 Could you talk about that a little bit, it was
25 very exciting?

1 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

2 CHRISTENSEN: Yeah, this is something that's very
3 exciting. We've had a number of air districts that have
4 voluntarily stepped up and committed some of their own
5 local funding, both on the CVRP side, as well as HVIP.

6 In the San Joaquin Valley, the San Joaquin
7 Valley Air Pollution Control District has allocated, I
8 believe it's \$2 million. I'll turn back.

9 Yeah, \$2 million for additional incentives for
10 trucks that are manufactured in the valley. And so that
11 helps to bring down the incremental cost by another
12 margin, which is very helpful in reaching some of the
13 medium-sized and small fleets.

14 As you may know, a lot of the participants so
15 far, it shouldn't be a surprise, have been the large
16 truck fleets. They've got the capital and they have the
17 staff to be able to accommodate these advanced
18 technologies.

19 What the challenge is, now, is getting to the
20 medium-sized fleets and the smaller fleets, which make
21 up a big part of the truck population in California.
22 And that kind of local participation is really what
23 helps to get us to that point.

24 COMMISSIONER PETERMAN: Great, thank you very
25 much, Peter, for that update.

1 Tim, the floor is all yours.

2 ADVISORY COMMITTEE MEMBER CARMICHAEL: Thank
3 you. Before I go --

4 COMMISSIONER PETERMAN: However you'd like to
5 make it.

6 ADVISORY COMMITTEE MEMBER CARMICHAEL: I'll go
7 up there for the presentation, but I am worried I'm
8 going to forget this. I want to mention, thanks to the
9 generosity of Honda, I have a long-term loaner, a
10 natural gas Civic. And the quid pro quo for that long-
11 term loaner is to expose it, share it with people. CEC
12 staff, Commissioners, Advisory Group members, anyone
13 that's curious, please let me know and I'm happy to
14 literally make an appointment to let you drive the
15 vehicle and ask questions. That's why I have it here in
16 Sacramento and it's a cool car.

17 COMMISSIONER PETERMAN: Great, thank you.

18 ADVISORY COMMITTEE MEMBER CARMICHAEL: So, CEC
19 staff asked me to make a couple of brief presentations
20 today and I'm going to talk about infrastructure, local
21 infrastructure needs and my members' perspective on this
22 issue.

23 And then a little bit later I'll be talking
24 about vehicle incentives.

25 COMMISSIONER PETERMAN: Tim, can you put the mic

1 up just a little bit and make sure everyone on the WebEx
2 can hear you?

3 ADVISORY COMMITTEE MEMBER CARMICHAEL: Is that
4 better? Better?

5 COMMISSIONER PETERMAN: Moderately.

6 (Laughter)

7 COMMISSIONER PETERMAN: Or shrink a couple of
8 inches, whatever you want to do.

9 (Laughter)

10 ADVISORY COMMITTEE MEMBER CARMICHAEL: I'll
11 hunch a little.

12 COMMISSIONER PETERMAN: Okay.

13 ADVISORY COMMITTEE MEMBER CARMICHAEL: All
14 right. So, just as a reminder, a lot of the people in
15 the room know who my members are, but it's 27 companies
16 that either sell natural gas as a transportation fuel,
17 run fleets that run on natural gas, or build the
18 vehicles, or some engineering component of one of those
19 three scenarios.

20 So, a couple of big picture thoughts --
21 actually, before I do that a disclaimer that's
22 important. What I'm showing today is a majority view.
23 It is not necessarily a unanimous view of my membership.

24 And CEC staff and Commissioners shouldn't be
25 surprised if a member of mine submits comments that

1 don't align with what I say today. That's the way we
2 operate and we encourage that, frankly. But what I'm
3 sharing is a majority view.

4 So, some big picture thoughts before I get to
5 the specific questions that CEC staff asked me to
6 address. We continue to believe that with your limited
7 funds you will have the greatest impact on expanding NGV
8 use in California by providing vehicle incentives.

9 That is where you're going to get the most bang
10 for the buck, and I'm going to speak to that quite a bit
11 in the next presentation, but that's important.

12 We also believe that you should continue to
13 provide funding for infrastructure. But, and this is
14 where some of my members may disagree, but the majority
15 believe challenge the applicants to prove to you that
16 they couldn't get the job done with private funding.

17 Because in addition to my members that build
18 stations, there are at least half-a-dozen other players
19 in the market today, and these aren't just small
20 companies, there's some big players, as you guys, as
21 many of you know.

22 And so continue to support infrastructure, but
23 challenge the applicants to show you why they couldn't
24 get it done with private funding. Because unlike a lot
25 of the other sectors in the alternative fuel world,

1 there's a lot of private funding for infrastructure in
2 the natural gas world today, and that's an advantage we
3 have and it's something that CEC should be playing off
4 of, if you will.

5 You know, Jim mentioned in his presentation this
6 morning that the infrastructure pot was under-
7 subscribed. Not a total shock to me. There may have
8 been some of the issues that we heard about with
9 communications, but I actually think a bigger issue here
10 is, you know, the private sector's meeting the vast
11 majority of the scenarios, the demand in the vast
12 majority of the scenarios.

13 And we would encourage you to take a look at
14 redirecting that money to vehicles because, again, I
15 think you're going to get the biggest bang for the buck
16 there.

17 And I'm not saying zero out infrastructure
18 funding, I'm definitely not saying that, but you're
19 going to get more bang for your buck with vehicles.

20 I'm going to talk about this a little bit later
21 in the vehicle side, but there's a process issue here to
22 take a look at.

23 A couple of my members will probably be
24 submitting comments to CEC about the compare and
25 contrast between the MSRC program, which is the Mobile

1 Source Reduction Committee program down in Southern
2 California, and the CEC's program relative to
3 application and what's involved with that.

4 And there's a lot more involved with the CEC
5 program and there's a question mark; is there a lot more
6 benefit to the extra work in the CEC process.

7 So, I'm just flagging that as something, as part
8 of our ongoing improvement of this program. Some of my
9 members will be submitting more detailed comments on
10 that.

11 So, the first specific question that we were
12 asked to speak to was what entities really need the
13 infrastructure funding?

14 And the short answer is we continue to believe
15 the funding should be available to all, you know, public
16 and private. But let's make our use of the public
17 funding, you know, prioritize -- let's use it to
18 prioritize our State policy objectives, and let's do a
19 better job of using metrics.

20 Such as, how much fuel are those stations
21 actually pumping?

22 What's the associated emissions benefit with
23 that, whether it's smog or greenhouse gas?

24 And how many vehicles are they serving?

25 It's important, again, to be vigilant in our use

1 of the funding in this infrastructure sector.

2 Schools was a specific scenario that staff asked
3 about. Obviously, I want to support schools. My first
4 work in the natural gas transportation sector was with
5 schools.

6 But a fair question these days is you're going
7 to have school districts coming to you asking for
8 infrastructure funding. Ask them; have you checked with
9 the private sector?

10 But also ask them; can you afford to buy buses?
11 And I don't mean that in a harsh way, but I don't want
12 to see a scenario where CEC puts money into a station at
13 a school district and the reality is, because of the
14 budget constraints they're facing, they can't actually
15 get the buses to operate at their stations, and that's a
16 reality in the marketplace today for some school
17 districts.

18 Transit is another sector that staff asked
19 about. We don't think that CEC should be supporting
20 transit infrastructure. Not because we don't like
21 transit, we love transit. But that is one of the most
22 mature portions of the marketplace. In California it's
23 almost a hundred percent. It's, you know, 90 percent of
24 the fleet is running on natural gas. There's already a
25 lot of maturity there.

1 The same is true for refuse. Now, there may be
2 scenarios where it makes sense because the private
3 sector wouldn't meet the need, or some scenario where
4 you see multiple benefits.

5 But as much as possible, we think vehicles are
6 going to be a better -- or, you know, a more fruitful
7 investment.

8 Should infrastructure funds be used only for
9 deployment of fueling or should there be investment in
10 R&D, and demonstration?

11 So, the short answer is use the infrastructure
12 funds for deployment to the extent that you do it, and
13 then R&D funds for demonstration.

14 I'm going to talk a bit more about R&D and what
15 our thoughts are on that in the next slide.

16 I should mention because there was, you know, in
17 the brackets here about home fueling. We don't think
18 right now that CEC should be putting money into
19 demonstrating home refueling.

20 There were announcements last month by General
21 Electric and Eaton, it might have been July, but this
22 summer, two big companies, big money, they're going
23 after a \$500 price point for home refueling. Compared
24 to \$4,000 today for home refueling and they're going
25 after a \$500 home refueling unit in the 2014-2015 time

1 frame. And that's going to be a game changer if they're
2 able to deliver on that.

3 I'm mentioning that as something that CEC should
4 be aware of, but not advocating for you to be funding
5 demonstration, you know, at this time.

6 On the -- yeah, first I'll talk about the
7 stations prices and questions as to whether or not this
8 is what we're seeing in the marketplace.

9 In general, we think these numbers look good.
10 One of the things that didn't really come out of the
11 CEC's question to us was how much are you looking at
12 through-put because some of these look like very
13 expensive stations.

14 But if you're paying a million and a half for a
15 station and you're pumping 10,000 gallons or gallons
16 equivalent a day, most people would say, wow, that's a
17 pretty good investment.

18 So, the use of the station is a significant
19 second question to what's it going to cost, and that
20 applies to all levels here.

21 The one scenario that's not highlighted in the
22 CEC question or framing of this is a smaller station,
23 which we're starting to see emerge, one or two pumps,
24 not the stations that we grew up with, anything like a
25 gas station, necessarily. But one or two pumps in the

1 parking lot of a shopping mall, for example.

2 There are a couple of companies that that's
3 their business model, or at least part of their business
4 model and you're going to see more of those, I believe.

5 The price range, roughly in the half-a-million-
6 dollar range, maybe a little bit less. And sharing that
7 information just in response to, you know, do the three
8 examples that CEC gave cover the gamut? Not quite.

9 The following question from CEC staff was; are
10 these prices likely to come down any time soon? And the
11 bottom line is we don't think so.

12 And the reason we don't think so is most of
13 these stations are using equipment that's been around
14 for a long time. Compressors have been around for
15 decades. They're using, you know, state-of-the-art
16 compressors.

17 But let's say there's a thousand natural gas
18 stations in the country today. If CEC was somehow
19 involved in getting that number up by 30 percent, 300
20 more compressors, you're not going to have a significant
21 impact on the price point on compressors.

22 The same goes for storage tanks, it's just
23 not -- we're not working with the volumes where you're
24 going to see a significant price point change.

25 That said, we do think it's an interesting idea

1 for CEC to look at letting an RFP that will be in the
2 research and development sector, soliciting proposals
3 for lower cost, increased efficiency, improved
4 performance related to refueling infrastructure.

5 That hasn't been done any time recently and
6 there might be a little bit of stuck-in-my-comfort-zone
7 with the manufacturers of these stations saying, well, I
8 know where I can get my compressors, I know what
9 equipment to use, I want to go with the easiest set up,
10 the familiar set up for this station.

11 But, you know, there's some potential there for
12 research and development making an impact for the next
13 generation of station. And CEC, I think -- we think
14 could play a role there.

15 We would also encourage that you work with a
16 group that's a bit more expert in this area. The Gas
17 Technology Institute is the first name that comes to
18 mind, but they're not the only players out there.

19 But partnering with a group like that you're
20 going to benefit from their expertise and their
21 knowledge of the existing marketplace and technology,
22 more than anyone on CEC staff should be expected to know
23 about a specific technology, really.

24 And that's it for infrastructure, I think,
25 unless there's questions?

1 COMMISSIONER PETERMAN: Questions? Jim
2 McKinney?

3 MR. MC KINNEY: Excuse me, I didn't mean to grab
4 the mic there.

5 Thanks Jim, this is great information. I did
6 have two follow-up questions. One, when you're talking
7 about the new fueling systems that, say, go in parking
8 lots, is that the Nanobox technology? I mean these
9 stand-alone, modular, compressor tank systems.

10 ADVISORY COMMITTEE MEMBER CARMICHAEL: So,
11 what's great about your question is that's not who I was
12 thinking of.

13 MR. MC KINNEY: Oh.

14 ADVISORY COMMITTEE MEMBER CARMICHAEL: But yes
15 is the answer.

16 (Laughter)

17 ADVISORY COMMITTEE MEMBER CARMICHAEL: Because
18 they are another company that's got a small modular
19 technology that can either go in at an existing gas
20 station, petroleum station, or could be used on a -- you
21 know, in between parking spaces in a shopping mall or
22 grocery store parking lot.

23 But there are other companies that have
24 different technology that are doing the same thing,
25 putting infrastructure into the same types of locations.

1 MR. MC KINNEY: And then my second question is,
2 you know, what's your Coalition's view on where we are
3 with deployment of LNG stations and the ability of, say,
4 you know, the long-haul, Class 7, 8 trucks to really
5 start to switch over to that technology and that fuel
6 type?

7 ADVISORY COMMITTEE MEMBER CARMICHAEL: So, I
8 have members that are all in on LNG and I have members
9 that think, you know, it's still unpredictable whether
10 some of the heavy-duty applications are going to go
11 liquefied natural gas or compressed natural gas.

12 In either case, if we're talking about CEC's
13 limited pot of money, funding an LNG station, in our
14 opinion, is not the top priority.

15 Put money into helping get more LNG vehicles on
16 the road and you're going to have a greater impact on
17 the long-haul trucking sector. That's our current
18 perspective.

19 And again, I'm going to qualify it one more
20 time, there will be scenarios that will come to you that
21 they'll say we couldn't get private funding, and we
22 encourage you to look at that seriously, but we don't
23 think that's anywhere near the majority of situations
24 anymore.

25 COMMISSIONER PETERMAN: Thanks Tim. I have a

1 follow-up question. So, regarding private investment in
2 infrastructure, are the private companies that are doing
3 the investments are they following a particular roadmap?
4 You know, are -- is there coordination about where these
5 stations are going to be located?

6 And how does your group see that aligning where
7 we're seeing the vehicles being deployed?

8 ADVISORY COMMITTEE MEMBER CARMICHAEL: It's
9 better than the wild west but it's not fully mature or
10 worked out, yet.

11 So, you have at least two companies that have
12 national plans laid out. We're going to hit these
13 corridors, freeway corridors, and we're going to do it
14 roughly every 250 miles, and we're going to do it
15 rapidly, in the next two to three years.

16 And then you have other companies that are
17 responding to the market and individual fleet requests
18 on a regional basis or on a company -- you know, some of
19 these companies are big trucking companies that have
20 operations across the 50 states and they need support or
21 infrastructure in every state.

22 So, there are a couple of different models
23 there. I can't tell you that all the companies are
24 working together, you know, in checking, well, is he
25 going to put a station there, or is she going to put a

1 station there? There's quite a bit of competition,
2 actually, at this point and I think that's a good thing.
3 You know, there will be a few examples where people --
4 you know, I don't know if they'll be on the same
5 intersection, but they'll be really close and you'll
6 wonder why did they put them so close?

7 That's the way this -- there are going to be
8 some glitches as the market develops, but it's good to
9 have as many players getting into this market right now
10 if we want to see a rapid transition.

11 Because as I'll talk about this a bit with the
12 vehicles, one of the issues that's raised with why a
13 company is not going to a natural gas vehicle is concern
14 that there won't be enough infrastructure for them.

15 COMMISSIONER PETERMAN: Jan, you have a question
16 for Tim?

17 ADVISORY COMMITTEE MEMBER SHARPLESS: Tim, when
18 you talk about the vehicle purchases are you principally
19 talking about that money would probably most likely go
20 to fleet, kind of a fleet application rather than, you
21 know, just light-duty application out in the general
22 public?

23 ADVISORY COMMITTEE MEMBER CARMICHAEL: I'm
24 worried that if I answer that question, you won't listen
25 to my next presentation.

1 (Laughter)

2 ADVISORY COMMITTEE MEMBER CARMICHAEL: That was
3 a joke, Jan.

4 COMMISSIONER PETERMAN: He's going to present on
5 vehicles separately, in the next section.

6 ADVISORY COMMITTEE MEMBER SHARPLESS: Oh, oh,
7 oh, I see, I didn't realize that.

8 ADVISORY COMMITTEE MEMBER CARMICHAEL: But Jan,
9 that was a joke.

10 ADVISORY COMMITTEE MEMBER SHARPLESS: Okay.

11 ADVISORY COMMITTEE MEMBER CARMICHAEL: I'll
12 elaborate on this but, yes, I think we lean towards
13 fleets being, again, the best bang for the buck for
14 CEC's small pot of money.

15 ADVISORY COMMITTEE MEMBER SHARPLESS: Okay, I'll
16 hold my questions.

17 COMMISSIONER PETERMAN: Ralph?

18 ADVISORY COMMITTEE MEMBER KNIGHT: I think, Tim
19 that you're right on target as far as the school bus
20 fleets are concerned. But I think the other picture to
21 that is that we're seeing the possibility of regular ed.
22 transportation be eliminated or reduced in big shots.

23 But the special needs transportation is what
24 we're going to really survive on. And now that we're
25 seeing some CNGs and other fuels out there for the

1 special needs is going to open the door for us to be
2 able to replace those old diesel buses that we're
3 currently using in that format with an alternative fuel,
4 too.

5 So, I think there's a minus, but there's a plus
6 also, too, that we've got to keep in mind with that.

7 ADVISORY COMMITTEE MEMBER CARMICHAEL: Very good
8 point.

9 COMMISSIONER PETERMAN: Do any of our Advisory
10 Committee members on the phone have any questions for
11 Tim?

12 ADVISORY COMMITTEE MEMBER HOLMES-GEN: I have a
13 quick question.

14 COMMISSIONER PETERMAN: Bonnie, why don't you go
15 ahead and if someone on the line wants to go right
16 after, please do.

17 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Hey Tim,
18 I'm just wondering if you could give a little more
19 context about your thinking about the medium, heavy duty
20 versus light duty in terms of the recommendations that
21 you're making for infrastructure in vehicles. Where are
22 you seeing the emphasis from that --

23 COMMISSIONER PETERMAN: Well, if that's a
24 vehicle question, I'm going to put it off to Tim's next
25 presentation.

1 ADVISORY COMMITTEE MEMBER HOLMES-GEN: We can do
2 that. That's what I was wondering, maybe it's
3 premature. Okay.

4 COMMISSIONER PETERMAN: Because I want to keep
5 with the infrastructure since we'll have an opportunity,
6 but I think that pertains to that. So, mark that down,
7 Tim and we can move forward.

8 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Okay.

9 COMMISSIONER PETERMAN: All right, let's move on
10 to hydrogen and Catherine Dunwoody.

11 Thank you, Tim.

12 ADVISORY COMMITTEE MEMBER CARMICHAEL: Thank
13 you.

14 ADVISORY COMMITTEE MEMBER MUI: Sorry, I was
15 late on the draw here, this is Simon Mui. I did have a
16 question for Tim --

17 COMMISSIONER PETERMAN: Please go ahead.

18 ADVISORY COMMITTEE MEMBER MUI: -- regarding
19 the -- thank you -- regarding the LNG infrastructure.

20 We recently met with a major oil company who's
21 been basically funding a lot of the LNG infrastructure
22 so is that part -- does that play into, I guess, the
23 recommendation to focus on vehicles more so than
24 infrastructure, essentially that there may be some major
25 players entering into this market?

1 ADVISORY COMMITTEE MEMBER CARMICHAEL:

2 Absolutely, it does. And, you know, we started to
3 develop this perspective 18 months ago, I would say.
4 And, you know, 12 months ago you saw some cash infusions
5 into some of the companies that were doing this and then
6 since then you've seen at least three other companies,
7 with lots of resources, talk about how they're going to
8 get into the retail market for natural gas
9 transportation.

10 So, yes, one of those is, you know, an
11 international oil company and it definitely feeds
12 into -- you know, it kind of bolsters our perspective on
13 this.

14 ADVISORY COMMITTEE MEMBER MUI: Okay, thank you.

15 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

16 DUNWOODY: Okay, thank you, Commissioner and members of
17 the Advisory Panel for the opportunity to present the
18 California road map from our California Fuel Cell
19 Partnership.

20 I hope that you have a printout of this at your
21 place. If you didn't get one, there may be a few more
22 out front or we'll be glad to get you a copy. It's also
23 available online.

24 The road map, this is a great opportunity to
25 present this document because I think it helps answer

1 questions that have actually come up in a number of
2 these meetings over the years.

3 The California Fuel Cell Partnership has spent
4 well over a year in collaborative discussions amongst
5 our members, as well as other stakeholders, including
6 fuel marketers and retailers who helped us with the
7 financial analysis, looking at what does it cost to
8 achieve this road map.

9 And it really was intended to respond to the
10 questions that we received about what does it take to
11 bring hydrogen fuel cell vehicles to the point where
12 they can be commercialized in California, and that's
13 what this document works to answer.

14 Before I get started on that, I do want to
15 mention, as Tim mentioned, his opportunity to test the
16 natural gas vehicle through, I guess, an informal loan
17 program, we also are now launching a vehicle loan
18 program through the California Fuel Cell Partnership.
19 We have a vehicle available here in Sacramento. We will
20 have one available in Southern California.

21 So, if anyone is interested in taking that
22 opportunity, please get in touch with me or with my
23 staff and we'd be glad to get you into the Toyota EPSI
24 HC Advanced right now, and we're hoping to add more
25 vehicles to that portfolio as well.

1 And the idea is to actually give the car to
2 people for an extended period of time so that they can
3 take it home and live with it, and come to appreciate
4 its many fine attributes.

5 Okay, so before I get started here I do want to
6 just remind everyone fuel cell vehicles are electric
7 vehicles. And so the difference is, of course, that you
8 refill it with hydrogen as opposed to plug it and
9 recharge it with electricity.

10 But many of the other components in the vehicle
11 are the same and so it's a very complementary technology
12 to the vehicles that are being commercialized today, the
13 battery electric and plug-in hybrid vehicles.

14 Some of the key differences are the range, 300
15 to 400 miles range, quick refueling. And in most cases
16 what this technology does is it enables the automakers
17 to extend electric drive into a broader segment of their
18 vehicle portfolio, to larger cars and more cargo
19 capacity.

20 And again, just as a reminder, these are zero
21 emission vehicles. One of the great benefits is they do
22 significantly reduce greenhouse gas emissions.

23 Today most hydrogen is made from natural gas,
24 although we do have a number of renewable production
25 options here in California, they're in place today and

1 delivering hydrogen today.

2 But when you use natural gas to make hydrogen,
3 using a fuel cell vehicle, you're immediately reducing
4 greenhouse gases by at least 50 percent compared to
5 gasoline vehicles.

6 It is a sustainable, domestically produced fuel
7 and we've gotten really great response from people who
8 have had the opportunity to drive the cars, they really
9 love them.

10 Some progress to date; we have over 200 fuel
11 cell vehicles and fuel cell buses on the road in
12 California, operating today, over 4 million miles.

13 Many of those cars are in the hands of every-day
14 customers through lease program by the OEMs. They fuel
15 at eight public hydrogen stations. We've got 14 more in
16 various stages of commissioning, construction, planning.
17 That includes the first round of funding that the Energy
18 Commission provided for stations being developed now.

19 And so, we're really on track to have about 20
20 by the end of next year.

21 What have we learned? We've learned that
22 stations must come before vehicles and that's really the
23 basic premise behind this road map document is that in
24 order for customers to feel confident that they can buy
25 a fuel cell vehicle and get hydrogen fuel when and where

1 they need it, there has to be a station, a basic station
2 network coverage.

3 People want fuel near their home, near work,
4 near destinations. We need to have a few connectors in
5 the State.

6 And stations must be customer friendly. They've
7 got to be well lit, open, long hours, convenient and
8 safe.

9 One of the key learnings through our process of
10 developing the road map is working with UC Irvine and
11 their street modeling. We've identified that people
12 that buy a fuel cell vehicle in the early market
13 community want to have access to a station within about
14 six minutes of travel time.

15 And so this was a key aspect of the analysis
16 that enabled us to identify how many stations would be
17 required. That's really one of the fundamental, I
18 think, benefits of the modeling that UC Irvine was able
19 to do for this road map.

20 This is the concept, a graph that kind of shows
21 the concept of this tipping point, what does 68 stations
22 represent?

23 By enabling consumers in those early markets to
24 access a station within six minutes, what we're really
25 doing is enabling the automakers to launch a commercial

1 market and get to volume production. And that then, in
2 turn, will enable the infrastructure to become self-
3 sustaining and people to actually see a business case
4 for selling hydrogen.

5 And so as you can see, as we reach that tipping
6 point the number of stations will grow but it becomes
7 more self-sustaining at that point.

8 So, how many stations? I've mentioned the
9 number is 68. They are primarily in the cluster
10 communities that have been identified by the automakers
11 as to where they'll find their first customers. Then
12 the number is built out based on the UC Irvine street
13 model.

14 The number of stations does balance coverage
15 with capacity utilization. And, fundamentally, the
16 capacity in this 68-station network will support 20,000
17 fuel cell electric vehicles.

18 That number is important because that really
19 represents the point at which the automakers can have
20 confidence they can deploy that number of vehicles and
21 that then, in turn, can trigger another process called
22 the Clean Fuels Outlet Regulation that the ARB has on
23 the books in order to ensure that the infrastructure
24 development keeps pace with vehicle deployment.

25 So, you've probably heard about the CFO

1 regulation. That's really the trigger point is 20,000
2 fuel cell vehicles. We have to get to the point where
3 the automakers can actually put that amount of cars into
4 the market in order to trigger the regulation.

5 There's also connector and destination stations
6 and these, in turn, also seed new clusters for the
7 market to develop.

8 And all of this is based on our knowledge and
9 our members' knowledge about customer travel patterns,
10 as well as very -- as you can imagine very confidential
11 OEM marketing information.

12 So, this is what the network looks like. The
13 details are identified in the document but just to, you
14 know, show it on the screen here, on a map, we've got
15 clusters in both Southern and Northern California.

16 You can see in the Bay Area it's largely focused
17 in the South Bay and East Bay, as well as downtown San
18 Francisco.

19 And then in Southern California the major
20 markets are in Orange County, Torrance, and the Beaches
21 community, and West L.A., and Santa Monica.

22 If you've been following our work over the
23 years, you'll recognize these locations, they're the
24 same ones we identified in our action plan a couple of
25 years ago.

1 So, what we've done with this document is really
2 extend this out to a full commercial launch of fuel cell
3 vehicles.

4 So, 68 stations does provide the coverage that
5 is needed for customers to have enough fueling
6 opportunities to feel confident to buy the car.

7 The number of stations is not based on capacity
8 or how much volume of fuel is needed, and this is a
9 little bit different way of looking at it than we have
10 looked at station deployment in the past.

11 It's essential, first, to get the coverage of
12 the network established and then we can build the
13 volume.

14 That being said, those initial stations in those
15 early markets have to have the capacity to serve that
16 early market without having to go through significant
17 upgrades.

18 It gives automakers the confidence to go forward
19 and initiate volume production. It gives customers the
20 confidence to go forward and purchase the fuel cell
21 vehicles. And it gives the market confidence overall to
22 build capacity because they know that the business will
23 be coming, and they'll get the throughput and make a
24 return on their investment.

25 Funding goals to achieve this; we are very

1 fortunate and appreciate very much the funding that has
2 come to date through the State of California, both the
3 Air Resources Board and through the Energy Commission.

4 And we anticipate that with the funding that's
5 already been identified, and that includes the funding
6 that is associated with the draft PON that's out now,
7 that we can achieve 37 stations in California by
8 sometime in the 2014-15 time frame, assuming all goes
9 according to plan.

10 That's going to leave a gap of 31 stations that
11 we need to achieve that 68-station goal by January of
12 2016.

13 We also need to make sure that all the stations
14 in the network can operate as vehicle volume grows. So,
15 the stations have operating costs, these are identified
16 in our operating analysis. When you add those operating
17 costs to the cost of building the station, it shows we
18 need an additional \$65 million in incentives in order to
19 achieve this goal. That's in addition to what's already
20 been allocated to date.

21 This financial analysis was actually conducted
22 by one of the Advisory Board members, Energy
23 Independence Now, and I know Tyson's on the phone.

24 And I don't go into any detail in my
25 presentation about this analysis, but it's available on

1 their website and, you know, he may want to add some
2 comments about it later.

3 What we tried to do is really look at it from a
4 business owner's perspective and we did have quite a bit
5 of input and advice from an expert in the fuel marketing
6 business.

7 So with that, I'll look forward to the
8 discussion and answer any questions you may have.

9 COMMISSIONER PETERMAN: Thank you, Catherine.

10 Tyson, did you want to make any comments?

11 ADVISORY COMMITTEE MEMBER ECKERLE: I think
12 Catherine did a great job. And if anybody has questions
13 about the financial analysis, I'd be happy to answer
14 that.

15 COMMISSIONER PETERMAN: Thank you. All right,
16 so we already have one question in the room, Eileen.

17 ADVISORY COMMITTEE MEMBER TUTT: That's
18 Catherine. I guess my question for you is I understand
19 the funding needs, the financial needs and I'm
20 wondering, the Commissioner earlier said that there's
21 been significant private funds that have complemented
22 these incentive dollars from AB118, and so in your
23 assessment is there assumption of some match funding
24 or -- I mean I know Carla was -- Commissioner Peterman
25 was talking about even, you know, \$1 million can

1 sometimes leverage up to \$100 million.

2 So, I'm just wondering, I'm assuming that
3 because I think that's really important. I don't think
4 that the incentive dollars should be used to fully fund
5 any of our technologies. So, I'm just sensitive to that
6 and I'm wondering is there an effort to try to get at
7 least match funding for the incentive dollars that
8 hydrogen stations would get?

9 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

10 DUNWOODY: Yeah, the analysis that Tyson and his team
11 conducted looked at it from a stand point of what we
12 call a cash flow incentive.

13 And the assumption is that the business owner
14 takes on the risk of going out and getting a loan to put
15 in a station, and assumes the operating costs and
16 maintenance costs of that station.

17 And the idea of the incentive calculation was to
18 be able to offset their losses in the early years based
19 on, you know, making sure they're not getting
20 discouraged and, you know, closing down stations that
21 they've started because it's going to take a while for
22 that vehicle volume and the throughput to grow.

23 So, yes, it does make an assumption that there's
24 business owners that are willing to go out and, you
25 know, put their capital on the line to get a loan, to

1 make that station happen.

2 We also backtracked through another -- coming at
3 it from a different way, the more traditional cost share
4 approach, and that approach assumes that, just as we've
5 seen in the past, that proponents are coming in with
6 something on the order of a, you know, 30 to 50 percent
7 cost share.

8 COMMISSIONER PETERMAN: Yeah, I'll just follow
9 up on that and say that with the two solicitations so
10 far, at least the one that's been done in a draft, there
11 was a cost share that was required, I believe 30 to 50
12 percent.

13 And also, Catherine, you touched upon something
14 which -- something that I think the Energy Commission
15 needs to consider in terms of how do we provide funding?
16 Primarily, we do it through direct grants.

17 But the proposal that the -- that's been
18 presented by the Fuel Cell Partnership, when they were
19 looking at the CFO and other types of funding, was
20 something where you're helping pay back loans.

21 And so we're also open to hearing from you all
22 about if there are better ways to provide funding. Of
23 course, we have to work within our structures for
24 providing funding, but we're open to if our process
25 isn't always the best way.

1 Other questions? There's a gentleman in the
2 audience of the room, so I'm going to let him ask a
3 question. And, Joe, were you going to -- were you
4 reaching, as well? Okay.

5 MR. DAVIS: Bob Davis from --

6 COMMISSIONER PETERMAN: Oh, sir, you'll have to
7 press the button.

8 MR. DAVIS: Right there.

9 MR. BENNETT: Hello, I have a question.

10 COMMISSIONER PETERMAN: Oh, well, we've got
11 someone who's offering one up in the room and then we'll
12 take whoever's on the line. Thanks.

13 MR. BENNETT: Okay.

14 MR. DAVIS: How's that? Okay, my name is Bob
15 Davis, HomeH2.

16 I think that it would -- well, I've seen several
17 hydrogen stations in the vicinity closed down for lack
18 of business.

19 Now, Tim, your vehicle will run on hydrogen. I
20 think we have millions of cars in the United States that
21 will run as well on hythane as they will run on
22 compressed natural gas.

23 I have a hydrogen station and I run on hythane.
24 I use a state car that was retired years ago. Your car
25 will probably -- you'll use a mixture of 40 percent

1 hydrogen with compressed natural gas.

2 But nobody is getting the word to the millions
3 of compressed natural gas vehicle owners and that's the
4 reason that our hythane stations are closing down for
5 lack of business.

6 I'll be happy to go in detail with anybody or
7 any group, at any time. And Tim, in the meantime, if
8 you want to test your car with hydrogen, I'll produce
9 the hydrogen for you.

10 COMMISSIONER PETERMAN: Well, thank you, sir.
11 Appreciate folks proposing marriages between our
12 different funding categories, as well, and that's the
13 first time I've heard of that term, "hythane", so that's
14 very interesting.

15 I don't know if anyone had a comment, otherwise
16 I'll turn to the question on the line.

17 MR. BENNETT: Hello?

18 COMMISSIONER PETERMAN: Yes.

19 MR. BENNETT: Hi. Okay, I have a question on --

20 COMMISSIONER PETERMAN: Who is this, by the way,
21 can you identify yourself?

22 MR. BENNETT: Michael Bennett.

23 COMMISSIONER PETERMAN: Okay.

24 MR. BENNETT: Michael Bennett. Yeah, I'm listed
25 online there.

1 So, I have a question of gas versus liquid. It
2 seems to me, in the presentation that I just saw that,
3 you know, you're going to have a lot of consumers that
4 are going to be a little bit afraid of, you know, some
5 gas leaking out versus some liquid spilling on the
6 ground, sort of those issues.

7 So, I wonder does anyone have any data to
8 support either you build a new infrastructure, as
9 they're trying to do here with 68 stations, or do you
10 use an existing structure, which means gasoline stations
11 that take liquid, what's the safety concerns between
12 putting a gaseous substance out there and the
13 existing -- all the stations we have already that take
14 on liquid?

15 MR. STAPLES: I'll be glad to answer that.

16 ADVISORY COMMITTEE MEMBER REPRESENTATIVE

17 DUNWOODY: I was just going to comment, this is Kathryn.
18 I'll be glad to provide an entire presentation on
19 hydrogen safety, if that's the interest of the Advisory
20 Panel, at some point in the future.

21 COMMISSIONER PETERMAN: Sure, I think that would
22 be useful.

23 And who said they could answer that on the line?

24 MR. STAPLES: Well, I can because my name's Paul
25 Staples, I'm with HyGen Industries.

1 COMMISSIONER PETERMAN: Hi, Paul, how are you
2 today?

3 MR. STAPLES: Very good and thank you for the
4 opportunity.

5 First of all, just to answer him before I get to
6 my question, hydrogen is 14 times lighter than air. If
7 you have a leak in it, it dissipates immediately. You
8 almost have to have an ignition source over the leak in
9 order to get it to light.

10 And if you take care in placement of your
11 systems, you won't have that problem. So, it's actually
12 safer than gasoline, or any other liquid fuel, or any
13 fuel for that matter because it basically is that way.

14 Liquid falls on the ground, lights up, that's a
15 fire hazard. Okay. Hydrogen leaking into the air, you
16 have to go out of your way to try and make it a danger,
17 okay. So, that's the quick and short answer.

18 All right, now, I had a question in reference to
19 funding, and the private investors and everything. You
20 know, there's a reason why government does these things.
21 The government funded the rural electrification. Up
22 until about 50, 60 years ago most people, other than big
23 cities, had no electricity, okay. The government came
24 in and put that.

25 The Hoover Dam would have never been built by

1 anybody with private money. Nobody would ever have
2 invested in that because infrastructure requires
3 amortization over a period of time for it to be
4 realistic and to be able to be usable.

5 Private investment wants their money right away,
6 okay. Now, once it's going and up and running, then
7 private investment will come in because they can make
8 money off of it immediately, which is the appropriate
9 role of business.

10 But government needs to fund these things and
11 they need to fund them to the point to where, you know,
12 the risk that the private sector will put in, in
13 partnership with it, will not be so significant that
14 they can't get their money back if it doesn't succeed.

15 So, it's very important that government provide
16 a significant portion of the funding, and the cost
17 shares should be high. And the cost shares should go to
18 the cleanest option, okay.

19 The cleanest option it should be. If you want
20 to do something that's, you know, fossil fuel, or
21 hydrogen, and all that, and with the carbon footprint
22 and all that, fine, you pay for it, okay.

23 But if the government's going to be funding it
24 with tax dollars, we have to choose the cleanest and
25 most sustainable option, and that's renewable hydrogen.

1 And if that's the approach that needs a --
2 that's the approach that needs to be done. It can't be
3 done any other way.

4 And you have to give incentives for small
5 business because small business is being shut out of
6 this process. It's being shut out with DuPont, it's
7 being shut out with everything else that --

8 COMMISSIONER PETERMAN: Mr. Staples, we
9 appreciate your comments. I'm going to have to ask you
10 to wrap up, though. And we've also appreciated your
11 presentation on our three workshops on the topic.

12 MR. STAPLES: Okay, that's basically my comment
13 on the issue of funding, and the amount of cost share,
14 and government's participation in it. Government must
15 take a leading role in this because it is in the best
16 interest of the public. So, thank you very much.

17 COMMISSIONER PETERMAN: Well, thank you.

18 MR. DAVIS: Can I have a chance to respond,
19 quickly?

20 COMMISSIONER PETERMAN: Well, I'm just going to
21 make a comment and I don't know, really, if there was
22 anything there to warrant a response. But I think it
23 was a good comment to have on the record.

24 And I just wanted to make a comment, an
25 observation about we were talking a bit about safety.

1 And many of you may be aware a few months ago there was
2 an incident at the Emeryville hydrogen station and it
3 provided an opportunity for those of us who have been
4 involved in funding, and in this space, to really
5 comment on safety.

6 And one observation I've had is that we are
7 working with relatively new fuels and technologies. And
8 no technology is perfect and 100 percent safe. We've
9 all seen a car on the road, a gasoline car that's caught
10 on fire.

11 And I think what's important is if we're working
12 in the infrastructure area, is to make sure that we have
13 first responders who are trained to deal with these
14 types of fuels, and vehicles, and we heard a
15 presentation about that earlier.

16 As well as, you know, we start to get consumers
17 comfortable with the idea that everything has risk, but
18 there are ways to minimize that risk.

19 And we realize we need to be doing more outreach
20 and discussion about that. And I would encourage you
21 all, as well, because we're all the converted, who are
22 more familiar with these technologies.

23 But, you know, oftentimes we talk to the general
24 public about hydrogen, they'll think of the Hindenburg
25 or something like that, which is not the right reference

1 point for what we're talking about, now.

2 And so I think those questions of safety will
3 continue to remain and will probably escalate as we see
4 a wider scale deployment.

5 MR. DAVIS: Okay, but Commissioner, my take home
6 point is this, if you're going to spend whomever's
7 dollars on a hydrogen infrastructure, in building this
8 infrastructure you need to show a cost benefit
9 relationship that I have not yet seen. In other words,
10 show us that it's going to be improving the air, at the
11 same time equivalent safety. That's the thing that I
12 have not seen, yet.

13 COMMISSIONER PETERMAN: Well, thank you for your
14 comments. And as we talked about earlier in the day, we
15 do do a benefits report, which reports back on different
16 projects, as well as a lot of metrics, including
17 greenhouse gas reductions, air pollution, and such.

18 And I think we had, as was mentioned by I think
19 Jim, in preparation of the PON that's out in draft right
20 now, three workshops and we got a lot of valuable
21 feedback on how to improve that solicitation. And also,
22 it's out there in draft, now, for folks to comment.

23 And so I'm sure, appreciate you giving these
24 additional comments on the record, in that process as
25 well.

1 We're now going to move on to electric charging.

2 Thank you, Catherine.

3 And Eileen Tutt, the floor is yours.

4 ADVISORY COMMITTEE MEMBER TUTT: Thanks. I have
5 my phone with me because I have some cheating notes on
6 it. Here we go, okay.

7 So, I'm going to talk about electricity,
8 obviously. CalETC is an organization that has both
9 utility and automaker members. We focus exclusively on
10 battery electric transportation, very broadly though.
11 We're not just talking about light duty vehicles, we're
12 also talking about electrification of the broader
13 transportation sector.

14 And I want to make a few points before I start
15 because I think sometimes people question why like an
16 electric utility really is so committed to vehicle
17 electrification.

18 And it's understandable the automakers are very
19 committed and you can see that every major automaker,
20 now, has a car they're bringing to market.

21 But utilities, it really makes sense for a
22 utility from a business case perspective. It's not just
23 that they're members of the community that care about
24 air quality, and care about greenhouse gas emissions,
25 and all of that.

1 But electric -- transportation electrification
2 provides a real tangible grid asset that benefits
3 everyone who uses electricity. We more efficiently
4 utilize the grid when you have electric vehicles in the
5 marketplace.

6 And so that is why you'll see the utility
7 industry, and not just the car industry, but working
8 with the car industry, and the charger infrastructure
9 folks, the whole gamut of those of us out there that are
10 trying to promote this technology and make sure that we
11 have market success.

12 But you'll see that they're very committed to
13 having -- to giving customers a very positive experience
14 when they purchase their plug-in electrics or when
15 they're thinking about it.

16 I want to point out that electricity is
17 ubiquitous. Everywhere you go you're going to have
18 access to it.

19 It doesn't have some of the same challenges that
20 some of the centralized fuels may have because the truth
21 is you can go out and buy a car today, an electric car,
22 and drive it home and plug in. You don't need a special
23 charger, you don't need, really anything, except a plug
24 and pretty much everybody has that.

25 And so the value of these vehicles is that --

1 and the infrastructure needs is that you can leverage an
2 already existing infrastructure that is -- that has been
3 invested in by everyone in this room, and everyone that
4 uses electricity.

5 So, the technology, the infrastructure needs and
6 the technology needs, the beauty of electricity is that
7 you get to leverage an existing system and actually
8 increase the efficiency, and make it more beneficial for
9 all of us.

10 So, I'm going to focus on three things today in
11 terms of the AB118 funding and that is outreach
12 education, workplace charging, and dealer engagement in
13 terms of what, I think, this funding -- where I think
14 this funding could be helpful.

15 And after some conversations with you all, I
16 have two other additions for the staff, hopefully taking
17 notes.

18 I think that thinking about the youth and
19 reaching out to youth is important, and I'll go into
20 that in a minute. And also, I really think this issue
21 of environmental justice and getting these vehicles into
22 the communities, I think this funding could be utilized
23 for that and it would be very beneficial.

24 And I'm not going to go into this. I wanted
25 this slide on the record just saying, you know, there is

1 a tremendous amount of effort right now. And when you
2 talk about leveraging private capital, you know, there
3 are billions that the automakers are spending and there
4 are significant investment by the fuel providers,
5 including the utilities and the plug-in charging folks.

6 So, we'll start with workplace charging. And we
7 all know this is really important because it's a huge
8 market driver. If somebody's considering a vehicle,
9 whether or not they have workplace charging is something
10 that they think about it. It can essentially double
11 their range if they have workplace charging.

12 Also, you can use just level one charging which
13 doesn't necessarily -- and by level one I just mean like
14 a wall plug. And it doesn't necessarily have to be the
15 wall plug. There are charging systems that look like a
16 higher voltage charging system that are level one, that
17 are attached permanently. So, you don't have to haul
18 around a cord, it's just there and you plug in your
19 vehicle.

20 And for workplace charging, where people are
21 parked for eight to ten hours, it can be a very
22 attractive low-cost option.

23 It can also be leveraged in many cases for a
24 multi-family dwelling, or multi-unit dwelling purposes.
25 Getting these vehicles to people with apartments is

1 hard. A lot of apartments happen to be co-located near
2 workplaces, so the degree to which you can leverage the
3 two needs, there's a beautiful synergy in terms of
4 workplace charging.

5 And then I just want to mention that the
6 utilities are very invested in this workplace charging
7 effort, they reach out to all their commercial
8 customers.

9 The PEV Collaborative, which is a group,
10 a very broad group of stakeholders, including the
11 environmental community, is working on workplace
12 charging.

13 And CALSTART, Jaime, is a really lovely program
14 that supports workplace charging and I think will
15 benefit all of our efforts.

16 I also think outreach and education is really
17 important. And again, I don't -- I think it's important
18 that the State dollars leverage the private funding.
19 And so I'm going to highlight two programs that are
20 being developed or exist today for outreach and
21 education.

22 And this slide is a little wordy, but I just
23 want to make sure everybody's aware that the Electric
24 Drive Transportation Association, and I know the CEC
25 staff and Commissioner is aware, that they are creating

1 a very large campaign that is intended to create a very
2 trusted source for the American public in general,
3 anybody who's thinking about an electric vehicle.

4 They want to make sure that the funding is
5 transparent, that the process is transparent, and there
6 are very, very influential business groups that have
7 invested in this.

8 So, the degree to which this funding can be
9 leveraged and support this will be very valuable.
10 Because just like the Commissioner was saying, when you
11 can go out and you're fundraising for education and
12 outreach and you can say the State of California gave us
13 X it makes, I will tell you, all the difference in the
14 world. So, very much this is important for
15 electrification. Especially in this early market as we
16 try to get to a larger scale implementation.

17 And then there's also the EEI, Edison Electric
18 Institute, has an education campaign that's more focused
19 on energy security issues, environmental electricity as
20 a fuel that's very attractive, that kind of thing.

21 So, those two campaigns I just want to raise
22 with you and I know they're on your radar.

23 And then, finally, we're -- well, this isn't
24 going to be finally because I have the two other ideas
25 really quickly.

1 But dealer engagement, the utilities, the
2 automakers have invested heavily in getting the dealers
3 engaged, but it hasn't been easy. And this is where we
4 could really use help. Like it's just hard to get
5 dealers trained. You know, it just is.

6 And so anything that can help make that happen
7 and more successful, we appreciate. And I actually
8 think it could be broader. I think we could look at
9 natural gas, at hydrogen, other vehicles in terms of
10 this funding for a dealer education campaign because
11 everybody who brings these vehicles to market and tries
12 to get them into the mass market is going to have to
13 deal with the dealer education issue.

14 And it's been challenging. Not that they aren't
15 willing, it's just a challenging issue.

16 So, finally, our -- well, let me just mention
17 two other things because I do think -- I notice as I
18 drive, I've driven an electric vehicle for the last 11
19 years, and we just got a new one.

20 And I will tell you the number of young people
21 that come up to me, college age, and in their twenties,
22 and for me thirties is young --

23 (Laughter)

24 ADVISORY COMMITTEE MEMBER TUTT: -- come up to
25 me and talk to me about the vehicle. I'm just so

1 impressed. And I think if we could think about engaging
2 the youth, things like Zip Car cars out there because
3 that's where the -- kids aren't going to own cars. My
4 son doesn't want a car, he doesn't want that kind of
5 a -- but he'll go out and get a Zip Car or he'll borrow
6 our car.

7 But this is very important that we think about
8 the youth component here.

9 And the same with environmental justice, we need
10 these vehicles to be in communities, in minority
11 communities and low-income communities.

12 And I think things like the Zip Car can do that,
13 but I also just want to highlight the fact that the non-
14 road sector could really benefit because a lot of these
15 low-income communities are in manufacturing areas. And
16 if we can electrify those manufacturing, the plants,
17 then that will benefit directly those communities and
18 they'll really directly recognize the benefit of
19 electrification.

20 So, I think those two things are important and
21 I'm going to send your staff a note because I know I
22 didn't have time to include it in my comments.

23 But just a couple early market observations and
24 we are finding that many, many people are buying these
25 cars, coming home and plugging them in, and not buying

1 any additional infrastructure. They're just plugging in
2 a regular wall plug.

3 We're also seeing that workplace charging is a
4 key market driver. People ask, you know, am I going to
5 have charging at work? It doubles their range. It
6 makes the vehicle more attractive. A lot of workplaces
7 are thinking, hey, this is a good way to keep and retain
8 employees. It's an amazingly powerful asset and we
9 need -- there's definitely work that needs to be done
10 there.

11 There are still significant challenges with
12 multi-unit dwellings. I think the workplace charging
13 can be leveraged.

14 We've also noticed that small pricing
15 differences between the electricity, like just say if
16 you charge between midnight and 7:00 your electricity is
17 going to cost half as much. You'll get a huge move to
18 that time.

19 We've even looked at like off-peak versus super
20 off-peak. It's just that word super, people will
21 gravitate towards that charging time.

22 So that is a big motivator. The cost of
23 electricity is huge. The empowerment that people feel
24 when they are not -- you know, when they aren't limited
25 by the fact that they can only pay what the gas station

1 wants them to pay, they have all this opportunity and
2 option. They can charge when they want, where they
3 want, they can pick their time to reduce their costs.
4 The people love it. It's a huge market draw and they're
5 really excited by it, much more than we thought.

6 I mean this freedom from the pump is -- there's
7 something in the Volt world or the plug-in hybrid world
8 called gasoline anxiety. So, it's real, it's happening.
9 We've got a lot of cars out there. It's a very exciting
10 time but we still have a long way to go if we're going
11 to get past early market.

12 Thank you.

13 COMMISSIONER PETERMAN: Thank you, Eileen. I
14 just had one follow-up question about the dealer
15 training. So, what are the manufacturers doing and
16 what's the -- I would imagine they would be the right
17 conduits for thinking about dealer training since
18 they're familiar with the vehicles, but do you have any
19 sense of what's going wrong in that relationship?

20 ADVISORY COMMITTEE MEMBER TUTT: Well, remember
21 that the automakers -- well, I'm not going to make any
22 parallels here. The automakers don't own the
23 dealerships. So, they do, they really do work with the
24 dealerships and they especially focus on places where
25 they think these cars are going to be sold.

1 But it's just there's a lot of dealers, they
2 just -- it's hard to change.

3 And so, yes, the automakers are very engaged
4 with their dealers and all dealers. The utilities in
5 their local service territories are very engaged. It's
6 just been more challenging than we would have thought.

7 COMMISSIONER PETERMAN: And I imagine one of the
8 challenges is even the manufacturers are less familiar
9 with the California electricity market and so knowing
10 exactly how to deal with your local utility is not
11 something that manufacturer, nor that dealer, would be
12 able to answer.

13 ADVISORY COMMITTEE MEMBER TUTT: Right, even the
14 state incentives, they aren't used to people getting
15 money for buying cars from the state. That's an unusual
16 concept.

17 So, a lot of this stuff is sort of new and
18 different and it just makes it more challenging. So, I
19 think we are going to need further engagement there and
20 I think it would benefit -- I think we should expand it
21 to other fuels as well. Like if we're going to put
22 money into it, it might be like a dealer campaign that
23 really targets alt fuels and alt fuel programs in
24 general, off the top of my head.

25 COMMISSIONER PETERMAN: Thank you. We'll now

1 turn to some questions from the Advisory Committee
2 members. Jan?

3 ADVISORY COMMITTEE MEMBER SHARPLESS: Yes, you
4 exude excitement, which is good. But the question I
5 have is where the funding is now, as far as the 118
6 program, are you happy with that mix? I couldn't quite
7 tell.

8 I mean it's never enough but have trends changed
9 so that there are some areas that you feel there ought
10 to be some adjustments and tweaks as to where the money
11 is going?

12 COMMISSIONER PETERMAN: And Eileen, feel free to
13 answer. I know we said we're not talking about
14 investment funding but you were asked directly.

15 ADVISORY COMMITTEE MEMBER TUTT: Yes, I think
16 that there are and I think we have reached out to staff.
17 Staff's been very receptive. For the outreach and
18 education, for example, we've found it's going to be
19 more important than we thought.

20 I think the -- what I've found, at least in
21 working with the Energy Commission staff is that it just
22 keeps -- this process just keeps getting better.

23 And I know we need -- Bonnie is the most
24 vociferous about this, but we do need to get a bullhorn
25 out there because the program started a little bit

1 rocky. I don't have that anymore but, yes, I would say
2 the issues that have arisen are different.

3 I think getting money into the hands of local
4 government is really important, much more important than
5 we thought because a lot of these issues are local
6 issues dealing with dealers, dealing with their
7 customers. There's just a different feel when your
8 local reaches out to you than state government.

9 So, there are certain tweaks that I would like
10 to see happen and we have been actively engaged with the
11 staff.

12 ADVISORY COMMITTEE MEMBER SHARPLESS: I was just
13 trying to marry the comments between what Peter told us
14 about, you know, the \$2 million a month in terms of buy
15 down, and what Eileen was saying with where the 118
16 program is.

17 COMMISSIONER PETERMAN: Well, Eileen was out of
18 the room when Peter made his comments. And so perhaps I
19 will just make the broader comment that, as I've noted
20 before, the program is over-subscribed by a matter of
21 five in the first couple of years. And so I would think
22 it's probably fair that most parties will say that more
23 absolute money is needed within each category.

24 And Eileen has said before, in past meetings,
25 about the need for incentives, continued and a larger

1 number of incentives available for vehicle buy downs.

2 So, we'd heard it from Peter that we're seeing
3 about two million of interest in the CVRP program each
4 month. And so just to bring those points together.

5 ADVISORY COMMITTEE MEMBER TUTT: Yeah, I should
6 have mentioned that because I was worried about the
7 haircut affecting the transfer to the CVRP. If we could
8 just push that one out, just push it over to the CVRP
9 before your haircut because the issue is not just that
10 it's running out of money, the issue is that the
11 uncertainty in the marketplace, not knowing if you're
12 going to get an incentive or not, it does harm the
13 market.

14 And so, we just need more certainty there and
15 that's going to be an ongoing issue that we'll work with
16 you on, and certainly with Peter and his group. But
17 that does definitely need more money because it -- if
18 you get your vehicle and your dealer does happen to
19 inform you about your opportunities, which they are
20 pretty good about that, and then you apply to the state
21 and you don't get it that will be a press story; that
22 will be negative.

23 So, we do need to do the best we can to make
24 sure that's fully funded.

25 COMMISSIONER PETERMAN: And I appreciate your

1 observations, Eileen, about -- on how you initially
2 answered Jan's questions about within the infrastructure
3 space where you might prioritize or not.

4 And Tim, you also did something along those
5 lines, talking about within that. And I appreciate that
6 because oftentimes we hear about, well, move money away
7 from a whole other category, but we also want to make
8 sure we're allocating within a funding category the best
9 way possible, as well.

10 Are there other questions in the room, anyone
11 around the table? Please, Bonnie.

12 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Thanks
13 Eileen, I appreciate your presentation, it's very
14 helpful. And I'm looking forward to the broader and
15 more in-depth discussion of this at the EV summit later
16 this month.

17 And I just -- I wanted to underscore, from our
18 Lung Association perspective the -- you know, the
19 importance of what you're talking about in trying to get
20 these vehicles to a broader range of buyers, broader
21 range of income levels and into EJ communities.

22 And I just wanted to flag that, I think that's
23 really important and we would like to help to work on
24 that, and brainstorm ideas, and think about ways that we
25 can tailor some of our recommendations, as we move

1 forward, to try to help with that effort.

2 COMMISSIONER PETERMAN: Thank you.

3 Advisory Committee members on the line, any
4 questions for Eileen?

5 ADVISORY COMMITTEE MEMBER MUI: Hi, Eileen, this
6 is Simon Mui with NRDC. I was fascinated by your kind
7 of suggestion about focusing on sort of the dealer side.
8 And I'm just wondering, has anyone talked, or have you
9 heard anything about incentives, you know, kind of
10 incentive or reward type structures for -- I mean raise
11 to the top, you know, dealers who sell the most vehicles
12 in a month, or just recognition of those dealers as a
13 kind of a way to maybe draw attention?

14 I mean one automaker I spoke with has mentioned,
15 you know, even just like a free lunch dealers will work
16 for, will push vehicles to try to get little prizes like
17 that.

18 ADVISORY COMMITTEE MEMBER TUTT: Yeah, Simon,
19 that's a really good point because it is -- that is how
20 the automakers -- that's their -- you know, they don't
21 own the dealer, so that is one of the big issues with
22 the dealers is that the automakers do reach out and
23 offer special programs for dealers that sell these cars,
24 or sell the most and that kind of thing.

25 I know when I bought my most recent electric car

1 I got, I don't know, seven different e-mails about my
2 dealer experience because they do -- they are trying to
3 track what's happening at these dealers. And it's much
4 more complicated than if you buy a gasoline car. You
5 will get -- your automaker will reach out to you about
6 your dealer experience.

7 And so there's a lot of work going on, I don't
8 want to pretend that there's not. It's just more
9 challenging. And any kind of -- I mean I think it just
10 might be worth throwing in the mix to try to think
11 about.

12 Because it's not just going to be our electric
13 cars, this is going to translate to every alternative
14 fuel and everything's going to help.

15 So, yes, there are definite programs the dealers
16 are -- the automakers are really trying to collect data
17 on what the experience was, how can it be improved, what
18 do we need to do.

19 The amount of data that's being collected in
20 this early market is absolutely astounding to me. I
21 mean it is so clear to me that this industry is very
22 committed to this technology and wants to see it
23 succeed. And that's happening in the dealer world, it's
24 just there's a lot of dealers.

25 COMMISSIONER PETERMAN: And just also one

1 observation about the dealers, as we think about how to
2 get, ultimately, the consumer education and where the
3 focus is, and dealers do have a disincentive, sometimes,
4 for some of these vehicles because they don't get to do
5 the maintenance on them, for example.

6 So, there are certain -- there's just certain
7 facts that might not make them as willing to sell these
8 more than others. And so thinking about what type of
9 information we need to get into consumers' hands, and
10 how do we get it through other means, as well as the
11 dealers, I think would be important to consider.

12 ADVISORY COMMITTEE MEMBER TUTT: Okay, and then
13 before I leave, I just want to say that I do want to get
14 together with your staff, especially about just when you
15 think about an infrastructure plan, we've kind of come
16 up with some criteria about where the -- you know, where
17 the infrastructure should go and how to make that plan.
18 I just didn't feel like I had time to do it today, in
19 this forum, but I do want some time to talk to you
20 about -- I mean Catherine did an excellent job on the
21 fuel cell and we've done a similar kind of look at where
22 is the -- how do you look at where to place public
23 stations, in particular.

24 And I know that we've had some of my members
25 have had conversations with Leslie, but I'd like to

1 follow up on that.

2 COMMISSIONER PETERMAN: That's great, happy to
3 do so.

4 And while you just mentioned Leslie; Leslie, I'm
5 going to put you on the spot and ask you if you could
6 speak for just a minute about the PEV Readiness Grants,
7 because I think that's unique to what we're doing in the
8 EV space. And folks should just be aware in case we
9 want to think about similar models for other
10 technologies.

11 MS. BAROODY: Sure. Yeah, so last year we made
12 awards to ten planning regions for \$200,000 per region.
13 And that was primarily to address the streamlining of
14 the permitting and inspection processes to help them
15 establish regional infrastructure plans and to provide
16 funding for consumer education and outreach.

17 So, I think most of those plans have been -- or
18 most of those agreements have been approved at business
19 meetings and they are in process right now. I think
20 there's a two-year time frame.

21 And some of them have overlapping DOE funds.
22 And the DOE grants are wrapping up here very soon, and
23 so we'll start seeing some reports out of those regions.

24 COMMISSIONER PETERMAN: I'm cognizant, as we're
25 doing the policy here in Sacramento, there are folks on

1 the ground who actually have to figure out what the
2 right permit forum is and, you know, local governments
3 are strapped for resources, like everyone else is. And
4 the PEV Collaborative, I think has been very successful
5 in putting together products for local planners and
6 utility folks to use.

7 And we welcome comments about whether -- how we
8 should be thinking about that topic more broadly, and
9 how we should be thinking about it for other
10 technologies.

11 If there's no other burning question for
12 Eileen -- seeing none, I'm going to now turn to the
13 advanced technology and vehicle demonstration category.
14 Thank you, Eileen.

15 And I think we're going to have a little bit
16 of --

17 MR. STAPLES: Is there any chance I could make a
18 comment?

19 COMMISSIONER PETERMAN: Yes, may I ask who's
20 speaking?

21 MR. STAPLES: Yeah, this is Paul Staples with
22 HyGen Industries, again.

23 COMMISSIONER PETERMAN: Please.

24 MR. STAPLES: It's just a comment on what I
25 recently heard. I'll try to be brief.

1 COMMISSIONER PETERMAN: Please, I request that
2 you do.

3 MR. STAPLES: I know, I'll be as brief as I --
4 you know, I mean I remember (indiscernible) coming on
5 the David Letterman Show and sitting there, pulling out
6 this cord saying this is my infrastructure, a 20-foot
7 cord.

8 You know, I almost had an Elvis moment there,
9 okay, because it's not, okay. I mean you're going to
10 have to upgrade the lines to everyone's home, okay, to
11 every residential neighborhood, including transformers
12 and lines, okay.

13 Now, you want to talk about infrastructure
14 costs, that's billions, maybe hundreds of billions
15 nationwide. Okay, so that's a misnomer.

16 Second of all -- okay, misinformation.

17 Second of all off-peak; we start having a
18 significant amount of people charging their vehicles at
19 night there will be no more off-peak, everything will be
20 peak 24/7. So, that's just -- that's another
21 misinformation.

22 And, you know, so from the stand point of -- and
23 also, the charger, you got to pay for a charger unless
24 you want to have a trickle charge that will take you two
25 days to charge your all-electric vehicle. And that's --

1 you know, so there is costs associated with it; upgrade
2 of lines, \$5,000 for every home to do a charger and the
3 lines, and the infrastructure, and off-peak is not going
4 to be off-peak for very long.

5 And you have to look at this from a macro point
6 of view rather than an individual, okay, I can plug my
7 car into it and charge it. It's not that simple.

8 And also, fast chargers, these quick charge
9 machines that do it in 15 minutes get 85 percent of it,
10 that's a real danger factor, number one.

11 Number two, it cuts down on the efficiency so,
12 therefore, your efficiency quotient is eliminated over
13 fuel cell electric vehicles.

14 So, from the stand point of battery electric
15 vehicles, it's the battery, it's not the electric drive.
16 The electric drive is an excellent technology and I
17 thank that so much work was done on it in the late
18 eighties and the early nineties but --

19 COMMISSIONER PETERMAN: Mr. Staples, I'm going
20 to interrupt you here but to say --

21 MR. STAPLES: It's just not going to make it.

22 COMMISSIONER PETERMAN: -- you know, just
23 commenting on your comment, you know, I think you've
24 touched about the fact that to think about deploying EVs
25 you really do have to have an infrastructure that

1 includes the utilities as a part of that conversation to
2 figure out where the demands on the system will be.

3 And, indeed, Eileen's organization includes
4 utilities because they are really front and center at
5 some of these discussions, and looking at what will be
6 the impact on the distribution system.

7 And we heard, actually, in our IEPR process this
8 year, the need for more comprehensive distribution
9 system planning that incorporates the potential for EVs.

10 I'll also note that, as many of you are aware
11 and Jim McKinney mentioned earlier, the Governor issued
12 a zero emission vehicle executive order earlier this
13 year and has a team that's working together to create
14 that plan.

15 And as a part of that plan you have
16 participation from the Public Utilities Commission,
17 which is looking at rate structure and infrastructure.
18 You also have utilities, you have the Energy Commission.

19 And, ultimately, on the points you raised that's
20 really where the Commission is focused in terms of
21 thinking about planning and making sure that we're not
22 eliminating anything that needs to be considered.

23 But I think your overall point is that all fuels
24 and vehicles are going to have costs associated with the
25 infrastructure, and the vehicles and it's important for

1 us to appreciate that.

2 MR. STAPLES: Exactly.

3 COMMISSIONER PETERMAN: So, thank you for that
4 comment.

5 We're going to move on, now.

6 MR. STAPLES: Thank you for the time.

7 COMMISSIONER PETERMAN: You're welcome.

8 We're going to move on, now, to the advanced
9 technology vehicle demonstration. I think we're going
10 to have a few speakers, speaking for five minutes each,
11 so let's see how you can -- either you can all come up,
12 individually, to the microphone or -- yeah, that's your
13 option.

14 (Laughter)

15 MR. HALL: Okay, afternoon everyone. Thank you,
16 Commissioner and members of the Advisory Committee for
17 the change to speak a bit about cleaner truck
18 technologies. I don't think I need to try that hard to
19 convince you that these things are something that we
20 really, desperately need.

21 So, I'm going to start by giving some thoughts
22 and insights that have come out of the California Hybrid
23 Efficient and Advanced Truck Research Center, also known
24 as CalHEAT, which is a CEC-funded effort looking at
25 advancing technologies for this sector.

1 CalHEAT's got a really impressive technical
2 advisory group of 40 or so people from all different
3 parts of the industry, so the insights I'm giving you
4 today have been vetted with several real experts. So,
5 it's a good time for the disclaimer that I am definitely
6 one of these real experts.

7 All of the guys from our team, who would have
8 made the most sense for this presentation, are currently
9 at our High Efficiency Truck Users Forum Conference in
10 North Carolina. So, I'm a bit of a stand in and if
11 there are any technical questions, I may just direct you
12 to them later on.

13 Fortunately, we will have a few other speakers
14 up here that you can go into some technical details.
15 That will be Kevin Wing and Mike Simon.

16 So, to start very, very high level this is --
17 you know, from the visioning process, one potential
18 scenario for the truck future that we need to see, if we
19 want to see anything that looks even close to this, we
20 really have our work cut out for us.

21 That was a view sort of looking at the truck
22 sector overall, but it's really a pretty diverse sector.
23 And so one thing that CalHEAT did, at the outset, is say
24 let's look at how these trucks are used and break them
25 down into sort of categories based on use and duty

1 cycle, which is very helpful in thinking about what
2 technologies make sense in different applications.

3 They arrived at these six different truck
4 categories. Clearly, the Holy Grail here is to really
5 clean up the big rig trucks that are up at the top, your
6 18 wheelers.

7 And we do need some demonstrations there in the
8 near term on Class 8 platforms, such as regional heavy
9 haul or specialized corridor applications, like you
10 might see on the I-710.

11 And I know Matt Miyasato from South Coast is
12 here and may speak to that later.

13 But Class 8 trucks are not the be all and end
14 all; there are a lot of other sectors that we need to
15 clean up.

16 And it's important to note that sometimes the
17 best place to launch a new technology is not necessarily
18 jumping straight to those Class 8 trucks, but putting it
19 in some of these, what we call vocational trucks, such
20 as urban delivery trucks where you can get some early
21 successes, prove out the technology and then scale it up
22 over time.

23 I didn't realize this was going to go so slowly.
24 So, looking beyond what type of trucks there are,
25 CalHEAT then sort of spent some time thinking about what

1 the differently technology strategies are that
2 California should really focus on, and came up with
3 these 19 strategies that fall into, really, three
4 different groups.

5 And today I'm going to focus more on advanced
6 electrification and engine and driveline efficiency, as
7 the body and chassis stuff largely is already happening,
8 and is sort of lower-hanging fruit where we don't need
9 to put limited State dollars.

10 There are links and synergies here, you know,
11 with the long list of technologies, but note that some
12 of them sort of enable each other, and so this is not
13 just 19 separate little buckets.

14 This slide just very quickly shows sort of the
15 main takeaways from the longer CalHEAT road map, which I
16 think many of you have seen. And, really, the key
17 takeaway for this group is that CalHEAT group thinks
18 that you need about \$36 million a year going into
19 advanced truck technologies in order to meet our long-
20 term goals.

21 That's sort of half development and
22 demonstration, and half help with deployment.

23 And then this slide, which is a little bit busy,
24 shows for each of the 19 technologies kind of a rough
25 timeline of the different stages of development, and

1 demonstration, and deployment.

2 And sort of the main takeaway here, since you're
3 not going to memorize the timeline, is just that this is
4 an iterative process. We really need sort of rolling
5 waves and you cannot just sort of do one demo and then
6 be done, and then move on to something else.

7 If you add up all of the studies, and projects,
8 and incentives that are represented by each of these
9 bars, that's how you get to the 36 million-dollar-a-year
10 estimate on what we think is needed.

11 And note that a lot of these technologies, as I
12 said, are linked and you can actually bundle more than
13 one technology into a single demonstration.

14 So, one quick example, if we want to look at
15 zero emission truck movement, CalHEAT thinks that there
16 are several different options that are available for
17 demonstration in the very near term. And I won't spend
18 too much time here as Mike Simon, and I think Matt
19 Miyasato may go into a bit more detail.

20 So, I'll just sum up and then Kevin and Mike can
21 come up.

22 But the CEC program is very important, it
23 complements other programs. This is one thing staff
24 asked me to talk about and, yes, there is a super truck
25 program at the federal level but it really focuses on

1 let's build a prototype and California can then come in
2 and sort of take it the next step towards
3 commercialization.

4 CARB's 118 dollars and some of the funding at
5 the air districts help with deployment. CEC really fits
6 in nicely with these other programs and so they all
7 complement each other, there's not a lot of duplication.
8 It's sort of a good setup we have.

9 As I noted, it's an iterative process. Staff
10 also asked me to talk about sort of how could we focus
11 our demos, are there areas that we could sort of say
12 check the box, we've kind of completed that technology?

13 No, it's an iterative process, you have to keep
14 going. We need multiple rounds of demonstrations and
15 then deployment, and then technology keeps getting
16 better and better, and finally can get market ready and
17 move into heavier and heavier platforms.

18 So, I wish that there were really simple answers
19 to give but, unfortunately, there are not.

20 And so now I think Kevin is going to come up and
21 talk from the San Joaquin perspective about some of the
22 nearer term needs and then Mike Simon will speak more to
23 zero emission technologies.

24 COMMISSIONER PETERMAN: And I'll also add that I
25 was going to invite Matt Miyasato to come up after this

1 section making comments, so you might as well go after
2 the last speaker, as it will probably tie in. Thanks
3 Matt.

4 MR. WING: So, I'd like to thank the Commission
5 and the Advisory Committee for the opportunity to talk
6 to you today about what our unique needs are in the
7 valley, and that's really kind of the theme of what I
8 want to spend my few minutes here discussing with you.

9 In the Valley we've got one of the two worst air
10 quality regions in the State and it drives a lot of
11 needs, and it has a lot of emission reductions that
12 aren't even necessary for us to meet the standards that
13 we're facing from the federal government.

14 Our existing ozone plan includes these long-term
15 black box measures that identify need for technologies
16 that are beyond what we currently know.

17 So, we're looking for opportunities to work with
18 demonstration projects and in the Valley we want to be,
19 you know, early adopters of technologies. We'd like to
20 see some of the newer technologies that meet the unique
21 needs of the Valley and will help us attain the
22 standards that we have that, as was mentioned before,
23 we'll have large reduction needs by 2023, even larger
24 reductions when we adopt our new plan and have deadlines
25 in 2030.

1 In the near zero emission technology category,
2 we're really looking at these heavy duty trucks. We've
3 got the two major north/south corridors in the Valley.
4 Forty-five percent of truck traffic in major California
5 trade corridors occurs in the Valley and that long range
6 travel is the place where we would like to see
7 technology demonstrations and focus on opportunities
8 that meet those needs, specifically.

9 And we believe that a big portion of that need
10 is going to be not just zero emission technologies, but
11 this near zero emission option where we can find
12 something that is better than what currently exists with
13 the emissions technology that's available, and helps
14 achieve those much greater emission reduction needs, and
15 brings that to the Valley as early as we can, not just
16 to meet that future 2023 and 2030 need, but to bring
17 those health benefits as soon as possible to the
18 population of the environmental justice communities that
19 we have in the valley.

20 The long haul trucking is that standard category
21 that we talk about, where a lot of the demonstration
22 projects are these short battery electric ranges, where
23 we really haven't been able to talk about what we can
24 do.

25 But we would like to see some demonstration

1 opportunities that really target that as a category.
2 And maybe not necessarily look at a specific technology
3 and say, oh, you know, waste heat recovery is going to
4 be our way to achieve this, but this other type of
5 thing, but to say what can you bring as a technology
6 category for long haul trucking, and what can bring the
7 near zero emissions future that we're going to need to
8 see to meet our standards.

9 I had a brief -- a slide here that I want to
10 just go briefly with. This is our people movement
11 discussion and it doesn't really pertain to the heavy
12 duty and medium duty category that we're talking about,
13 other than we have unique challenges for transit in the
14 Valley. We're a much lower density population. We've
15 got a significant environmental justice community that
16 could utilize transit, and having good ways to bring
17 these near zero emission technologies, not just the long
18 haul trucking, but to form factors that will work for
19 our transit needs and meet the population's demands and
20 desires in order to utilize those technologies are
21 something that we'd also like to see some demonstration
22 work with.

23 And then, lastly, I want to take a moment to
24 talk about our technology advancement program. In
25 addition to demonstration programs, we've worked with

1 some advanced deployment projects.

2 We mentioned, earlier, the HVIP Plus, where we
3 have an add-on to work with the State's HVIP program.

4 I do want to mention that's not just for
5 electric trucks that are produced in the Valley, we just
6 offer an additional incentive to Valley produced trucks.

7 In addition to that the Drive Clean, which works
8 with the CVRP in conjunction to allow a larger incentive
9 for people who are looking for the light duty projects.

10 We're bringing about new projects soon for
11 advanced transit and infrastructure funding.

12 And then a final note is that we do have
13 available, it turns out we just opened last week, an
14 opportunity for demonstration funding in the Valley, for
15 \$4 million, and we have proposals due in the middle of
16 October, October 18th.

17 I have on this slide the website and e-mail
18 address for where you can find information about that.
19 You can meet with me later and I can give you any
20 information that I can. I even brought a couple of the
21 request for proposals with me, so if anybody would like
22 one, I can give you a copy.

23 I'd like to see us find a way to work with CEC
24 and their -- you know, the advanced programs.

25 We do treat greenhouse gases as a score-able

1 priority. It is something that we do look at that as an
2 added priority and we would like to see, you know, a
3 similar opportunity to work with demonstrations that are
4 working with the CEC funding in order to ensure that we
5 can bring the maximum possible benefit from the funding
6 that we have, and the funding that's available.

7 And that's what I have. It was a pleasure to
8 give you the opportunity to talk about our plan, thank
9 you.

10 COMMISSIONER PETERMAN: Thank you. It's great
11 to hear about the additional money that the air
12 districts are putting in place. And when Matt comes up
13 I'll tee up a question, probably for a longer
14 discussion.

15 But as you were speaking, and I've heard
16 presentations around the 2023 targets more and more
17 recently, and you acknowledged that some of the
18 technologies even to meet current NOx goals are unknown.

19 And so what I'm struggling with in my head is
20 then what do we need to do? Is it investment in R&D?
21 Is it the expectation that it's now about the
22 demonstration and deployment?

23 Because 2023 seems just around the corner and so
24 it's just one of those things that I hope that the
25 federal government knows how challenging this is.

1 But I think it's something we'll all have to put
2 our heads together.

3 MR. SIMON: Good afternoon everybody, I hope
4 2023 isn't just around the corner, I'll be 64.

5 (Laughter)

6 MR. SIMON: It's a pleasure. I'm Mike Simon
7 from Transpower. I'm passing around, for the people
8 around the table, just a single-page pictorial summary
9 of some of the products that we're developing.

10 We're a recipient of funding from AB118, we're
11 based in Poway, California, a suburb of San Diego.

12 Our approach, our focus is on building very
13 large trucks that run on purely battery electric power.
14 And our business proposition is very simple. We believe
15 that these large trucks within a very few years will --
16 each truck will be able to not only eliminate 100 tons
17 of carbon each year, but will save its operator \$50,000
18 in fuel costs.

19 And you don't have to extrapolate very far out
20 the way fuel costs are rising, and the way battery
21 technologies are advancing, to see a tomorrow in which a
22 truck, like the one shown on the top of this slide, can
23 save its operator \$50,000 a year. And I can show you
24 how that can work.

25 That then drives you to the realization that

1 even if your system is fairly complex, as our systems
2 are, and fairly expensive, you can still recover the
3 cost of these systems in three or four years if you can
4 save \$50,000 a year.

5 So, that's our basic business proposition; to
6 offer a very sophisticated, very advanced system that's
7 fairly costly, but that makes business sense.

8 Our approach is vertically integrated. That
9 means that we build our products at three different
10 levels, as shown on this chart.

11 On the bottom level we start with the basic
12 components that do the basic functions, and there are
13 three or four basic functions on a big electric vehicle,
14 as are on any electric vehicle.

15 There's a propulsion function and that's the
16 electric motor that moves the vehicle.

17 There's the control function, which is how you
18 control that motor.

19 There's the energy storage function, which is
20 how you keep the electric energy on the vehicle.

21 And then there's the charging function of how
22 you recharge that battery pack.

23 And so we develop components that do all those
24 things, then we assemble them, moving up the vertically
25 integrated chain here and we integrate them into

1 subsystems, and then we put the subsystems into the
2 vehicles.

3 I just wanted to show, briefly, the impact of
4 the Advanced Renewable Fuel Program, AB118, on
5 Transpower.

6 On the left, the bar graph shows here that just
7 18, 19 months ago, when we got our first AB118 grant,
8 and we recently received a second grant, but we received
9 our first AB118 grant in February of 2011.

10 And at that time the company was really purely
11 embryonic, that was we had zero revenue and, really,
12 zero employees.

13 We just recently signed our second grant
14 agreement, within the last few weeks, and you can see
15 the jump up in the company revenues, shown by the green
16 bar, and the number of employees shown by the blue bar,
17 in just the 18 months and the catalyst that this grant
18 has provided.

19 By the time -- we're not even complete with the
20 second grant, by the time we're halfway through in the
21 middle of 2014, less than two years from now, you can
22 see the growth that we're projecting.

23 You know, we're projecting to have grown from,
24 really, a single-person company to over 40 employees,
25 and \$14 million in revenue.

1 And this is a -- if you do the math on how much
2 tax revenue this is going to generate for California,
3 and this doesn't even include all the additional jobs
4 from all our suppliers, most of which are based in
5 California, and all the service providers that the
6 income from our employees, you know, create workforce,
7 so there's just a multiplier effect here.

8 You're probably talking about, within a couple
9 of years, over 100 jobs created by this very single, \$1
10 million grant we got less than two years ago.

11 So, I'm living proof and our company,
12 Transpower, is living proof that this program has a
13 tremendous impact on the economy, on jobs, and on
14 innovation in our State.

15 Critical needs, just looking at the future, I
16 mentioned the four basic functions that the -- you can
17 break down different ways, but there really are four
18 critical need areas that we feel should be focused on,
19 technology-wise.

20 CALSTART, Jamie from CALSTART, showed 19
21 different technology areas. But just focusing on the
22 battery electric there are four main subareas that we
23 feel are very important.

24 And again, there's the battery energy storage.
25 We feel there's a lot, there's much money being invested

1 nationwide and around the world in the battery cells,
2 themselves, so we don't see a huge need -- I don't think
3 the Energy Commission can make a big impact, with the
4 kind of money it has, getting involved in battery cell
5 technology.

6 But where there can be, I think, a lot of bang
7 for the buck in this area is how you integrate these
8 cells into larger packs that are needed for these very
9 large vehicles.

10 How do you integrate them safely? Simple,
11 seemingly simple things like contactors and fuses, and
12 how you make the battery pack safe, how you prevent an
13 arc from happening and an accident from happening if
14 somebody pulls out the plug when it's still live?

15 These are problems that need to be solved and
16 that won't take that much money to solve but that if
17 they aren't solved could have tremendously negative
18 impacts.

19 Also, battery cell monitoring and balancing of
20 cells on battery packs, very important to maintaining
21 the life of these battery packs.

22 I'm not going to go into the same level of
23 detail in all these areas because that battery energy
24 storage really is the Holy Grail of electric vehicles.

25 But there are additional advances that can also

1 be made in the areas of power electronics, reducing the
2 cost and the size of the inverters that control the
3 motors, and that also can be used -- in our case, we
4 cleverly use our inverter to also charge our batteries,
5 which is unique, so you don't need an external
6 infrastructure for battery charging.

7 Propulsion, brushless DC motors is a technology
8 that's come a long way and a few million dollars, or
9 even a few hundred thousand dollars to that technology
10 could potentially reduce the cost of electric motors by
11 a factor of ten. That's a technology we recommend
12 having some funding invested in over the next year or
13 two.

14 And then, finally, just how you integrate all
15 these components into vehicles. You can never spend too
16 much effort learning how to do proper systems
17 integration.

18 And then my last chart, taking a slightly
19 broader view on the future and how this all fits
20 together, we feel that, you know, what's already being
21 done is great. Though it's benefitted Transpower and
22 our customers, and our technology, you know, funding to
23 develop vehicles and components, it's there, it should
24 continue. Funding to build manufacturing facilities,
25 it's there, it should continue, as well as the refueling

1 and recharging infrastructure.

2 And, incidentally, I'd like to mention that the
3 electric propulsion can make -- is not only essential
4 for fuel cell vehicles, but can also make natural gas
5 vehicles run more efficiently. As battery technologies
6 advance, I'm certain you're going to see a new
7 generation of natural gas hybrids out there that can
8 marry the benefits of natural gas and electric
9 propulsion.

10 So, fueling and at least charging infrastructure
11 are critically important.

12 But also, some of the things that don't really
13 get talked about a lot, but I think are going to become
14 more essential as we move forward, funding agencies tend
15 to like developing the first of a kind of something
16 because it's exciting and it can be demonstrated.

17 But there's a boring intermediate phase of
18 development of any product that isn't as exciting, or
19 glamorous, but where you have to put something that
20 you've already developed on the road, and accumulate a
21 million miles on it before you can really claim that it
22 is ready for prime time and to sell in large numbers.

23 A lot of companies have gone out and made a big
24 splash with a brand-new product, then when they deliver
25 it to a user they find it really doesn't meet their

1 expectations.

2 That's almost always because those products were
3 not fully vetted, they weren't put out, and monitored,
4 and tested day in and day out in real-world service for
5 a year or two.

6 When you go to a showroom and you see a General
7 Motors, or a Ford, or a Toyota concept car it's usually
8 three or four years away from being ready to be sold to
9 the public, even though it's built, even though it
10 works, because it hasn't gone through that long process
11 of testing.

12 So, funding to help get companies from -- you
13 know, bridge that gap from when the first vehicle's
14 built and it's shown that it works, to where it really
15 can be sold in quantities of a hundred or a thousand.

16 That unglamorous middle road is where funding is
17 always needed and is hardest to come by for companies
18 like us.

19 And then once those vehicles are developed and
20 once they are commercial ready, even though they do have
21 this potential to save, in our estimation, \$50,000 a
22 year for this big, heavy-duty vehicles that save huge
23 amounts of fuel, there still will be a hurdle because
24 the capital cost is going to be \$150,000, \$200,000
25 higher than a standard truck.

1 So, there will be some -- some mechanism will be
2 needed to help truck -- you know, your average truck
3 owner to buy that more expensive truck and then let that
4 owner repay that, you know, loan or whatever it is over
5 the course of four or five years as they accumulate
6 these fuel savings.

7 So, one possible solution we'd like the Energy
8 Commission and the funding agencies to consider is
9 setting up something I call a battery bank, which is
10 basically a revolving fund where a buyer of a vehicle
11 like this can go and basically get money from the bank
12 to cover that up-front cost of the battery pack, and
13 then repay that cost out of their fuel savings while
14 they operate the vehicle. And then that money goes back
15 into the bank and may even make a profit. Could even
16 charge interest and make a profit and the fund could
17 even grow over time, and provide more and more funds to
18 adopters of electric vehicles.

19 So, that's just one thought on how we can -- you
20 know, looking forward a couple of years to some of the
21 needs that are likely to emerge.

22 And then, finally, getting favorable rate
23 structures from utilities for super off-peak charging,
24 and maybe even installation of distributed energy
25 systems, putting in solar systems or small wind systems

1 that can help users, along with energy storage, be their
2 own utility, store up their own energy and use it to
3 charge the vehicles.

4 It probably won't work for the average consumer,
5 but for a large fleet operator that has several acres
6 and giant buildings why not put solar cells on those
7 buildings and have them be their own utility and their
8 own fuel station at once, all in one.

9 And so that's kind of our vision of where we
10 think transportation should be headed and how you can
11 help, and I appreciate the time to share these thoughts
12 with you.

13 COMMISSIONER PETERMAN: Mr. Simon, thank you.
14 Can I ask you to stay and just take one more minute, and
15 if you don't mind, share with the Advisory Committee
16 members your story about how you came to the Commission
17 in the first place to receive funding, because I think
18 it touches upon the need a government funding can
19 provide when the private market is not available.

20 MR. SIMON: Okay, thank you, I'll be happy to do
21 that, Madam Commissioner.

22 When I wrote our proposal to the Energy
23 Commission for our first grant, I had recently been laid
24 off from a large company that had no interest in
25 investing in these technologies.

1 I had actually proposed to my former employer, a
2 very large couple that had billions of dollars, I
3 proposed to them to spend \$1 million to develop this
4 electric truck, and they didn't see the value in it.
5 They saw it as too long term of an investment, too
6 risky.

7 I then went to a small company that I had a
8 prior affiliation with, that also had at the time a
9 fairly sizeable amount of money, but they also declined
10 to invest in the electric truck idea.

11 So at that point, literally working out of my --
12 on my computer, out of my bedroom, I wrote a proposal to
13 the Energy Commission. And the Energy Commission saw
14 the value in it, and they didn't judge me for being a
15 small company or being just an embryonic company and
16 there are very few entities that will do that.

17 You know, there's a lot of talk about venture
18 capital, how wonderful venture capitalists are and how
19 they save the world, but for every proposal, a business
20 plan that a venture capital firm funds, there's a
21 thousand that aren't funded.

22 And so there's a huge need out there to fund
23 great ideas that just don't have that pedigree, yet,
24 that makes large companies or venture capitalists invest
25 in them.

1 And the Energy Commission and the ARB, through
2 the AB118 program, and programs like this really serve
3 that need.

4 And as I think you're seeing from our company's
5 success over the past year and a half, it can pay
6 enormous dividends; just have exponential return on
7 those investments if you're willing to take those risks.

8 And I think for the small amount of money,
9 relatively small part of the State budget that goes into
10 these programs, it's just a tremendous benefit
11 economically and technologically.

12 COMMISSIONER PETERMAN: Thank you. I had the
13 opportunity to meet some of my staff and I talked to the
14 gentleman who does IT for him, and he was very excited,
15 he'd graduated from college right before starting to
16 work with Mike, and he kind of took a free internship
17 and turned into a job. And it's not the type of job I
18 normally think about this program supporting, someone
19 who does IT, but small companies need folks to be able
20 to do that as well.

21 Great to hear -- is Matt still here? Matt, and
22 I would note South Coast was also a funder of Transpower
23 and, again, those are great opportunities for us to work
24 with local partners and we appreciate that partnership.

25 Matt, do you have a couple of words you'd like

1 to share with everyone?

2 MR. MIYASATO: Yeah, and I just wanted to put
3 my -- so, first of all, thank you, Commissioner, for
4 inviting the South Coast to briefly take a few words
5 before the public comment is open.

6 I do have a couple of slides I wanted to show
7 because it was touched on, former Commissioner Sharpless
8 mentioned it, Bonnie mentioned it specifically, and
9 then, of course, Peter talked about the vision document.

10 I wanted to highlight that. Well, and then also
11 Jamie put the slide for heavy duty vehicles in his slide
12 deck.

13 And what I had put in my two slides is briefly
14 the light duty version of that.

15 But I wanted to stress, this is a joint exercise
16 that the San Joaquin Valley AQMD, South Coast AQMD and
17 the ARB did to show the challenge that we're facing if
18 we're going to get to the 2050 goals for greenhouse gas
19 emission reductions.

20 But we want to be on the glide path for criteria
21 pollutant emission reductions as well to make sure that
22 we capture all the benefit from these technologies.

23 And what that analysis showed, by looking at
24 different scenarios and fleet penetration models, they
25 said -- essentially showed that you could get to the

1 2050 emissions goals, you could see there, if you have a
2 certain mix of different types of technologies.

3 But what they stressed, and in particular for
4 this slide, in 2040 every vehicle sold, every light duty
5 vehicle sold would have to be zero tailpipe emissions.
6 So, this is reflecting what's on the road at the time.

7 But every vehicle sold would have to be, in
8 2040, zero tailpipe emissions.

9 Now, the sad fact of the matter is in the South
10 Coast Basin we're going to need that 10 to 15 years
11 earlier than the statewide fleet.

12 So, we feel a huge critical urgency to trying to
13 get these vehicle technologies implemented as soon as
14 possible, and we see AB118 as being one of the prime
15 movers to help leverage the funding that we have at our
16 district, at the regional level, to move those
17 technologies forward.

18 So, in particular, if you look at the bad
19 actors, as it were, the top source of the NOx pollution,
20 you can see that heavy duty diesel trucks is the largest
21 source of NOx emissions in our region.

22 But then you can see that it's off-road
23 equipment, also, those are diesel engines.

24 And you can see passenger cars are actually up
25 there above the inventory of where we need to be by

1 2023.

2 So, Commissioner, you asked where should the
3 Energy Commission spend its funding in terms of getting
4 emission reductions by the 2023 time frame.

5 COMMISSIONER PETERMAN: That's not exactly what
6 I asked, but go ahead.

7 (Laughter)

8 MR. MIYASATO: Maybe that's how I interpreted
9 it.

10 But I would suggest the largest bang for your
11 buck are going to be in the heavy duty sector, but you
12 also have to invest in light duty and medium duty
13 because we're going to have to attack all of these
14 sectors at the same time.

15 So, in terms of the AQMD comments, I want to
16 make four brief comments. First of all, we agree with
17 the San Joaquin Valley as you're really going to get the
18 most bang for your buck if you're looking at medium and
19 heavy duty.

20 But we want you to focus on the goods moving
21 sector because that's where these vehicles are operating
22 in environmental justice communities, disproportionately
23 impacted communities, and the ports and those areas
24 along those corridors are where they're most heavily
25 impacted.

1 And so these heavy duty truck technologies that
2 can be near zero or zero are really where we want to
3 focus our efforts.

4 So, for example, we just applied for and won a
5 Department of Energy grant for zero emission Class 8
6 trucks. These are technologies that we'd love to
7 partner with the Energy Commission on.

8 But they're different flavors, as it were, so
9 it's fuel cell battery, different types of battery
10 architecture, but Class 8 container movement trucks.

11 There's also the implementation of wayside
12 power, so this gets to the point that Joe was talking
13 about, biodiesel for the long haul trucks, trucks that
14 are going to go out of our basin in the San Joaquin
15 Valley.

16 We think there's opportunities to look at
17 different architectures that apply zero emission miles
18 in specific areas, but also allows the flexibility to
19 operate at a hybrid mode, and so you get a longer range.

20 And those types of flexibilities are offered by
21 a catenary powered truck, for example, Volvo has a plug-
22 in hybrid.

23 So, again, we're looking at zero emission miles
24 where you need them and that would be in these
25 disproportionately impacted communities.

1 The second comment is that we'd love to be
2 working with the Energy Commission, as we have in the
3 past, on the development of near zero emission
4 technologies.

5 As you can see from this chart, we've got to
6 attack near zero and it's got to be pretty darn close to
7 zero, and we're suggesting about 90 percent reduction in
8 these types of technologies can get us to where we need
9 to be.

10 The third comment is please maintain your
11 support for hydrogen infrastructure. The Energy
12 Commission is the only government agency that is doing
13 that at the state level.

14 And as Commissioner Peterman mentioned, is
15 having the State put a firm flag in the ground saying we
16 are supporting this because it's so important to the
17 State, but also the country, is extremely important.

18 So, I think there's ways to monitor how your
19 dollars are being spent on hydrogen infrastructure, but
20 making sure that you maintain that support is critical.

21 Because as these slides are showing, we need
22 these technologies if we're going to meet our goals.

23 And then, finally, we just again wanted to
24 commend the Commission. This is a great idea to have
25 all of the advisors come together, provide input on the

1 plan even before the public meetings are required.

2 And we would offer, as a local air district, our
3 help, either it be through resources, technology
4 resources, co-funding partners, which we are often doing
5 on many different projects. Technical reviewers are
6 even block grant recipients.

7 So, we just want to echo our support for the
8 Commission and hope to be working very closely with you
9 and your staff. Thank you.

10 COMMISSIONER PETERMAN: Thank you. And, again,
11 thank you for hosting one of our workshops down at your
12 facilities. And I think this discussion is so good, I'd
13 like to take it on the road at some point. So, it would
14 be nice to do one of these in Southern California, as
15 well, and we can talk to you about that.

16 MR. MIYASATO: Yeah, we would love to have you
17 down there.

18 COMMISSIONER PETERMAN: Okay, terrific.

19 We're going to open it up to Advisory Committee
20 members for some questions about the medium and heavy
21 duty demonstration category.

22 And before I do, I'll note that, obviously,
23 we're running a little bit behind time which is why we
24 scheduled this one to end at 3:00, so people were not
25 here at 6:00 o'clock.

1 And I imagine we'll be able to move to the next
2 section relatively quickly since it's more focused on
3 deployment incentives.

4 But for the public who are on the line or in the
5 room, I think we'll probably get to public comment
6 around 3:30. But if you have a pressing need to make a
7 public comment or you need to get out early, please let us
8 know.

9 So, we'll just take some brief questions, now.
10 Eileen?

11 ADVISORY COMMITTEE MEMBER TUTT: Thank you,
12 Commissioner. I want to echo what Dr. Miyasato said
13 because I do think that was my point earlier on, that
14 investment in electrification in the non-road goods
15 movement sector is really how we can benefit the
16 environmental justice communities the most.

17 And I think it's just probably one of the most
18 effective ways to get these alternative -- the benefits
19 of these alternative fuels into those communities.

20 I also want to point out that there's a tie here
21 with the low carbon fuel standard. The low carbon fuel
22 standard is really a -- it's really an incentive program
23 for low carbon fuels, and electricity happens to be one
24 of those fuels.

25 Because every time an electron is sold the

1 utility gets the value of that credit and then the
2 regulation requires them to give that dollar value back
3 to the plug-in customer.

4 So, it is a direct incentive and it can be
5 leveraged in this goods movement sector as well. So, I
6 just want to make sure that this AB118 effort and, Dr.
7 Miyasato, your effort, that you kind of stay tuned to
8 the LCFS because it's another area where there could be
9 significant financial benefits or incentives. It's an
10 incentive program for all fuels that reduce carbon.

11 So, it's similar to this in that it's not --
12 it's fuel neutral, it's just if you're reducing carbon
13 then you're generating credits.

14 COMMISSIONER PETERMAN: Thank you, Eileen.

15 Anyone else from the Advisory Committee at the
16 table have a comment? Bonnie?

17 ADVISORY COMMITTEE MEMBER HOLMES-GEN: Yeah, I
18 just have a comment. First of all, I think this
19 discussion has been really helpful and, again, points to
20 the critical value of this category to helping meet our
21 State and regional air quality goals which is, of
22 course, very critical to the Lung Association.

23 And the partnership between the Air Board, and
24 the CEC and the Air Districts is really valuable. So,
25 I'm really pleased to see the Air District speakers here

1 and hope that we can continue to have a strong
2 collaboration and partnership with the Air Districts.

3 And just a quick point is that, you know, we do
4 a lot of tracking of air quality trend data around the
5 State and, of course, ozone and particle pollution are
6 both still huge challenges.

7 But in the Valley, particularly, particle
8 pollution has been a really stubborn and difficult
9 challenge. And, in fact, we have some areas in the
10 Valley where the particle pollution levels have been
11 more of an increasing trend, which is very troubling.

12 So, that's another area where these investments
13 and everything we can do to ratchet down on the particle
14 pollution from medium and heavy duty is so really
15 important to our public health goals in helping to
16 reduce asthma attacks and other health outcomes.

17 COMMISSIONER PETERMAN: Thank you. And as you
18 spoke -- and maybe this is where Tim is going to go, I
19 don't know. But as you were speaking I was, you know,
20 reflecting upon a speech I recently had to give about
21 medium and heavy duty technology.

22 And in addition to the work we're doing on zero
23 emission freight technology through the program, we do
24 provide funding in the heavy/medium duty space for other
25 alternative fuels as well.

1 And so I did want to acknowledge that and see if
2 Jim McKinney wanted to comment at all on the fact that
3 we're doing that. Because we focused really on these
4 initiatives around zero emissions and freight goods
5 movement, but we do do other goods movement work in
6 the -- I believe natural gas, correct? Jim?

7 MR. MC KINNEY: Yeah. Although I'm sorry,
8 Commissioner, I think I'm drawing a little blank here,
9 can you --

10 COMMISSIONER PETERMAN: I may be wrong.

11 MR. MC KINNEY: -- talk it up a little bit more
12 for me or --

13 COMMISSIONER PETERMAN: Well, no, we don't even
14 have to pursue it. But I did want to acknowledge that
15 we focused on goods movement, particularly around the
16 710 corridor because of 2023 goals -- not goals,
17 requirements.

18 But I did want to acknowledge that in terms of
19 this broader funding category medium/heavy duty
20 demonstration, we have done demonstration projects for
21 other fuels besides electricity, even though that has
22 been the focus of today's panel.

23 MR. MC KINNEY: Okay, I'm with you now. Okay,
24 sorry about that.

25 Yeah, as I had mentioned a little earlier in the

1 opening staff presentation, for the medium duty, heavy
2 duty advanced technology demonstration category, in
3 addition to the electric drive trucks, and thank you
4 Mike Simon for your presentation there, but some really
5 interesting demonstration projects.

6 So, Volvo -- no, Caterpillar is doing a large
7 hybrid off-road excavator. So, we had some discussion
8 about high-speed rail, so I think that's one of the
9 early possible demonstrations of an advanced technology,
10 off-road equipment that could be used in that space.

11 Volvo also has some good products going. And
12 we're continuing to fund development of large scale, you
13 know, CNG/LNG motors that can be used in the off-road
14 sector, as well as in the Class 7/8 truck sector.
15 So, I think those are some more examples of that.

16 COMMISSIONER PETERMAN: And I'll also note
17 because I see we have representation in the audience, at
18 our last Advisory Committee meeting we had a
19 representative, the name of the company -- Oberon Fuels,
20 that is focused on DME and I imagine they'll be making
21 some comments during the public comment period. But
22 that's another fuel that has come to the attention of
23 the Advisory Committee with an interest in participating
24 in more of the medium/heavy duty market.

25 Tim, did you want to make a comment?

1 ADVISORY COMMITTEE MEMBER CARMICHAEL: Yeah,
2 just briefly. We actually think the vision document,
3 and there have been several references to it and that's
4 why I wanted to comment, briefly, on this, we actually
5 think the vision document missed the mark.

6 Not in the 2050 goal, no debate about that, but
7 in what's likely to happen in the next 10 or 20 years.
8 It's the only report produced in this country, this
9 year, that doesn't show growth in natural gas this
10 decade, not even in biomethane.

11 And so we just think it's wrong on that piece.
12 And, you know, again, not quibbling with the 2050, where
13 we need to be, but how we get there, what's likely to
14 happen this decade and next. And we're submitting
15 comments on that.

16 I do want to note, though, there's a real tie in
17 to today's discussion in that one of the things that ARB
18 staff seem to be unaware of, and CEC staff maybe, also,
19 is that natural gas engine technology is developing much
20 more rapidly than the agencies realized.

21 And we expect in the next two or three years we
22 will have a near zero natural gas heavy duty engine.

23 So, you know, ARB and others have mentioned this
24 2023 we need to be a near zero engine technology, which
25 may well be very challenging for diesel. But what I'm

1 hearing from the technology folks in the natural gas
2 industry is in the next two to four years you're going
3 to see natural gas engines with conventional -- with
4 fossil fuel natural gas meeting those targets.

5 And I think there's a real opportunity for this
6 agency to support that as part of this program going
7 forward.

8 We are, at Commissioner Peterman's suggestion
9 and others, we are going to be doing technology
10 briefings for ARB staff and CEC staff in early October,
11 and getting to more of the details on this at that time.

12 COMMISSIONER PETERMAN: Very interesting
13 development.

14 Ralph?

15 ADVISORY COMMITTEE MEMBER KNIGHT: I just want
16 to take the opportunity to thank CEC and ARB, all the
17 Air Districts that are involved, that have been involved
18 in the yellow bus growth since 1997, when we put the
19 first two electric buses on the road here in California.

20 My mechanics would have rather seen them as
21 anchors out in the ocean somewhere, I think, as often as
22 what they ran, but that was the start of it.

23 And I think today we're seeing a lot of good
24 come out of it. You're going to be seeing an electric
25 bus come out of our operation very shortly, with some

1 new technology.

2 There's a lot of new technology coming around.
3 Battery technology has changed in leaps and bounds. You
4 know, we're seeing more CNG across the country now, not
5 just in California.

6 I think that we're seeing a lot of developments
7 going on with all of the products in the yellow bus
8 which, usually, we're the last one to see that kind of
9 technology come around.

10 And I guess -- I had a fact sheet that I laid
11 out today for everybody to kind of let you know where
12 we're at. We're in kind of a battle land at this point
13 in time right now.

14 The green technology, which I think today was
15 spoken about as far as first responders is concerned,
16 we've taken that as a wholehearted discussion because it
17 has -- it has a place in the yellow bus. It's the
18 safety of our kids that are on board that bus and the
19 first responders to take care of it.

20 So, you know, in this package here you're going
21 to find a letter from the commissioner denying my
22 exemption for the painted rails on the bus out there.
23 You're going to see some articles that came up in some
24 of our fleet magazines and things like that.

25 Sierra Club is involved with a couple of

1 articles in here.

2 And the latest article that just came out hit
3 the streets about 5:00 o'clock yesterday afternoon, from
4 School Bus Fleet, as far as some of our hybrid buses
5 that are parked because CHP isn't going to allow us to
6 run them with the green rails.

7 We have taken the two special needs buses and
8 covered them up with vinyl. They're coming in tomorrow
9 to check the vinyl coverage. If there's any green
10 showing anywhere on that bus, they're going to pull the
11 buses out of service.

12 So, we have been over them with a fine-tune
13 comb. Eyes, after eyes, after eyes looking for any
14 speck of green because I mean any speck will pull it out
15 of service.

16 And I guess, you know, like I said the battle
17 lines are drawn and, you know, we're doing everything we
18 can to support this because I think it's a safety issue
19 is where we're really at. It's not that I like the
20 green rails, or whatever the case may be, it's a safety
21 issue for everybody involved with this bus.

22 And I think we're missing the point. We're
23 making a political battle out of it and we're not
24 thinking of the safety of our kids.

25 And so this kind of gives you a little bit of

1 facts of where we're at there. But I think the yellow
2 bus industry is just very happy to be a part of this and
3 is going to continue to go.

4 I understand that, you know, we're struggling
5 with funding and things like that out there today, but I
6 can tell you that there's other resources that we're
7 still going to be involved with, that's still going to
8 keep us in this technology.

9 I've got the only three hybrid engines and
10 little buses that there are in the State of California
11 right now, doing a fantastic job as far as wheelchair
12 stuff is concerned.

13 So, the door is still open for us to continue
14 and stay involved with alternative fuels, and I just
15 want to say thank you for that.

16 COMMISSIONER PETERMAN: Well, thank you, Ralph.
17 And I should note it is not this Commission that denied
18 you anything, or this Commissioner.

19 ADVISORY COMMITTEE MEMBER KNIGHT: No, it's the
20 wrong commissioner.

21 COMMISSIONER PETERMAN: But I would say you have
22 been a tireless and passionate advocate for cleaner
23 school buses and we all appreciate that.

24 Let's move on to the next category or the final
25 set of presentations on vehicle deployment incentives,

1 and then after that we'll have probably a little bit
2 more time for public comment, where Advisory Committee
3 members can also feel free to comment.

4 Thank you, and we'll welcome Tim Carmichael back
5 to the podium. And by, you know, hell or high water
6 we're getting out of here at 4:00, so everyone be
7 mindful of that.

8 ADVISORY COMMITTEE MEMBER CARMICHAEL: I'll be
9 as brief as possible.

10 Just in case you forgot who our members were --
11 oh, it's Tim Carmichael with the Natural Gas Vehicle
12 Coalition.

13 So, big picture thoughts again, because I think
14 the Energy Commission asked some good questions but I
15 want to set the context here from our perspective.

16 It is a really good idea for this agency and,
17 frankly, all the agencies in the State government to
18 regularly review these programs, the process, the form,
19 and their effectiveness.

20 We appreciate that the questions that we got are
21 questioning the incentive type and level. It's totally
22 appropriate for this agency to be doing that on a
23 regular basis with this program.

24 We're glad that you asked us, but you have other
25 resources that you should also be tapping. At least at

1 one point, I don't know if you still have, but at one
2 point you've had NREL, UC Davis, and TIAX in to
3 contract. They're excellent resources, they know a lot.

4 And, you know, the travel in brackets is a
5 serious point. At least earlier this year CEC staff
6 wasn't able to travel without jumping through a whole
7 bunch of hoops.

8 COMMISSIONER PETERMAN: That's still true.

9 ADVISORY COMMITTEE MEMBER CARMICHAEL: Still
10 true.

11 These organizations are traveling all over the
12 country, frankly all over the world, all of the time.
13 They're touching information resources that my members
14 aren't touching and they're another great resource as we
15 look at are we targeting the right sectors, are
16 incentive levels right.

17 And I just want to encourage continued use of
18 them or maybe partial use of their abilities in this
19 area.

20 And then a market assessment, we think this is
21 an important piece. There should be a market
22 assessment, not just looking at natural gas vehicles,
23 but all the transportation technologies, where they're
24 most likely to succeed based on what we know today. And
25 we should be reviewing this annually.

1 So, are there better funding mechanisms? We
2 actually think that this program is the best in the
3 country right now. There are -- you know, it gets the
4 money to the users or the purchasers relatively quickly
5 and it's not a big hassle. There are hassles, it's not
6 a big hassle like some of the rebate and, you know, tax
7 deduction programs are.

8 So, all in all we think it's a good mechanism
9 and we're open to ideas on how to improve it, but we
10 think it's working pretty well.

11 How can we avoid increasing markups with these
12 incentive funds? We actually don't think the
13 manufacturers are trying to pad their prices because you
14 guys are offering money, or this program's offering
15 money to subsidize.

16 And it's my understanding that part of the CEC
17 program is a requirement to show information to the end
18 purchaser, you know, what grant was given or what
19 incentive was given and, you know, how that money was
20 used.

21 I actually thought it was actually to appear on
22 the invoice. And if I'm wrong on that, it's something
23 that I think you should consider doing as part of your
24 process because, to me, it's good housekeeping and it
25 keeps the sellers more honest, not that my members

1 aren't totally honest all the time.

2 Which types of entities, if any, need the
3 funding most? This is one of those where I'm going to
4 take the liberty to suggest maybe there's a better
5 question, than this question, to get to the same big
6 though.

7 And that is, you know, how can we have the
8 greatest impact with the funding that you have on the
9 NGV market?

10 It's important to remember that we're still
11 talking about a very small fraction of vehicles. You
12 know, the NGV numbers are 30,000 in this State, roughly,
13 out of more than 25 million vehicles.

14 But this comment applies across the board for
15 clean fuel vehicles, clean technology vehicles.

16 It's important to remember, we're still talking
17 about a very small fraction. And because we are, you
18 know, our lens is a bit different.

19 So, maximizing the CEC's impact on NGVs and this
20 is, you know, to a couple of comments that were made
21 earlier, maybe Jan's comment or question. We continue
22 to believe that you're going to get the most bang for
23 your buck if you target your money to some of the fleets
24 that have the greatest potential to buy a whole bunch
25 more vehicles than you're able to subsidize or

1 incentivize.

2 We will never get to the production numbers that
3 provide economies of scale or a tipping point with the
4 AB118 funds. If that's all we've got to work with,
5 we're never going to get there. And everyone in the
6 room, everyone in CEC should be clear on that, it's just
7 not enough money. It's enough money to help but it's
8 not enough money on its own.

9 And so that's why we think this approach of
10 looking at who has the potential to buy a lot of
11 vehicles and, if you will, somebody already used this
12 term, but it's a great term for what we're trying to do
13 here, we're trying to seed the market. Instead of
14 trying to seed a field, we're trying to seed a fleet, if
15 you will.

16 And if we can take some CEC funding or AB118
17 funding and get 5 or 25 vehicles into a fleet and help
18 them overcome that initial inertia or doubt, prove it
19 out for them in their operation and then they can go out
20 and buy 100, or 200 or 500, that's a huge success story

21 And I want to note that I think the California
22 Trucking Association could be a very interesting partner
23 here in helping to identify those fleets.

24 I've had some very positive meetings with them
25 over the course of the summer about their -- the

1 evolution of their membership and their membership's
2 thinking around clean fuels.

3 Which entitles are least likely? I would submit
4 to you that we can't afford to be thinking about it this
5 way. We can't worry about the outliers because we could
6 easily spend all of the money trying to get a few of the
7 outliers into the fold, but that's not what we need
8 right now.

9 We need to basically build the base. Go with
10 the center, go where the sweet spot is and push that
11 sweet spot and try and get it to a tipping point or to
12 where the market really takes off.

13 So, we want people who have an inclination to or
14 a real desire to go alternative fuels.

15 Do all types of vehicles need incentives? No,
16 is the short answer.

17 And some of my members are going to gasp at me
18 saying that, but that is the majority view. And let me
19 explain a little bit.

20 Take refuse trucks for example, take transit
21 buses for example, they're on the order of 80 percent to
22 90 percent of their purchases this year -- as an
23 industry in California, 80 to 90 percent will be natural
24 gas.

25 CEC AB118 money subsidizing those truck or bus

1 purchases is not going to have a significant impact.

2 And the next question is the fuel costs impact,
3 you know, natural gas roughly \$2 a gallon equivalent to
4 anywhere from \$1.90 to \$2.50, let's say, compared to
5 \$4.00 diesel.

6 So, yes, the need is reduced, but it's not
7 eliminated.

8 And an important point for this group to take in
9 is you would think, with the price differential of half
10 for the alternative fuel, that everybody would be lining
11 up to buy these vehicles.

12 But the reality in the marketplace is you've
13 still got some unknowns. You know, you've got a new
14 technology, you've got resistance to change. And, you
15 know, another reality check is fleet managers are not
16 your typical early adopters, it's just not their nature.

17 I mean there are some sitting in the room, but
18 Ralph will tell you he's an exception. And he's
19 bringing others along but that's not -- you know,
20 they're not normally out there saying, oh yeah, I want
21 to be the first to try that technology. It's more rare
22 than it is common.

23 Is it appropriate to reduce the incentive
24 amounts? Maybe, and here it's important to look at
25 specific scenarios, and I've only highlighted a couple.

1 But there are, as several people have talked
2 about, these long haul trucks. There are long haul
3 truck fleets that are running high mileage, lots of
4 hours, and getting a low fuel price because of the
5 volume of fuel they're buying.

6 They are going to be able to pencil out a return
7 on their investment in two years or less. I'm not
8 saying don't ever give one of those companies an
9 incentive, but recognize how good the economics are for
10 them already.

11 Here's an example where seeding a fleet that has
12 500 trucks, but hasn't yet taken the plunge to try an
13 alternative fuel, you know, basically pushing them and
14 saying, look, we're going to help you do your first
15 couple dozen with the understanding that if it works,
16 you're going to go big into this.

17 And so there's still opportunity there but
18 there's much more need when you look at a medium -- you
19 know, I think it was Jamie that showed a slide of, you
20 know, the Class 3 to Class 6 truck, size truck, your
21 local beverage distribution, your regional box truck
22 delivering stuff within an air basin or metropolitan
23 area.

24 They don't do as many miles, they don't have as
25 good a fuel price, and there's probably greater impact

1 from a CEC incentive grant to get them to try an
2 alternative fuel because their payback, on their own, is
3 a much longer period of time, five, six years, maybe.

4 What's the right incentive level? It used to be
5 the \$64,000 question, now that just seems like not
6 enough money.

7 But consider letting the marketplace decide. I
8 mean my friends, who have been working with me a long
9 time on this sort of stuff, would say how could Tim be
10 saying let the market decide, because that line doesn't
11 work in a lot of examples.

12 But in this case I think it does because how do
13 we know at this table what the right incentive level is?
14 How do even my members know, really, what the right
15 incentive level is.

16 So, one way to tease this out, and I'm not
17 suggesting that you shift your whole program to this,
18 I'm suggesting you try -- you might try this as a way to
19 tease this out.

20 Set an up-to incentive level for one class of
21 vehicles or one segment of the vehicle pot and then
22 solicit proposals and see who gives you the best
23 proposal. And by best, there's multiple factors you
24 have to consider, but one of the priorities should be
25 who's going to put the most vehicles on the road?

1 And let's maximize, you know, let's leverage
2 this to the maximum extent possible.

3 Here again, this is where market assessment
4 could be really helpful in helping develop this.

5 That's it.

6 COMMISSIONER PETERMAN: Great Tim, thank you.
7 Well, first of all, I didn't realize that staff gave you
8 so many questions and thank you for being so diligent in
9 responding. I mean these are the things that we'll sit
10 around and talk about, and try and get some handle on,
11 and really appreciate your attention to the specific
12 requests.

13 I'm going to say let's turn to Lesley's
14 presentation, now, and then we can have questions for
15 both Tim and Lesley at the same time, just to make sure
16 we get through all the presentations in a timely manner.

17 ADVISORY COMMITTEE MEMBER GARLAND: Following
18 Tim Carmichael is like following Elvis.

19 (Laughter)

20 ADVISORY COMMITTEE MEMBER CARMICHAEL: I can't
21 sing.

22 ADVISORY COMMITTEE MEMBER GARLAND: Yes, but
23 you're a rock star, honey.

24 (Laughter)

25 ADVISORY COMMITTEE MEMBER GARLAND: All right,

1 I'm Lesley Garland, I'm with the Western Propane Gas
2 Association. I'm actually representing two
3 organizations today, the Western Propane Gas Association
4 and the Western Propane Education and Research Council.

5 Both of them are operated out of our office but
6 they're technically two separate organizations.

7 The Association represents about 125 propane
8 companies that operate in California. Basically, these
9 are the companies that you see their trucks every day on
10 the road, selling gas for your barbecue, or your house,
11 or for automobiles.

12 Our annual sales in California, about 576
13 million gallons statewide, we're number one in the
14 nation in terms of how many gallons we're selling.

15 And then into what the -- American Petroleum
16 Institute puts together statistics every year. The most
17 recent statistic showed that 54 million gallons were
18 going into what's considered internal combustion fuel,
19 in their eyes.

20 But most of that is where we know is going into
21 the forklift market, so probably 70 percent of that,
22 quite frankly, is going into forklifts and the rest are
23 going into the on-road vehicles.

24 The Western Propane Education and Research
25 Council, this is a separate organization, not dues-

1 based, and basically we're able to fund propane safety
2 and R&D activities. We get our funding from an
3 organization back in Washington D.C. They give us about
4 a half-million dollars a year to distribute to different
5 programs and projects.

6 One of the things that I think you would be
7 interested in, our industry has been incentivizing the
8 purchase of propane vehicles since 2010. We've invested
9 \$295,000 into this so far, at \$1,000 per vehicle.

10 It's a little bit different; it's not a straight
11 rebate program. What you have to do is give us a little
12 bit of information about the vehicle, again to try and
13 center it around the R&D aspect. Since most of these
14 vehicles are right off the assembly line, just certified
15 by the ARB, what we're trying to do is get some feedback
16 from people of what they like, what they don't like, how
17 many gallons of gas it's using, what sort of maintenance
18 issues that they're having, if any, hopefully none.

19 And then what we're able to do is give that back
20 to the OEMs to give them a little bit of feedback
21 straight from the horse's mouth and, hopefully, that
22 helps them out when they're developing new vehicles.

23 I was also given a list of questions, much like
24 Tim Carmichael. I sort of compressed some of these
25 questions together so that it would be a little bit

1 easier and I sort of reworded. Sorry, Charles.

2 So, the first question was what's causing load
3 demand for propane incentives?

4 I have a little bit of a problem. You guys gave
5 me money and I can't figure out how to get it away from
6 you.

7 (Laughter)

8 ADVISORY COMMITTEE MEMBER GARLAND: I can't tell
9 you how grateful we are that you believed in us. You
10 have -- for the past two years you've really stuck with
11 us, you believed in us when nobody else did. And,
12 frankly, you guys were the only people, the first people
13 ever in the history of propane vehicles to give a
14 program like this to our industry. And for that I am
15 eternally grateful to the CEC staff for everything
16 you've done.

17 But, unfortunately, it's been slow going and
18 we've really -- I know between my headaches and your
19 headaches it's been very frustrating. And so I'm here
20 to sort of see what we can do to shake it loose.

21 So, what's causing the low demand? There's a
22 couple of factors that we -- or four factors, five
23 factors that I think is factoring in.

24 Number one are budgets. As Mr. Knight will tell
25 you, with the school districts the first thing that's

1 easiest to cut is transportation funding and so this is
2 sort of playing into how much we're able to deplete out
3 of the program, especially for the school buses.

4 We also have hesitant fleet buyers due to the
5 economy. I know I'm panicking every time I look at my
6 bank account and I can only imagine what businesses are
7 doing.

8 And so when they're making decisions about
9 buying vehicles they're going to go for the cheapest and
10 the easiest thing they possibly can, and alternative
11 fuels is a little bit scary right now to some of them.

12 Vehicle availability is also a big issue. One
13 of the big things that we were looking forward to when
14 this incentive program first launched was a freightliner
15 heavy-duty project.

16 This project is now almost two years late due to
17 a number of factors. We're now -- they're now taking
18 orders and they're going to be delivering in the second
19 quarter of 2013.

20 I was hoping by now that we would have a couple
21 of hundred of these on the road in California but,
22 unfortunately, not.

23 Roush, the E and F Series availability, they've
24 had some issues getting CARB certifications. This is a
25 fairly consistent problem in the entire alternative fuel

1 universe is working through the Air Resources Board
2 process.

3 And I think a few of you that are here, a few
4 weeks ago were down in El Monte, where the Air Resources
5 Board had a workshop to discuss some of these issues.
6 And I think in 2013 they're going to also address it to
7 sort of see what can be done to possibly streamline the
8 process to make it a little bit easier, especially for
9 some of the more niche certifications.

10 There's a difference between the propane buyer
11 and the CNG/LNG buyer. From what I'm being told by some
12 of the OEMs propane is more of a retail transaction
13 while CNG/LNG is more project based.

14 The propane buyers seem to want a lot of the
15 bells and whistles added into the vehicle. They want a
16 lot more customization. But CNG/LNG, it's more
17 standardized when they're making their purchases. And
18 so that's also slowing us down.

19 The infrastructure for new fleets, this is what
20 I like to call the chicken and the egg problem because
21 we have the vehicles, and we have infrastructure, and
22 now we're trying to figure out how to get them together
23 and marry that. And I'll talk to you a little bit more
24 about that in just a minute.

25 And again, the CEC reservation process; we've

1 now determined that there's a little bit of a hiccup in
2 trying to get the reservation process for the incentives
3 to sort of flow downhill. And I'll address this in just
4 a few minutes, too.

5 Is the buy-down problem hindering vehicle cells?
6 Oh, no, huh-uh, no, absolutely not. This program has
7 incentivized some vehicle cells that ordinarily they
8 would have stayed with gasoline and diesel because it's
9 easy and it's cheap. And it's also spurred the cells of
10 propane school buses again in areas where they
11 desperately need any extra funding they possibly can for
12 those school buses.

13 However, the buyers and the dealers have to be
14 willing to work through the process. Like anything,
15 you're going to have to put some elbow grease into this
16 and there's a lot of people who just have thrown up
17 their hands and said, oye, government, and then they
18 walk away.

19 We also have determined, based on talking to
20 some of the dealers that are working with us,
21 reservations could be tied up with one dealer but
22 another dealer has an opportunity to sell. But because
23 of some of the limitations in the program, even though
24 one dealer has an opportunity, if the other dealer has
25 the reservations it's hard to get this transferred over

1 so that the other dealer can have the opportunity to
2 make the sale right then and there.

3 So again, this is something I'll address in just
4 a minute on some solutions, potentially.

5 Again, I was also given the question which
6 entities are least likely to make the switch without the
7 incentives?

8 Sorry Tim, I actually -- I picked a couple of
9 winners and losers.

10 The three that we identified as being probably
11 least likely without the incentives, the school
12 districts again, shuttle services. We're definitely
13 focused -- our vehicles, we don't have any real
14 traditional consumer vehicles. Almost all of our
15 attention is focused towards the fleet market.

16 And the airports are one of the biggest targets
17 that we have, especially in the metropolitan areas where
18 there's considerable air quality issues. These shuttle
19 fleets, it's the Super Shuttle, it's the Hertz buses,
20 it's anything that's taking you out to the off-site
21 parking and things like that. Those are great
22 especially for the F Series vans or E Series vans.

23 And the fleet operations, again the problem that
24 we're seeing is that a lot of these fleets, in a
25 difficult economy they're worried about moving to

1 something new just because of the financial risk. And
2 so we've seen that, for instance, Direct TV is another
3 big fleet that we're very excited that they're using the
4 propane vans, now.

5 There's a lot of other fleets that are coming on
6 and this money is one of the things that really is
7 making it easy for them to make a decision, and do
8 something right for the economy, especially in Southern
9 California.

10 Why should it be considered in the future?
11 Number one, eliminating the diesel school buses from the
12 fleets. Mr. Knight was very eloquent in his description
13 of why this matters.

14 The propane buses are the only alternative,
15 alternative fuel in some of these bus types geared for
16 the special needs students.

17 For those of you who know a little bit about the
18 special needs, a lot of these kids have health issues.
19 If you can get them as far away from diesel or as far
20 away from, you know, anything fumes as possible, that's
21 great.

22 And if you can put them in a propane bus, it's
23 just one more way to keep them just a little bit
24 healthier when you're taking them to and from school.

25 Again, improving the air quality at the

1 metropolitan airports and the fleets operating in the
2 metropolitan areas.

3 I added in here Roush, who provides the Ford E
4 and F series at this point, they're estimating that this
5 incentive program in 2013 would help them deploy 500
6 vehicles, which would eliminate 3 million gallons of
7 traditional petroleum.

8 Assuming, again that these vehicles have an
9 estimated lifespan of seven years, that's 21 million
10 gallons of traditional petroleum fuel that's eliminated.

11 This is again, as Tim said, we're -- it is a
12 very small number but we're doing our part to try and
13 help move the needle in the right direction.

14 And again, just to remind you, the propane
15 reduces the carbon dioxide by 12 percent, the NOx by up
16 to 20, carbon monoxide by up to 60 percent, and the
17 greenhouse gases by up to 17 percent so, again, just
18 trying to do our part to help out.

19 A very wise man once told me don't come to me
20 with your whining and complaining, come to me with
21 solutions. So, these last couple of slides we have a
22 couple of ideas of how we might be able to do things a
23 little bit better.

24 So, number one, allow the manufacturer of record
25 for the fuel system to manage the reservation system,

1 instead of the OEM.

2 So, in one situation I could explain to you,
3 Roush CleanTech actually builds the vehicles and sends
4 them to Ford dealerships in California. And right now
5 the Ford dealerships are the ones that make the
6 reservations through the system, and not Roush.

7 Direct TV right now is delaying an order for 60
8 units because they can't find a Ford dealer that can
9 actually sell them the vehicles all at once. They're
10 having to try and figure out a way to do this piecemeal
11 and it's just becoming almost impossible.

12 So, if this was actually shifted to Roush,
13 instead of the Ford dealerships, Roush would be able to
14 sort of fulfill this order all at once and direct it to
15 the proper Ford dealership to be the delivery point.

16 I have -- during public comment a representative
17 from Roush, by the name of Brad Beauchamp is here, and
18 he would like to talk a little bit more about this, so
19 I'll back off away from the subject and let Brad take
20 this.

21 COMMISSIONER PETERMAN: And Lesley, in the
22 interest of time, actually if you can just maybe focus
23 on the bold and --

24 ADVISORY COMMITTEE MEMBER GARLAND: Yes.

25 COMMISSIONER PETERMAN: -- and then we'll make

1 sure, if you can make sure we have a copy of the
2 presentation because all of this will be helpful for
3 staff as they draft the next Investment Plan. Thank
4 you.

5 ADVISORY COMMITTEE MEMBER GARLAND: Right. And
6 the second suggestion is just to eliminate the GVWR
7 thresholds. Again, trying to figure out the sweet spot
8 of what's the right number and, basically, if maybe
9 somewhere between the \$6,000 and \$10,000 and just have
10 it one universal instead of breaking it up.

11 And what can we do? My job is to try and figure
12 out solutions for the industry and make your lives
13 easier, too.

14 So, one thing that we're trying to do between us
15 and especially working with Roush right now, since they
16 have a majority of the vehicles, we're trying to play
17 matchmaker.

18 When someone is -- when a fleet is interested to
19 make sure that they have the fuel provider there to give
20 them the options of these are all the companies that are
21 in your area that can provide the fuel. You know, and
22 trying to get those companies to be more proactive and
23 reach out to the fleets.

24 We're trying our own awareness propane for our
25 propane providers to get down to the ground level, the

1 guys that are actually selling the gas, to make sure
2 that they're -- when they're reaching out to potential
3 fleets that people know that this money exists.

4 And also, our parent organization back in
5 Washington D.C., they're continuing funding for the
6 development of new vehicles. So, we're not stopping,
7 more vehicles are coming down the pike and it's just a
8 matter of time and getting the right certifications so
9 that we can offer them.

10 This is me. I will just, again, thank you for
11 your patience, thank you for everything that you've done
12 to help us and beg you, please, don't give up on us.
13 Let's see if there's some way that we can make this work
14 in the future.

15 COMMISSIONER PETERMAN: Thank you, Lesley.
16 Thank you for the presentation, it's good for all of us
17 to get an update on what's been happening.

18 We have a fair bit of public comment so if
19 anyone has an immediately quick question for Tim or
20 Lesley on the incentives, from the Advisory Committee,
21 let's ask that now. Otherwise, we're going to turn to
22 public comment.

23 Ralph?

24 ADVISORY COMMITTEE MEMBER KNIGHT: Just one
25 quick one. The threshold of that 14,000 pounds or under

1 that's a big one in the school bus industry because our
2 older vans, the '87 and stuff that we still run today
3 with special needs, our vehicles would fall into that
4 category of not being heavy enough, so we have no way of
5 getting rid of those with any initiatives.

6 COMMISSIONER PETERMAN: Thank you. Tim?

7 ADVISORY COMMITTEE MEMBER CARMICHAEL: Very
8 briefly. Now that Bonnie's back in the room, I'll just
9 speak to one other point I didn't make.

10 One of the challenges for the medium duty/light
11 duty natural gas industry, the outfitters, has been the
12 ARB certification OBD process.

13 And I just want to make the group aware that
14 we're in active conversations. You know, Lesley alluded
15 to this, but we're in active conversations with ARB
16 staff about some near-term changes and some regulatory
17 changes to that program that will address the timing
18 issues that we've had with model years and being able to
19 get CEC funding, and actually get vehicles sold, as well
20 as the cost involved in getting a certification today.

21 And so I'm hopeful that a year from now we'll
22 have a much more streamlined process there with ARB and
23 you'll see a lot more of these vehicles coming.

24 COMMISSIONER PETERMAN: Thank you. I have a
25 number of blue cards here for public comment, which

1 we'll move to, as well as, of course, if any of our
2 Advisory Committee members have any comments.

3 I should say, though, I have a speaking
4 engagement I'll need to leave for in a few minutes, on
5 my other area topic, renewables, but the public comment
6 should continue. And my advisor Leslie is here, and
7 staff is here to hear everything, and they're really the
8 ones who are going to be putting this together, so
9 that's going to be important, and there will also be the
10 transcript.

11 But let me just say now, if I'm not here when
12 this finishes, thank you so much for your participation.
13 I have found this very valuable. I hope you have as
14 well.

15 If folks enjoyed having this meeting, please let
16 us know and we'll try to do similar ones. But I think
17 this gives us some insight before we go into the next
18 investment planning process.

19 And also, I've appreciated over the day how much
20 work the AB118 program actually does, how many successes
21 it has had. And I just want to personally thank staff
22 for all their efforts because they're in the process of
23 managing all these contracts, working with stakeholders,
24 and while developing the next plan.

25 And I think you can participate in some

1 processes of government that are not very transparent,
2 where you get something and then that's it. And we've
3 made a real effort here to have a public process to be
4 responsive, so I ask that you acknowledge that and
5 appreciate that.

6 And as our staff has always been available to
7 answer questions, and they talk to many of you on a
8 regular basis, but also be mindful of the amount of time
9 that takes for them. Every time they answer a call,
10 they're pulling themselves away from processing
11 something else. But I know they find the interaction
12 valuable.

13 And so appreciate the new leadership we have on
14 board with the program and I look forward to seeing you
15 all at our next meeting, and having more time to spend
16 with you.

17 So, I'm going to turn the comment cards over to
18 Pat to manage. But, first, we ask folks to keep their
19 comments as short as possible, but within three minutes.

20 And our first comment will be from Colleen Quinn
21 of Coulomb.

22 MR. PEREZ: Thank you, Commissioner. Let's
23 begin with Colleen.

24 MS. QUINN: Hi, can you hear me, Jonah?

25 MR. PEREZ: Yes, we can.

1 MS. QUINN: Okay, thank you. Commissioner,
2 thank you very much. I apologize I cannot be there in
3 person but I wanted to say a few things because I wanted
4 to update the Committee on, first of all, the
5 investments you've already made.

6 Coulomb has been a partner with the Energy
7 Commission in various AB118 funding opportunities, so I
8 wanted to share with you and update on those
9 investments, as well as briefly talk about the market,
10 the PEV charging market as we see it, and a quick
11 overview of some new initiatives we would suggest.

12 COMMISSIONER PETERMAN: Colleen, if you can do
13 that in under three minutes God bless you, good luck.

14 MS. QUINN: I can do it, I can do it, trust me.

15 So, we're headquartered in California, we're a
16 Silicon Valley company, I think that's important because
17 my message today is to tell all of you that your
18 investment in EV infrastructure has gotten the desired
19 effects in the State.

20 With the \$15 million that we received from the
21 DOE, along with the \$4 million in matching funding from
22 the CEC, we've attracted over \$70 million in private
23 capital.

24 The investments have created hundreds of jobs
25 and EV infrastructure going forward will continue to

1 stimulate local economies.

2 Charge point has grown over the life of the CEC
3 grant a thousand percent. We've added facilities in
4 California and increased our footprint three times.

5 We've completed the grant in 12 cities and in
6 California we have deployed over 1,300 stations.

7 So, I wanted just to let you know that others
8 have talked about their success, but I just wanted to
9 put that on the record as well.

10 So, the California market, briefly, it remains
11 the focal point for electric vehicles. Today Pike
12 Research Report has come out and indicated that one in
13 every four plug-in vehicles sold in the U.S. from 2012
14 to 2020 will be in California. This is great news.

15 The number one objective of AB118, as well as of
16 I'm sure this Advisory Committee, is to support policies
17 that will stimulate cars in the market.

18 So many have talked about AB118 and ongoing
19 programs, I agree with Eileen's comments about workplace
20 charging. We've had a great deal of experience in this
21 and we think that's an area that still needs to have
22 focus.

23 Another area is MDUs. We're working with the
24 City of San Francisco on a program and I'll put more
25 information specifically on that.

1 One thing I just want to talk about is a future
2 area of focus. We see a big area of need to focus on is
3 really the EV driver. Currently in California there is
4 some confusion, many of them can't find a station when
5 they want to. And then when they get there, they can't
6 really use it. So, many of them have to have multiple
7 charging service providers and carry lots of different
8 credentials. They go to multiple sources to find
9 stations.

10 And they don't have a pervasive way to determine
11 if stations are in use prior to arriving. It's a little
12 bit similar to the cell phone roaming across different
13 networks.

14 So, I wanted to let you know that the EV
15 industry is focusing on interoperability under the
16 leadership of NEMA.

17 I've talked to Lesley, Richard Lowenthal, we've
18 talked to her about some specific ideas that we have
19 that the California Energy Commission can do to assist
20 in the critical work and collaboration necessary to
21 develop standards in between companies for communication
22 interface to enable roaming, real-time mapping, and
23 access for all drivers to stations.

24 Thank you, I'll stop there, I appreciate your
25 time. And I will submit these, also, for the record.

1 COMMISSIONER PETERMAN: Thank you.

2 MR. PEREZ: Okay, thank you, Colleen.

3 The next speaker is Trina Martynowicz.

4 MS. MARTYNOWIEZ: Martynowicz.

5 MR. PEREZ: Okay, I'm sorry about the corruption
6 of your last name.

7 MS. MARTYNOWIEZ: Hi, Trina Martynowicz with the
8 U.S. Environmental Protection Agency, EPA Region 9.

9 Thank you for inviting us here today and we
10 appreciate the opportunity to comment on this Investment
11 Plan. I'll keep this brief.

12 We commend California for devoting attention to
13 resources, to an admirable goal; transitioning to clean,
14 secure and sustainable transportation and goods movement
15 systems.

16 As the CEC considers how to allocate the program
17 funding, we suggest that the Commissioner considers
18 EPA's National Ambient Air Quality Standard attainment
19 status of prospective projects, areas in its decision
20 making process.

21 While California has made dramatic improvements
22 to air quality over the past decade, still much more
23 work is needed.

24 Most of the State's residents that live in ozone
25 and particulate matter non-attainment areas are putting

1 them at risk of premature mortality, bronchitis, heart
2 attacks, asthma, and lost work and school days.

3 While we estimate that the Clean Air Act
4 requirement prevented over 160,000 deaths nationwide,
5 just in 2010 alone, Californians still face severe
6 health impacts from depredated air quality.

7 The California Air Resources Board estimates
8 that 9,000 people die prematurely each year in the State
9 as a result of this particulate pollution.

10 Thus, EPA and California share a very strong
11 interest in reducing particulate matter emissions from
12 the larger sources.

13 As you're all aware, transportation and goods
14 movement activities are responsible for the majority of
15 California's NOx emissions, a precursor to ozone
16 formation, and they're also significant sources of
17 particulate matter.

18 For California to come into compliance with
19 existing air quality standards, as it was discussed
20 today, it is very clear that emissions from on- and off-
21 road vehicles must dramatically drop.

22 Many of the alternative fuel technologies that
23 the Commission is considering and will continue to
24 consider begin to reduce air emissions. However, many
25 of the projects in past investment plans have simply

1 served as a bridge technology in the intermediate term,
2 while vehicle emissions will eventually need to drop to
3 near zero, or zero tailpipe emissions to protect the
4 health of California residents.

5 This is particularly true in the South Coast and
6 the San Joaquin Valley, also which we heard today, two
7 of the most polluted air basins in the country.

8 With this in mind, EPA recommends that the
9 Commission prioritize the program's resources for those
10 technologies and fuels that will generate long-term
11 improvements in air quality and employ them in the areas
12 most impacted by poor air quality.

13 Technologies that yield zero and near zero
14 tailpipe emissions provide significant greenhouse gas,
15 criteria pollutant and toxic air contamination emission
16 reductions, as well as the most impactful energy
17 security benefits.

18 The South Coast and San Joaquin Valley Air
19 Basins will not be able to meet their air quality
20 standards unless these zero and near zero emission
21 technologies are widely deployed.

22 Promoting the cleanest technologies in these
23 regions is a focus of our Clean Air Technology
24 Initiative, which is comprised of our two agencies,
25 along with ARB, the South Coast and the San Joaquin

1 Valley Air Districts.

2 EPA appreciates the Commission's support in this
3 Clean Air Technology Initiative and recommends that you
4 consider deploying the cleanest technologies and fuels,
5 primarily those that use little to no fossil fuel, in
6 the poor air quality areas throughout the State.

7 As the Commission considers petroleum use in air
8 quality impacts, you're also aware of other partners and
9 funding sources with very common objectives. Such as
10 EPA's other activities, Department of Energy and
11 Transportation, the ARB, various California Air
12 Districts, San Pedro Bay Ports, for example.

13 As the Commission is most interested in
14 greenhouse gas and petroleum reductions, we encourage
15 the Commission to support technologies that reduce not
16 just greenhouse pollutants, but these criteria air toxic
17 emissions.

18 In doing so, we'll strengthen opportunities to
19 leverage funding from other government agencies and to
20 better understand air quality benefits of the CEC-funded
21 technologies on a statewide scale.

22 In addition to zero emission tailpipe
23 technologies, EPA is very supportive of demonstrating
24 and deploying low-emission biogas projects to produce
25 transportation fuels, as well.

1 Waste-based biomethane feedstocks are some of
2 the most lowest carbon intensive fuels, whether they're
3 generated from a biogas facility at a waste water
4 treatment plant, landfill, dairy or stand-alone
5 digester.

6 Given the multiple environmental and economic
7 co-benefits associated with reusing what would otherwise
8 be a waste material, this is also a very worthy
9 investment to transform into a transportation fuel.

10 Once again, EPA applauds the Commission's
11 efforts and activities, and fully supports you as you're
12 moving forward to a near zero and zero emission
13 technology transfer in California. So, thank you.

14 COMMISSIONER PETERMAN: Thank you for being
15 here.

16 MR. PEREZ: Okay, next speaker, Russell Teall.

17 MR. TEALL: Great, thank you. My name is Russ
18 Teall; I'm the President of Biodico. We build on and
19 operate renewable fuel and renewable energy facilities.

20 Our most recent project is at Naval Base Ventura
21 County and we're supported by two CEC grants, one from
22 the AB118 and one from the PIER program.

23 I think one of the conclusions in listening
24 today is that the AB118 budget needs to be in the range
25 of \$500 to \$600 million.

1 (Laughter)

2 MR. TEALL: It's like any business, you know, we
3 have unlimited opportunities, but limited resources.
4 And so there needs to be a very judicious balancing and
5 weighing of a cost benefit analysis.

6 And I very much support Joe's approach to this.
7 I think that a metric is a starting point for analysis,
8 let's look at things objectively. Look at the different
9 objectives of AB118 and see how each of the pathways
10 serves to most cost effectively achieve those goals.

11 One of the advantages of attending the ethanol
12 workshop at the beginning of August was understanding
13 how a sister fuel to biodiesel is approaching this
14 problem and I think their approach, basically of doing
15 bolt-on technologies to existing infrastructure is a
16 very cost-effective way of making the transition to a
17 lower carbon intensity fuel.

18 And we've coined a term as part of the Low
19 Carbon Fuel Standard Advisory Panel, of ultralow carbon
20 intensity. There's no legislative or regulatory
21 definition of it, but I was asked by the staff to
22 prepare a spread sheet there, answering the question of
23 how much fuel is it going to take under each of these
24 pathways to meet the Low Carbon Fuel Standard
25 requirements.

1 And we created a spread sheet, basically that
2 looks at, from the IEPR projections, how much diesel is
3 going to be consumed between now and 2020?

4 What are the ramping up requirements of the Low
5 Carbon Fuel Standard from a quarter of a percent in the
6 beginning to 20 percent at the end point?

7 How many carbon intensity points are we going to
8 need for compliance by regulated parties and then look
9 at each of the pathways?

10 All right, and some of the pathways for diesel
11 fuel, for instance in California, from petroleum
12 resources, have a carbon intensity of 94.

13 Soybean-based biodiesel is in the range of 64 to
14 70. Biodiesel made from used cooking oil is 11.76.

15 So, the volumes of fuel that are actually
16 required are much less if we can achieve ultralow carbon
17 intensity fuel, which we define as a carbon intensity of
18 20 or less, and that's what our industry is trying to
19 accomplish.

20 The full compliance, under the Low Carbon Fuel
21 Standard, for the diesel portion of it, if you just did
22 it with biodiesel with ultralow carbon intensity, would
23 require a 12 percent blend of biodiesel statewide.

24 So, you know, we're not even approaching the B20
25 standard. What we used in the white paper was B5

1 because that takes us through a 2016 compliance scenario
2 for the Low Carbon Fuel Standard without having to
3 address any sort of infrastructure compatibility, NOx
4 issues, et cetera.

5 And that's accomplished through the three
6 recommendations, which basically boil down to looking at
7 low indirect land use change feedstocks, which is the
8 single largest factor in the carbon intensity of
9 biofuels.

10 Production technology, so that we're using
11 energy efficiently and for renewable resources, and
12 sales or distribution, which is looking at a distributed
13 network of biodiesel facilities, so that the jobs
14 created, the feedstocks, the production, and the
15 distribution all occur within a very tight radius, so
16 that we're minimizing transportation.

17 So, in conclusion, I would just like to say we
18 very much support the Vice-Chairman of the California
19 Biodiesel Alliance and there's a lot of work put into
20 the survey that Joe references. And I urge you to very
21 carefully consider any recommendations made here. Thank
22 you.

23 MR. PEREZ: Thank you. The next speaker,
24 Rebecca Boudreaux.

25 MS. BOUDREAUX: Good afternoon, I'm Rebecca

1 Boudreaux; I'm the President of Oberon Fuels.

2 And it's exciting today to hear the spectrum of
3 fuels and the progress that's being made in different
4 areas.

5 So, I just wanted to provide a brief update on
6 an emerging fuel, dimethyl ether or DME, and the work
7 that's being done there.

8 So, in its most fundamental format, DME is a
9 small molecule, handles a lot like propane, and it's a
10 carbon, oxygen and carbon.

11 And because there's no carbon-carbon bond when
12 it combusts in an engine it produces no soot, so there's
13 no black smoke coming out of a truck.

14 And so this, also, because there's no
15 particulate matter it's easier to control the NOx.

16 And so it can be made from a variety of
17 feedstocks, you need methane and carbon dioxide. So, it
18 can be made from inexpensive natural gas from the
19 pipeline, it can be made from biogas from animal waste,
20 municipal waste, as well as for wastewater treatment
21 plants.

22 And so what progress has been made? I spoke in
23 previous meetings about what's going on with DME, but we
24 are working at Oberon Fuels, we're a San Diego-based
25 company, and launching DME as a transportation fuel

1 first here, in North America and, specifically, in
2 California.

3 So, we are building a production unit right now
4 in Imperial Valley. We'll be producing fuel in April of
5 2013. And by 2014, in the first quarter, we'll be
6 producing that fuel from cow manure, so using biogas
7 from cow manure to produce the fuel.

8 This fuel will be used in demonstrations in
9 engines, so engine manufacturers have been working in
10 this space for about 15 to 20 years, now. Volvo is the
11 leader in this, far and away, and have a project in
12 Europe right now where they're using bioDME to run ten
13 commercial heavy duty trucks, and DHL's pulling several
14 trucks, as well as the Swedish Postal Service and a
15 lumber company.

16 And so, also beyond the work that we're doing on
17 the fuel side, as well as other engine manufacturers, as
18 well as Isuzu Hino, or some of the others.

19 The international organization, ASTM, has
20 recognized that this is an emerging fuel and has
21 initiated this summer a task force to write a
22 specification for DME as a fuel.

23 And so we are working closely, it's actually
24 under Subcommittee HNASTM, under the Propane
25 Subcommittee because its safety profile is very similar

1 to that.

2 And so I just wanted to give you a brief update
3 and thank the Commission for their continuing support in
4 looking at all emerging fuels, and we look forward to
5 competing in upcoming solicitations. Thank you.

6 MR. PEREZ: Thank you very much, Rebecca.

7 Matt Miyasato, are you still here or did you --
8 he's in the hall. Did he -- okay, we'll hold off on
9 him.

10 We have Mr. Bennett -- Michael Bennett, excuse
11 me, on WebEx. Michael, are you --

12 MR. BENNETT: Hello.

13 MR. PEREZ: Hello.

14 MR. BENNETT: Yes, can you hear me?

15 MR. PEREZ: Yes, we can. Please proceed.

16 MR. BENNETT: Okay, great, just want to make
17 sure the communication is okay.

18 Okay, my name's Michael Bennett and I represent
19 an aviation community composed of AOPA, Aircraft Owners
20 and Pilots Association, the EAA, Experimental Aviation
21 Association, and various other aviation groups.

22 I'm just going to summarize quickly my points,
23 and I'll put them in an actual written comment so that
24 everybody can see it.

25 But the main -- and thanks, Rebecca, for

1 mentioning ASTM, I'm a member of that on the D02
2 Committee.

3 But what I wanted to say for public comment is
4 that we're undergoing a major problem out in the
5 aviation and boating community in that ethanol, you
6 know, as it's being produced as a direct fuel additive
7 is not the best that we can do, and the reasons are many
8 for that.

9 Ethanol is just, to me, not the best fuel. It
10 can be used to make better fuel, cleaner burning fuel,
11 for example bioETBE. You can make bioacculate which is
12 a good clean burning and is at a premium at this point.

13 But how it impacts aviation is the following;
14 when you go to fill up an airplane at an airport that is
15 a piston-powered airplane, you're faced with only one
16 fuel. You can only buy one fuel and that fuel is a
17 leaded fuel.

18 And in our attempts to get a cleaner burning
19 fuel without the lead, and lead has a whole bunch of
20 issues associated with it, that when we tried to get an
21 unleaded fuel on airports we meet a lot of resistance,
22 not only from the CARB people, not so much CEC, but
23 others in the oil industry in trying to get a cleaner
24 burning fuel on the airport.

25 We know it's available, it's been available in

1 Sweden for 20 plus years. So, we fail to understand how
2 industry can help our group.

3 Now, the reason aviation, I think, is probably
4 important, let's go to the slide and I've been, you
5 know, looking at this all day. There's a slide that I
6 forget who presented it, but the top sources of NOx show
7 aircraft listed just below the locomotives and just
8 above the passenger cars.

9 Now, I'm not sure of the accuracy of that data
10 that surrounds that slide but if, in fact, aircraft
11 emissions cause a lot of NOx problems, then I would
12 think that aviation ought to have a role at this table.
13 And I don't see any of the Advisory Board members who
14 are qualified in the aviation sector to speak on
15 aviation fuels, be it turbine fuels or be it piston-
16 powered fuels.

17 Now, I realize that the aviation fuel sector is
18 part of FAA and now EPA, because of the finding of risk,
19 but now we have elements of the Proposition 65 lawsuits
20 against lead, et cetera.

21 What the pilot community is saying is that we
22 would love to have that fuel on the airport to reduce
23 emissions of lead, but yet we can't get cooperation from
24 either agencies to allow us to affect that to happen.

25 So, I would recommend, highly, that someone be

1 represented on this Committee because if, in fact, NOx
2 is contributed by the aviation community, airplanes you
3 call it, or aircraft, more than automobiles, then you
4 would think you'd want to have representation from that
5 group.

6 Thanks very much.

7 MR. PEREZ: Thank you.

8 Okay, next speaker, Sashu Constantine.

9 MR. CONSTANTINE: Thank you. Thank you for this
10 opportunity. I'm Sashu Constantine, Director of Policy
11 for California Center for Sustainable Energy, newly
12 minted in that roll.

13 I will try to keep this under a minute given the
14 time pressure, but I am very encouraged by all the
15 presentations I heard today.

16 We are actually working on the ground in almost
17 all of these areas. We worked with the San Diego
18 Airport, for example, to implement some of their clean
19 vehicle retrofits and upgrades, that was very
20 successful.

21 And working across the spectrum here of
22 technologies to improve our transportation fleet.

23 But I want to focus just quickly, in the last 30
24 seconds that I have, on the information, the data that
25 we're getting from the Clean Vehicle Rebate Project,

1 which we're the statewide administrator for, to which we
2 owe thanks to the CEC and ARB for funding through these
3 funds.

4 We are getting up to 800 rebate applications
5 processed a week. We are about to hit the 10,000 rebate
6 that we processed through that program. This is a
7 success story that's in under two years, again a result
8 of this funding, the result of forward-thinking
9 planning.

10 We think there are many avenues that are being
11 indicated by the data coming out of this survey and
12 we've had the chance to talk with staff about that. A
13 lot of it was touched on earlier by different
14 presentations about education, about access to rates and
15 understanding rates, about access to charging
16 infrastructure and what that means for vehicle
17 deployment.

18 So, I encourage you to take a look at that and
19 we will try to enter that into the record, although
20 we've already introduced it to staff, so I feel
21 confident that you'll hear more about it, as well as at
22 the Governor's EEV conference you're going to hear about
23 that.

24 By the way, Mr. Carmichael's presentation
25 mentioned NREL and UC Davis. There's another partner

1 that was left off of that list, it's CCSE. We work with
2 them and this survey data is available to them, as well.

3 So, thank you all.

4 MR. PEREZ: Thank you.

5 The next speaker is Brad Beauchamp.

6 MR. BEAUCHAMP: I'm Brad Beauchamp. I'm the
7 Fleet Account Manager here in the west for Roush
8 CleanTech. We do the propane vehicles.

9 And as Lesley and Tim had pointed out, we get
10 the AB118 funding in the deployment stage. And a lot of
11 you have had interaction with us, here in this room, in
12 California. I CARB with many states, but I've spent a
13 lot of time here.

14 And we thank the ARB and the CEC for the funding
15 mechanism to be able to get these vehicles on the road.

16 We're right now at the second year of a five-
17 year deployment strategy. We're starting to make
18 inroads, but we really need that seed funding to
19 continue on for propane vehicles. We do dedicated
20 propane. We like all technologies, Roush has been
21 involved in every single one of these fuels and
22 technologies, we support them all in some way, shape or
23 form, or half supported them all in some way, shape or
24 form.

25 But for Class 2 to Class 6 vehicles this is the

1 easiest, least expensive way to reduce petroleum
2 consumption and improve air quality. This is the cheap
3 date. This is one where when you fund it and you get
4 the vehicles out on the road, the actual end-users over
5 time can actually save money and eventually will win off
6 deployment money. But we do need it through this five-
7 year deployment strategy.

8 We're launching the heavier side vehicles, the
9 over 14,000 GVW vehicles coming up here in 2013. It's
10 critical to have propane providers.

11 And also, small business, as well as medium and
12 large business be able to take advantage of this.

13 We often, in our deployments of propane, also
14 cohabitate with other electric technologies, as well as
15 natural gas technologies, municipal school district
16 arenas, and we need that to continue on, as well.

17 So, we've got a lot of really good things coming
18 here in California. The difficulty is, as everybody
19 knows in this room, balancing CARB, the funding
20 mechanism and how it's put together.

21 And myself, even though I'm actually a fleet
22 account manager, I spend more time dealing with the
23 administrative side of putting these deals together. We
24 like to put these vehicles on the road.

25 I'm actually, also looking at someone here, and

1 for those of you on the phone you can't see me, you're
2 on the webinar, that's been in the deployment row, and
3 all the technologies, and have been in the R&D row in
4 all the technologies, and have also been in your shoes,
5 similar to the CEC funding these opportunities.

6 So, I know all sides of it and we need this
7 funding, critically, to continue for the next two to
8 five years as we deploy in the marketplace and get
9 stronger.

10 And as you can see, we're doing hundreds of
11 vehicles and they're to all kinds of users, from retail
12 buyers all the way out to large fleets, large Fortune
13 500s.

14 So, with that, our propane providers are also
15 very supportive, there's hundreds of them here in
16 California. Everything we do in California, here,
17 generates additional revenue to other parts of the State
18 and we'd love to continue having that progress.

19 So, thank you for your support and I kept mine
20 brief.

21 MR. PEREZ: Thank you very much.

22 And once more, Matt Miyasato, did you want to
23 add any additional comments? I don't -- he left, okay.

24 And let me ask one more time, I've run out of
25 blue cards here, anybody else in the audience that has

1 not spoken today, that would like to comment and provide
2 any input.

3 Okay, Charles, let me check with you online,
4 anybody else that has not spoken?

5 Okay, with that I'd like to do a little quick
6 wrap-up, remind everybody that we are still entertaining
7 comments and would welcome your input by no later than
8 September 28th. So, please provide any additional
9 comments you have in writing to the docket, for the
10 benefit of all parties to review and see.

11 And just to remind you, the instructions for
12 providing that input are contained in the workshop
13 notice for this forum.

14 Let me ask if the Advisory Committee members
15 have any last-minute comments or reaction before we
16 adjourn?

17 ADVISORY COMMITTEE MEMBER TUTT: I just want to
18 thank you, Pat, for all of your hard work and
19 commitment. We're going to miss you a whole lot and I
20 hope you stay in this space in some way, shape or form.

21 MR. PEREZ: Thank you very much.

22 ADVISORY COMMITTEE MEMBER CARMICHAEL: The same
23 over here, Pat, nice job.

24 MR. PEREZ: Okay. Well, let me just end by
25 saying it has been a real pleasure working with this

1 Advisory Committee over the past three years and,
2 certainly, my staff and the many stakeholders that are
3 in the audience today I've learned a lot. It's been a
4 wonderful journey.

5 I look forward to eventually returning to the
6 energy field, hopefully in a year or two, and you'll see
7 me somewhere else. In the last 32 years, I can't get
8 energy out of my blood. So, I hope when things calm
9 down I'll have an opportunity to interact with all of
10 you once again. And keep up the fabulous work and
11 continue delivering the public benefits that we're all
12 after.

13 So, thanks again and with that we'll go ahead
14 and adjourn.

15 (Thereupon, the Workshop was adjourned at
16 4:15 p.m.)

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