

ADVISORY COMMITTEE MEETING  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of: )  
 )  
Alternative and Renewable Fuel )  
and Vehicle Technology Program )  
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CALIFORNIA ENERGY COMMISSION  
HEARING ROOM A  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA

MONDAY MARCH 7, 2011

9:00 A.M.

Reported by:  
Kent Odell

CALIFORNIA REPORTING, LLC  
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COMMISSIONERS (and their advisors) PRESENT

James D. Boyd, Vice-Chairperson and Presiding Member,  
Transportation Committee

Tim Olson, Advisor to Commissioner Boyd

AB 118 ADVISORY COMMITTEE MEMBERS PRESENT

Shannon Baker Branstetter, Consumer Union

Joe Norbeck, Professor, University of California Riverside,  
Director of (former) Environmental Research Institute

Jack Michael, Recreational Boaters of California

Lesley Brown Garland, Western Propane Gas Association

Jananne Sharpless, Board of Director, Western Electricity  
Coordinating Council

Howard Levenson, California Department of Resources  
Recycling and Recovery

Brian MacMahon, Labor and Workforce Development Agency

Justin Ward, Advanced Program Powertrain Manager, Toyota  
Motor Engineering and Manufacturing North America

Eileen Tutt, California Electric Transportation Coalition

Tom Cackette, Chief Deputy Director, Air Resources Board

Daniel Emmett, Energy Independence Now

Bonnie Holmes-Gen, American Lung Association

Peter Cooper, California Labor Federation

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

Andrew E. Panson, Air Resources Board

Tim Carmichael, California Natural Gas Vehicle Coalition  
(on WebEx)

STAFF PRESENT

Pat Perez

Charles Smith

Jim McKinney

Peter Ward

Aleecia Macias

Leslie Baroody

ALSO PRESENT:

Public Members

Shane Stevens-Romero

James Chen

Jim Williams

David Tulauskas

James Halloran

Mary Hvistendahl

Michael Hursh

Jon Van Bogart

James Robbins

Chuck White

Joshua Mermelstein

Linda Collins

Michael Eaves

Audrey Taylor

Daniel Moscaritolo

ALSO PRESENT (Cont.)

Public Members

Stevin Ellis

Bill Elrick

Todd Murdoff

Matt Miyasato

John McNamara

Larry Osgood

James Provenzano

Robert Garzee

Edward Heydorn

Paul Staples

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

2 9:11 A.M.

3 VICE-CHAIRPERSON BOYD: Good morning, everybody.  
4 I was going to apologize for being tardy, but we've taken  
5 the usual ten minutes to settle down.

6 One of the disadvantages of having this meeting in  
7 this building is that I'm easily accessible, so I was tied  
8 up with a couple of issues relating to tomorrow's business  
9 meeting that kept me from being here promptly at 9:00 or  
10 before.

11 But, anyway, welcome everybody to this meeting of  
12 the Alternative and Renewable Fuel and Vehicle Technology  
13 Program Advisory Committee.

14 Now, I've said your name once, formally, you'll be  
15 the AB 118 Advisory Committee henceforth.

16 Thank you very, very much for being here. We have  
17 appreciated and appreciate even more your participation in  
18 the conduct of this program. It's been an interesting few  
19 years since we first started this program.

20 The good news is we're able to still be here to  
21 talk about this program and that there still is a program in  
22 these otherwise tough times in Sacramento.

23 Although, I saw some distressing e-mails over the  
24 weekend that make this program a candidate for donation to  
25 some causes going on here in Sacramento. But that's yet to

1 be determined, so I don't think I can shed anymore light on  
2 that statement, unless somebody slips me a note throughout  
3 the day.

4 But I guess in a debate over a particular piece of  
5 legislation that needs funding, in the Capitol, somebody  
6 tossed this program's title on the list of potential funding  
7 candidates. So, we'll keep you posted.

8 I think the first order of business and, by the  
9 way, for those of you in the audience that don't know who's  
10 speaking right now, or those out there in the wireless land,  
11 listening in, this is Jim Boyd, Vice-Chair of the  
12 Commission, and the sole standing member of and the Chair of  
13 the Transportation Committee of the Commission at the  
14 present time.

15 We have four out of our five Commissioner  
16 positions filled at the present time and have not been able  
17 to make committee assignments pending either, A, receipt of  
18 another Commissioner or, B, some resolution of who's going  
19 to be on what committee for this Commission in the near  
20 term.

21 So, not being a stranger to this process or to  
22 government in general here I am alone, again, conducting  
23 this meeting. And it's a distinct pleasure to be among  
24 friends, so many friends in doing this.

25 So, I think we should move to introductions.

1 We'll go around the table to my left and then call for those  
2 who are on the phone. The only one I know of, got an e-mail  
3 from this morning, stating his absence was Tim Carmichael,  
4 who, he and his family spent a miserable weekend with the  
5 flu and Tim said he'd be calling in. So, we'll here shortly  
6 whether he made it or not and perhaps some of the others.

7 So with that I'll turn to Bonnie and let her  
8 introduce herself.

9 MS. HOLMES-GEN: Good morning. I'm Bonnie Holmes-  
10 Gen with the American Lung Association in California.

11 MR. EMMETT: Hi, I'm Daniel Emmett, with Energy  
12 Independence Now.

13 MS. TUTT: Eileen Tutt with the California  
14 Electric Transportation Coalition.

15 MR. MICHAEL: I'm Jack Michael, with representing  
16 Recreational Boaters of California.

17 MR. MAC MAHON: Brian MacMahon, Executive  
18 Director, California Employment Training Panel, representing  
19 Labor and Workforce Development Agency.

20 MR. COOPER: Peter Cooper, with California Labor  
21 Federation's Workforce and Economic Development Department.

22 MS. GARLAND: Lesley Garland, CEO, Western Propane  
23 Gas Association.

24 MS. SHARPLESS: Former Chair of the Air Resources  
25 Board, former Energy Commissioner, consultant, and a Board

1 of Director on the Western Electricity Coordinating Council.

2 MR. NORBECK: My name is Joe Norbeck. I am at the  
3 University or from the University of California, Riverside.

4 MR. CACKETTE: Hi, I'm Tom Cackette, I'm the Chief  
5 Deputy Director of the Air Resources Board.

6 MR. JUSTIN WARD: Hi, I'm Justin Ward, I'm a Vice-  
7 Chairman of the California Fuel Cell Partnership and also  
8 Advanced Power Train Program Manager for Toyota.

9 MR. SHEARS: John Shears with CEERT, the Center  
10 for Energy Efficiency and Renewable Technologies and I'm the  
11 program lead for clean transportation at CEERT.

12 MR. LEVENSON: Thanks, John. Howard Levenson,  
13 with CalRecycle.

14 MS. BAKER-BRANSTETTER: Shannon Baker-Branstetter  
15 with Consumers Union.

16 MR. PETER WARD: Hello, Peter Ward, Program  
17 Manager AB 118.

18 MR. PEREZ: Good morning, Pat Perez, Deputy  
19 Director for the Fuels and Transportation Division of the  
20 Energy Commission.

21 MR. MC KINNEY: And Jim McKinney, Office Manager  
22 for the Emerging Fuels and Technologies Office.

23 MR. OLSON: Tim Olson, Advisor to Commissioner  
24 Boyd.

25 VICE-CHAIRPERSON BOYD: Okay. Thank you,

1 everybody.

2           Now, on the phone, I'm not sure how we're going to  
3 do this, but are people live on the phone who can identify  
4 themselves, members of the Advisory Group? Is there anyone  
5 on the --

6           MR. CARMICHAEL: Good morning, this is Tim  
7 Carmichael.

8           VICE-CHAIRPERSON BOYD: Good morning, Tim.

9           MR. CARMICHAEL: With the California Natural Gas  
10 Vehicle Coalition.

11          VICE-CHAIRPERSON BOYD: Hope you and your family  
12 are feeling halfway decent today.

13          MR. CARMICHAEL: Thank you.

14          VICE-CHAIRPERSON BOYD: Anyone else?

15          Okay. Thank you, everybody.

16          Well, with those introductory remarks, if nobody  
17 has any immediate questions of me, I'm going to turn the  
18 agenda over to Charles Smith, who's the Project Manager for  
19 this year's investment plan, to take us through the agenda  
20 and schedule.

21          So, Charles, take it away.

22          MR. SMITH: Thank you, Vice-Chair Boyd.

23          So, this is our agenda. We're running, perhaps, a  
24 little bit behind schedule, but not too far off. At,  
25 hopefully, around 9:20 we'll begin Pat's presentation on the

1 previous Advisory Committee meeting and the review.

2 Followed by that, Jim McKinney will take us  
3 through a program status update for the AB 118 program.

4 From 10:00 to 10:40 I'll be providing a review of  
5 the staff draft 2011-2012 Investment Plan.

6 From that point we will go into Advisory Committee  
7 discussion of the investment plan. We will break for lunch.  
8 From there we will continue Advisory Committee discussion of  
9 the investment plan and we'll have a period of public  
10 comment thereafter.

11 Also, a brief note, because we have a lot of  
12 material to get through this morning, we are hoping that  
13 perhaps we could ask that we get through all of the slides,  
14 first, before we move into the Advisory Committee discussion  
15 of the Investment Plan and the program.

16 As for the broader schedule for the Investment  
17 Plan's adoption, this is our first Advisory Committee  
18 meeting on the Investment Plan. After this meeting we'll be  
19 revising the document into a committee draft.

20 In early May we hope to hold our second Advisory  
21 Committee meeting. We're still looking at possible dates  
22 and locations. One option might be to hold a meeting in  
23 Southern California.

24 In late May we plan on hosting a series of remote  
25 public workshops around the State.

1           In June we should release the Commission report  
2 and we'll hold a public hearing on that report. And then we  
3 anticipate Business Meeting adoption of the Investment Plan  
4 at the June 29<sup>th</sup> Business Meeting.

5           So with that, I think the next presentation is for  
6 Pat Perez.

7           MR. PEREZ: Okay. Thank you, Charles, and good  
8 morning, Advisory Council members, as well as Vice-Chair  
9 Boyd, interested stakeholders and general public.

10           Let me, first of all, open by thanking staff for  
11 producing this draft plan on a very accelerated and  
12 compressed schedule.

13           As you recall, under Senate Bill 855 we were  
14 required to actually move up the schedule for releasing this  
15 draft Investment Plan to the Legislature and I'm happy to  
16 report that we delivered this draft to them three weeks  
17 ahead of schedule in terms of meeting the March 14<sup>th</sup>  
18 deadline.

19           And that would not have been possible without the  
20 hard work of my staff. And if I may, I'd like to have them  
21 stand, just for a moment, to acknowledge the many staff that  
22 contributed to getting this report out in 90 days, quite an  
23 effort.

24           Please stand, I just want to thank you.

25           (Applause)

1 MR. PEREZ: Also like to note that this was  
2 accomplished with fewer resources and, also, in the absence  
3 of a critical Commissioner, somebody we dearly miss, Anthony  
4 Eggert. And we remain optimistic that, hopefully, he will  
5 join us in the future as a Commissioner. Because I know,  
6 for poor Commissioner Boyd, the workload has doubled for him  
7 and Advisory Tim Olson in his absence. So, it's been a real  
8 challenge.

9 But in the end I feel we have a very good product  
10 to open the discussion and deliberations as we move forward  
11 in finalizing the Investment Plan.

12 Also, one thing that I would like to raise is, and  
13 I'm very excited, and at least we still have Mr. Norbeck  
14 with us, but after two very long distinguished careers, he  
15 just retired from UC Riverside last Wednesday, I believe,  
16 and should be acknowledged and congratulated for that  
17 effort. So, congratulations, Joe.

18 (Applause)

19 VICE-CHAIRPERSON BOYD: Let the record show there  
20 have been two rounds of applause in this meeting. That  
21 doesn't happen too often.

22 MR. PEREZ: So, anyway, what I thought I would do  
23 is just quickly summarize what has happened since the  
24 November 30<sup>th</sup> meeting that we held with this advisory group,  
25 some of the lessons we learned, as well as some of the steps

1 that we're moving forward to not only improve our internal  
2 processes, but also get a funding out on the road a little  
3 bit quicker than what we experienced in the last year.

4 Certainly, our goal is to identify these  
5 challenges and issues that are influencing how quickly we  
6 get funds out on the street.

7 You provided us with many recommendations and  
8 ideas on how to improve our program's success. We heard  
9 across the board from awardees, as well as Advisory  
10 Committee members, members of the public, the Legislature,  
11 in particular, about how frustrated they have been in terms  
12 of our ability to move money out. And I think we're moving  
13 in the right direction.

14 So, this is just kind of a quick summary here of  
15 some of the things that were topics at the November 30<sup>th</sup>  
16 meeting. I'm not going to go into great depth and rehash  
17 what those issues were. But, rather, focus on some of the  
18 mechanisms, and steps and activities that we're engaged in  
19 for moving us forward.

20 In terms of some of the key factors affecting our  
21 disbursement of funds, of course it's been the time spent on  
22 solicitation, development and proposal review, as well as  
23 the development of the individual agreements that we have  
24 with those that have been awarded funding.

25 Certainly, we learned from last year that the

1 broadly written solicitations were a real challenge for us  
2 in that we received many, many proposals.

3           And, secondly, it was difficult to evaluate  
4 broadly-based solicitations, which consumed a tremendous  
5 amount of staff time.

6           And so our objective, in terms of moving forward,  
7 is to more narrowly focus and target our solicitations so  
8 that we get fewer, but very high quality proposals to  
9 review. And, therefore, not only can we review them quicker  
10 but, hopefully, get them to the Commission Business Meetings  
11 for action and approval, so that we can get the money out  
12 quicker.

13           Certainly, the lack of technical experts in some  
14 of the technology areas has hampered our efforts. And,  
15 certainly, having the hiring freeze doesn't help in those  
16 efforts, so we will probably be relying a little bit more on  
17 some of our technical assistance contracts to provide  
18 expertise as well as, perhaps, relying on some of the  
19 national laboratories to provide assistance in that effort.

20           In terms of agreement development, we've been  
21 active in terms of turning the inside-out of our internal  
22 processes for review and approval. We are still facing  
23 staff resource constraints but, hopefully, we'll get some  
24 exemptions and relief in the future to help us in those  
25 efforts.

1 I think some of the California Environmental  
2 Quality Act reviews and analysis took a little bit more time  
3 than we anticipated, as well as the Localized Health Impact  
4 reporting. We're looking at a variety of strategies to  
5 streamline and improve how quickly we process and evaluate  
6 applications that are coming through the Energy Commission.

7 In terms of the solicitation development and  
8 proposal review, we're looking at a number of remedies.  
9 I've already talked to you a little bit about the more  
10 tightly focused solicitations, with more defined technology  
11 categories. We're also looking at the scoring criteria and  
12 perhaps establishing minimum performance standards where  
13 appropriate.

14 And not only that, but we're also looking at  
15 increasing the size of the awards so that we get larger  
16 projects that have more regional impacts and benefits.

17 We're also looking at, as Joe suggested on  
18 November 30<sup>th</sup>, the use of pre-proposals to better assist us  
19 in screening proposals, so that we don't necessarily have to  
20 review and evaluate every project that is coming to the  
21 Energy Commission. This not only helps us, but also the  
22 applicant as to the expectations in terms of what we're  
23 looking for.

24 We're also looking at continuous solicitations and  
25 vehicle buy-down programs, expanding our partnerships with

1 ARB and others for pass-through grants and, also, spreading  
2 solicitations across multiple funding years.

3           One of the things that we have learned through our  
4 process is that we have many projects that are coming  
5 through, but we don't have sufficient funding on a  
6 particular fiscal year. But we're also finding that some  
7 projects may drop out, or we have additional funds that were  
8 not anticipated, that we can actually go back and fund some  
9 of the projects that met our minimum scores, that were very  
10 good projects, but we did not have funding for. And so,  
11 we're going back and reinvestigating how we can use funding  
12 to cover those solicitations. And then, also, spreading the  
13 solicitations across multiple funding years.

14           In terms of agreement development, with respect to  
15 CEQA and match expenditures, as you recall, we had a healthy  
16 debate, I might say, back on November 30<sup>th</sup>, regarding CEQA  
17 and the use of match funding expenditures, and the timing of  
18 that.

19           This Commission has pretty much decided that we  
20 will allow match expenditures after CEQA is complete and  
21 project approval has occurred at a Business Meeting, but  
22 that we would allow at-risk match funding to go ahead and be  
23 employed prior to the executed agreement. So, that provides  
24 a little bit of relief.

25           And, furthermore, internally within the Energy

1 Commission, we have a process in place, now, to take some of  
2 our highest priority projects and review and expedite the  
3 approval process internally, working closely with our Legal,  
4 Grants and Loans Office, and technical staff.

5           So, to some extent, concurrent review has helped  
6 us reduce the schedules there.

7           And then, finally, modifying solicitations to  
8 better define what is required under CEQA, so that the  
9 applicant appreciates and understands what the obligations  
10 are for CEQA compliance in the application, itself.

11           We feel that by outlining that in the future  
12 applications that will assist applicants with better meeting  
13 the needs when they understand up front what those  
14 requirements are in CEQA.

15           And then, also, laying out the conditions under  
16 categorical exemptions, that will be important, too. And we  
17 hope in future applications to clearly articulate that so  
18 that anybody competing for these funds understands what the  
19 requirements are, as opposed to the current process, where  
20 you learn more about the CEQA at the tail end and what the  
21 requirements are. So, hopefully, that will assist  
22 applicants.

23           In terms of the agreement development processes,  
24 as I noted earlier, particularly with the request for using  
25 match funds that we were able to identify some high profile

1 projects in the month of December, and expedite the review,  
2 and get those projects out through a triage program, a  
3 project that we established internally and I'm confident  
4 that that will continue.

5           As I noted earlier, we are working to fill staff  
6 vacancies. We actually have fewer staff than we did back in  
7 November, when we last reported. But we're optimistic that  
8 things will hopefully change, and that we'll be able to get  
9 more staff in here.

10           Also looking at creating a single point of contact  
11 within the Commission for each respective award that we  
12 submit, very important. We heard from this advisory  
13 committee, and others out there that have received funding  
14 in the past, that they would like to have one staff person  
15 identified for following through step A through Z as their  
16 application moves through the multi-levels of review and  
17 approval here, at the Energy Commission. So, that's one of  
18 our other objectives.

19           And then, also, we are considering the use of  
20 draft grant agreements that we could provide applicants, who  
21 are submitting grant proposals to us, so they can see what  
22 constitutes a successful grant application. And, hopefully,  
23 that will also remove the confusion that we've had in the  
24 past.

25           With respect to the propane and natural gas

1 vehicle funding delays that we've experienced, in late March  
2 the Energy Commission will be issuing a new buy-down  
3 incentive program for gaseous fuel vehicle developments.  
4 Hopefully, that will be out in the next few weeks and we'll  
5 get moving on that.

6 As I mentioned earlier, localized health impact  
7 report requirements have been a challenge for us. We're  
8 looking at different ways to improve how we evaluate  
9 different projects and communicate back to applicants as to  
10 what those requirements are, and identify areas where we can  
11 streamline, and review, and issue our decisions on these in  
12 a quicker manner.

13 So, with that I'm going to turn it over to program  
14 staff, and I believe Mr. McKinney is going to follow up and  
15 provide some of the details of the programs and activities  
16 that are underway.

17 So, thank you.

18 MR. MC KINNEY: Good morning, Jim McKinney here.  
19 So, I'm going to give a brief walk through of the status of  
20 our program.

21 If I could also follow Pat's lead, I really want  
22 to acknowledge the hard work of our staff in preparing this  
23 report. Our two supervisors, Jennifer Allen and Aleecia  
24 Macias really carry a yeoman's workload. And it's quite a  
25 challenge when you've got continually diminishing staff

1 resources and it's very difficult to exemptions from the  
2 hiring freezes.

3           And Charles Smith and Miles Roberts, too, the  
4 project manager and assistant project manager, and all our  
5 technical leads. It's really been a team effort and I'm  
6 quite proud of our staff for all the hard work that they've  
7 done in this.

8           And our leadership under Pat Perez, now, is really  
9 making this possible. It's a tough time working for the  
10 State, now, and Pat is continually optimistic and continues  
11 to work to remove barriers for us. So, thanks, Pat.

12           This slide summarizes the main solicitations that  
13 we've done from the period 2008 through 2010. So, again,  
14 the ARRA or federal cost sharing was a big one, so \$36.5  
15 million, nine projects.

16           As we go through this, there's part of your  
17 handout, we call it the compendium, I think it's entitled  
18 "Summary of Projects," we have 69 projects total that have  
19 been funded. I think it's great reading, it's really  
20 exciting to see the project -- no laughing, Tim.

21           There's really just some tremendous companies, and  
22 technologies, and new processes that we're able to fund  
23 through this program so I, personally, find it good reading.

24           Biomethane, again, has been a big award category.  
25 And, again, the potential of that fuel to make biogas from

1 waste space feedstocks is tremendous, probably the single  
2 lowest carbon intensity value for anything we've got out  
3 there in terms of near-term commercialization.

4 Medium and heavy duty vehicles, we're putting a  
5 lot of effort into that and continuing. Peter Ward is  
6 leading the effort on our big buy-down deployment program  
7 for medium duty, heavy duty natural gas-powered trucks. And  
8 Aleecia Macias is going to be doing the same for the big  
9 demo solicitation coming out for electric drive.

10 We're putting a lot of funding into fuel  
11 infrastructure and that covers the board, EVs, natural gas,  
12 E-85 stations, biodiesel, biomass-based diesel.

13 Biofuels production, a lot of great ideas out  
14 there. It's a very tough capital market to raise money in.  
15 It's also we're not quite at the point of, you know, having  
16 the markets recognize the lower carbon intensity values for  
17 the products we are capable of making here, in California.  
18 But there's a lot of potential.

19 And as I think Charles will explain in more depth,  
20 we see a lot of promise in that.

21 Manufacturing, I think former Commissioner Eggert  
22 put it best, he wants the West Coast to be the center of  
23 gravity in the EV universe, so we're putting a lot of money  
24 into that.

25 The ethanol production incentive we'll talk about

1 later on. And then hydrogen fueling stations, we make very  
2 good progress in funding some stations.

3 So, the total on that is 154 million and 69  
4 projects.

5 For public agency agreements, workforce training  
6 and development, again, Darcy Chapman is our technical lead  
7 on that and Aleecia Macias. It's been a very successful  
8 program.

9 Fuel standards development, that's to get hydrogen  
10 fueling standards and dispenser standards in, and with a  
11 grant food and agriculture.

12 A small amount of money for the Plug-In Prius  
13 demonstration.

14 We were very pleased to be able to share \$2  
15 million with the clean vehicle rebate program through AQUIP,  
16 at the Air Resources Board. That's, again, two million.

17 Bill Kinney has been leading an effort to put  
18 together some state-of-the-art research on woody biomass  
19 sustainability harvesting issues, and that one is in the  
20 pipeline.

21 UCI STREET model, it's a very exciting tool for  
22 modeling how you plan for fueling infrastructure for the  
23 whole suite of alternative fuels, that contract is nearly  
24 ready.

25 We're also finishing up our agreement with NREL to

1 get their vast expertise and technical ability to support  
2 us.

3           And then hydrogen fueling stations, Toby Muench  
4 has also got an exciting project in the works with AC  
5 Transit.

6           So, in total, 2008 through 2010, we've had eight  
7 solicitations, 313 proposals reviewed, total funding request  
8 of 1.2 billion. We were able to make 69 grant awards,  
9 totaling 154 million, 28 million for the ten agreements I  
10 just summarized, that totals to 182.

11           So, for the '08-'10 period we are at a level of  
12 96.3 percent. It took us a lot longer than we thought, it's  
13 been hard work but, again, there's a lot of really good  
14 projects in there.

15           So, currently, here's the status. So we have  
16 about a quarter of those agreements nearly finished. Fully  
17 half are still in internal development. But of the 37 what  
18 we call completing agreements with the grant recipients,  
19 about 20 of those are in the final stages in our grants  
20 office, so those awardees should be getting the agreement  
21 soon.

22           Unfortunately, we still have a quarter of the  
23 projects undergoing their CEQA review. And I was just  
24 talking to Chuck White, earlier, from Waste Management, down  
25 in Simi Valley, he's probably got our -- I think I single

1 biggest award. A very exciting landfill gas to biogas  
2 project, tremendous attributes to that project, and it's  
3 just big and CEQA is a -- there's a lengthy process.

4           So, I'll go through these quickly. And again,  
5 these are a summary of the main awards and these are listed  
6 in more detail in the funding summary.

7           So, the ARRA projects, I've already mentioned  
8 them.

9           Nearly 3,000 EV charge points. We're strongly  
10 supporting the initial deployments of the Leafs, and the  
11 Volts, and the other vehicles coming into the market.

12           We're substantially increasing the number of E85  
13 stations in California, 75 here and then we're doing an  
14 additional ten through another grant. Big, big  
15 demonstration project down in Southern California, with  
16 South Coast, on a series of median duty and heavy duty  
17 natural gas and EV trucks. And, again, a lot of money into  
18 workforce development and training.

19           For the infrastructure, one of our biggest award  
20 categories, 32 grants, almost \$32 million. This is in  
21 addition to the previous slide, with the ARRA ones. So, 500  
22 EV charge points statewide, another 500 new ones coming in,  
23 19 new and upgraded natural gas stations, ten new E85  
24 stations, and then the 11 new and upgraded hydrogen fueling  
25 stations that we're getting out this year.

1           Again, biofuels, just tremendous, tremendous  
2 opportunities in California to take advantage of the waste  
3 space resources coming from the ag sector, which is one of  
4 our biggest sectors here, in California. Food waste, animal  
5 waste, human waste, through the wastewater treatment plants,  
6 a lot of good work to do there.

7           The ag and forestry sectors have very large  
8 volumes of waste material available for processing. Under  
9 the leadership of Vice-Chair Boyd, and the Bioenergy Action  
10 Plan, we think we're making very good progress in that area.

11           And then fuels from algae continues to be an area  
12 of interest.

13           For the EV manufacturing, it's been fun at our  
14 business meetings to hear from folks with small companies,  
15 or larger companies, really out on the cutting edge for  
16 electric vehicle development and component development here,  
17 in California.

18           So, batteries, electric motorcycles, drive train  
19 components, all the way up through class 8 electric trucks.

20           Median duty, heavy duty vehicles, again, we see a  
21 lot of potential in this sector because of their high fuel  
22 consumption patterns and historically high criteria, and PM  
23 emissions levels. A lot of good work to do here to get  
24 alternative technologies and fuels into that vehicle class.

25           So, in terms of where we are now for -- so I'll go

1 down a little bit. So, that covered the period 2008 through  
2 2010.

3 I want to very briefly give you a status report on  
4 where we are now, '10-'11.

5 First, due to the downturn in the economy and the  
6 lower levels of vehicle registration fees, and fees through  
7 the smog check program, our program had to take a 20 percent  
8 reduction. That probably will be true, I'm not an  
9 economist, this isn't a forecast but, you know, we've got a  
10 lot of work to do to get the economy turned around in  
11 California. So, 20 percent reduction there, that turned out  
12 to be what we called the haircut, 21.6 million equally  
13 spread across all categories.

14 About 1.7 million for what we call monitoring  
15 valuation -- validation and evaluation.

16 And then something that we did that was clever,  
17 and Tim Olson thinks we're spearheaded this, what we call  
18 head room. We were able to borrow from this year's funding  
19 level, 13.8 million, and we got nine more projects, six new  
20 projects and three augmentations through in the current  
21 fiscal year. So, we feel good about that one.

22 So, total funds available for this year just over  
23 \$70 million.

24 This is our schedule for upcoming solicitations.  
25 And just let me say, again, we felt it very important to

1 figure out the process for converting awards to grants  
2 before we tackled the next round, so we really have not done  
3 very much in terms of solicitations this year. With the  
4 exception of the first two, the two big ones totaling nearly  
5 \$30 million for the medium duty/heavy duty vehicle sector.  
6 So, again, Pete Ward is spearheading the gaseous fuels  
7 solicitation, and that should be on the street later this  
8 month.

9 Aleecia Macias is our point person for the  
10 electric drive and gaseous fuels demo category.

11 Hydrogen fueling, we have another 10 million for  
12 fueling stations and support infrastructure.

13 For biofuels, so that's ethanol -- I mean,  
14 gasoline substitutes, diesel substitutes, renewable natural  
15 gas, biogas production and feasibility.

16 That 36.7 figure, that's what we're going to do is  
17 merge the '10-'11 money with the '11-'12 money. The same  
18 for alternative fueling infrastructure, we're going to try  
19 to combine those so we can lighten the load on staff.

20 PEV planning support, Leslie Baroody, our point  
21 person -- did you raise your hand there earlier, Leslie --  
22 and Jennifer Allen put together a really nice solicitation  
23 to distribute one million to local governments to prepare  
24 for or help prepare for EV readiness.

25 And we have our innovative technologies cost-

1 sharing category and market and program support. That's our  
2 tech support contracts, sustainability, public outreach and  
3 marketing.

4           And that concludes my part of the presentation.  
5 So, now sit back in your chairs because Charles Smith is  
6 going to walk us through the different funding plan  
7 categories for the '11-'12 staff draft investment plan.

8           MS. SHARPLESS: Mr. Chair, would you entertain a  
9 question or two?

10           VICE-CHAIRPERSON BOYD: I think it might be wise,  
11 before we switch categories, to entertain a question or two,  
12 and then we can circle back with a whole host of questions.

13           So, Ms. Sharpless?

14           MS. SHARPLESS: Yes, thank you. My  
15 congratulations to the staff for responding to concerns and  
16 for the yeoman effort that I know this program has required.

17           There have been some issues in the past regarding  
18 ratio of grants to loans and I didn't hear any mention of  
19 where we are in terms of what's happening in that area.  
20 Could somebody respond to that?

21           MR. MC KINNEY: Certainly, Jim McKinney here. The  
22 loan program is not proving to be successful, I think we're  
23 going to be ramping that down.

24           We have two projects that did win loans that we'll  
25 be converting to grants, I think that's Boulder Electric and

1 I'm forgetting the second on there. Sorry? Yeah, and the  
2 North State Rendering project.

3 MR. PEREZ: Let me just add, one of the reasons  
4 that we're having difficulty with the loan program, not only  
5 with the American Recovery Act, but also the AB 118 program,  
6 is that many of the applicants and companies that are  
7 submitting proposals are relatively new, do not have long,  
8 proven track records, and they're having difficulty getting  
9 private match funding and it is a real complication during  
10 this difficult economy right now. So, that's why we're  
11 looking at more efforts to convert loans to grants.

12 MS. SHARPLESS: So, government's serving as the  
13 role of covering risk in these ventures that financial  
14 institutions find, at this point, not attractive. Okay.

15 And the other question I had, had to do with your  
16 term using high profile projects, and I just didn't know  
17 what a high profile project was. So, could somebody sort of  
18 -- since you put them at the top of the list, could you kind  
19 of explain what they are?

20 MR. MC KINNEY: I think the way we intended that  
21 is projects at the highest risk of losing federal match  
22 share funding, projects at risk of losing, say, an entire  
23 growing season. One of them was the Great Valley Sweet  
24 Sorghum process -- or evaluation project. If they were  
25 unable to purchase seed, they would have lost their entire

1 growing season which is, really, the core of that issue.

2 And there were two others.

3           So, we may have misspoke a bit on the wording  
4 there, but highest risk projects is probably a better term.

5           VICE-CHAIRPERSON BOYD: Anybody else have a  
6 question?

7           I have a question. This is the first time the  
8 Committee, of one, has seen these -- some of this material.  
9 And based on my experience of the last few weeks, too many  
10 trips to the Legislature dealing with, to date, other  
11 programs where we spend money in grants, or do projects,  
12 what have you, the -- and, certainly, with regard to our  
13 State's obtaining ARRA money, people tend to have questions  
14 about how much money were we able to leverage using our  
15 money, of other money. Pat, do you folks have a figure for  
16 what the 118 program has perhaps leveraged?

17           And other programs here, at the Commission, one of  
18 the very positive things has been a little bit of State  
19 money has leverage an awful lot of not only federal economic  
20 stimulus money, but those two combined have been enough to  
21 finally break loose some of that private sector money.

22           And I can just remember the PIER program, \$20  
23 million got a hundred and -- or something like 400 million  
24 of federal money and \$900 million of investor capital for  
25 those type projects in California. And, hopefully, in this

1 area we've had somewhat similar results.

2 But as indicated in the previous discussion, so  
3 many of these are kind of new project development, people  
4 don't have a lot of background on them and are -- the  
5 Financial Committee's been a little slow to come to the  
6 table.

7 Pat?

8 MR. PEREZ: My last recollection was that through  
9 the AB 118 program we had leveraged, in terms of the federal  
10 funding, about \$105 million. I think the private component,  
11 in terms of leveraging, is probably double that, at least.  
12 We're still looking at those numbers as they trickle in.  
13 But, certainly, at the federal level I think it was \$105  
14 million.

15 VICE-CHAIRPERSON BOYD: Thank you.

16 MR. EMMETT: Just a clarifying question. Can  
17 this, the total funds available that after the haircut  
18 dropped to 70 million, roughly, can you explain that again,  
19 how that works? So, that came out of last year's Investment  
20 Plan and allocations and it sounds like you were able to  
21 make up for some of it by borrowing forward, is that right?

22 I'm not sure I totally understand this 70 and what  
23 was impacted last year, and then what we're looking at going  
24 forward?

25 MR. MC KINNEY: Sure. So, again, there's two

1 parts to that. And so, again, the hair cut was the 20  
2 percent kind of across the board cut. In addition that  
3 amount was reduced somewhat, what we called head room, so  
4 that was, you know, taking a small part of this current  
5 fiscal year's money and applying it to the '09-'10 project  
6 list. So, we were over-subscribed and had many more good  
7 projects that we were unable to fund due to just constraints  
8 of our program, or the limits of our program, so we borrowed  
9 forward. And what that did was further reduce funds of  
10 total funds available for the '10-'11 cycle.

11 Does that answer your question?

12 VICE-CHAIRPERSON BOYD: Bonnie and Jan, did you  
13 indicate another question?

14 MS. SHARPLESS: Yes.

15 VICE-CHAIRPERSON BOYD: Bonnie.

16 MS. HOLMES-GEN: This is going back to the first  
17 presentation, but can you maybe just give a little more  
18 detail on the delays related to localized health impact  
19 report requirements? I understand we had discussion of that  
20 last time, but under your remedy you have some different  
21 criteria, including our locating communities at risk. And  
22 I'm wondering what criteria you're using to make that  
23 determination or if that's been determined, yet?

24 MR. MC KINNEY: Yeah, we are using the Cal/EPA Air  
25 Resources Board guidance for that. And I, personally, don't

1 know the specifics. Aleecia Macias, I think, can give us  
2 the specific part of that.

3 MS. MACIAS: So, for localized health impacts  
4 we're looking at the projects that have discretionary  
5 permits, so that is one screening. Any with ministerial  
6 permits, such as building permits, are excluded from the  
7 full analysis.

8 We're also looking at demographic information,  
9 community makeup. And all of that information is available  
10 in the posted Localized Health Impacts Report, so I would  
11 just refer you there so as not to get into the details at  
12 this meeting.

13 MS. HOLMES-GEN: Well, I guess I'd just like to  
14 know if the criteria has already been determined about which  
15 communities -- which communities are going to be focused on  
16 in terms of these streamlining requirements for the  
17 permits -- I mean, for the impact reports?

18 MS. MACIAS: If the communities have been  
19 determined, that's your question?

20 MS. HOLMES-GEN: Yeah, there's a process needed to  
21 determine which are the communities at risk. I know there's  
22 been a lot of discussion at the Air Resources Board about a  
23 process. I don't know if you're coordinating with the ARB  
24 and using that process, or if you're doing your own system  
25 for identifying these communities, but it is an important

1 issue as to exactly how -- what screening criteria are being  
2 used in the identification. So, I just want to get an  
3 understanding how that's being handled.

4 MR. MC KINNEY: I would just say -- excuse me,  
5 Aleecia. I would just say, if you look at one of our more  
6 recent Localized Health Impact Reports, we fully lay out the  
7 criteria and the standards that we're using in there. We  
8 are working closely with ARB on this.

9 MS. MACIAS: And we do use the ARB screening  
10 method and I think that is what you're referring to for  
11 to -- which includes the communities in California that  
12 would be the highest risk, with poor air pollution, and the  
13 other demographic factors.

14 MS. HOLMES-GEN: Okay. I may have some follow-up  
15 comments for you afterwards.

16 MS. MACIAS: Okay, thank you.

17 MR. MC KINNEY: And again, we're -- I think, as we  
18 tried to say publicly at our November 30<sup>th</sup> discussion, what  
19 we're trying to do is better focus on those projects that  
20 truly have the potential to affect public health in these  
21 at-risk communities and spend less time on projects. I  
22 think I used the example, like electric charge points, where  
23 there's really no discernible risk to public health, unless  
24 somebody does something silly and illegal with some live  
25 wires.

1           But that's the kind of distinctions that we're  
2 trying to make in this part of the program.

3           MS. HOLMES-GEN: Thanks for that clarification.

4           VICE-CHAIRPERSON BOYD: Jan?

5           MS. SHARPLESS: Again, just to try to help me  
6 frame the report better in my mind, and sort of to Jim's  
7 point, I sort of have this nagging feeling in my mind when I  
8 read through this report that not all of the investments are  
9 being accounted for. Because, for instance, I don't know if  
10 this is the case, particularly, in this category, but let's  
11 take the money that's being spent on infrastructure and  
12 building fueling, various different kinds of fueling  
13 stations. There is the 118 money, then there's got to be  
14 some other money that's being spent to build those stations,  
15 which would give a better picture, I think, of how much  
16 value in terms of investment is being made as a result of  
17 the 118 program.

18           So, it's sort of the private sector funding part  
19 of the program that I don't have a handle on. And I think  
20 it kind of gets to Jim's point, when we talk about leverage  
21 oftentimes we just talk about, well, other governmental  
22 agencies, or federal funds, or something like that. But I'm  
23 interested in trying to understand the bigger picture, the  
24 total picture of investments being made as a result of  
25 government stepping in and helping cover high level risk

1 projects.

2 MR. PEREZ: Okay, good question. And perhaps what  
3 we can do in the next draft is lay out, in terms of many of  
4 these projects having matching requirements and draw out the  
5 other federal and private financing that is being utilized  
6 on these projects, and we'll just simply publish that and  
7 share that because that's part of the application  
8 requirements for the matching share, to identify all the  
9 different funding sources.

10 VICE-CHAIRPERSON BOYD: Pat, did I hear you  
11 correctly, though, in response to my question, indicate a  
12 rough number of what you thought the federal money might  
13 have been, and did you not indicate that the private sector  
14 investment has been at least double that number?

15 MR. PEREZ: Yes, that is correct.

16 VICE-CHAIRPERSON BOYD: Okay. But it would be  
17 nice to get the numbers because it obviously is meaningful  
18 to lots of folks, including members of this advisory group.

19 MR. PEREZ: We'll do that.

20 VICE-CHAIRPERSON BOYD: And it's meaningful out  
21 there in the public debate because --

22 MS. SHARPLESS: Well, and I think the private  
23 sector ought to get credit.

24 MR. MC KINNEY: Yeah, and Ms. Sharpless, so the  
25 minimum standard is a 50 percent private match, you know,

1 for every project and that goes in the scoring criteria.

2 For the companies that have more private capital  
3 to bring to bear, they have a higher match ratio and we  
4 score them higher in the awards process.

5 MR. NORBECK: I was going to save this for the --

6 VICE-CHAIRPERSON BOYD: Grab that mike, Joe.

7 MR. NORBECK: I'm sorry. We were -- we discussed  
8 this, but do you have a document, now, that reports the  
9 percent reduction of CO2 with these projects? We talked  
10 about it the last time, but I think it's very important that  
11 we document this and I don't see it anywhere.

12 MR. MC KINNEY: So, we have a statutory obligation  
13 to report on those figures, that's called the AB 109  
14 Benefits Report. We have a draft report scheduled for  
15 release this May, we'll have a public workshop that goes  
16 along with that.

17 MR. NORBECK: Thanks.

18 MR. PEREZ: And I might also add, as part of the  
19 monitoring, evaluation and verification in terms of the  
20 benefits from each of these projects, that will also be  
21 captured as part of that effort.

22 VICE-CHAIRPERSON BOYD: Okay. Seeing no other  
23 questions, do you want to move forward, Charles?

24 MR. SMITH: Okay. All right. So, this is a --

25 VICE-CHAIRPERSON BOYD: And you're still ahead of

1 schedule, in spite of the questions.

2 MR. SMITH: Wonderful. Thank you. So, this is  
3 meant to provide a walk through of the staff draft  
4 Investment Plan, which you should have a copy of. If you  
5 don't, they're available on the table in the entrance.

6 The role and purpose of this Investment Plan is  
7 not too different from the previous Investment Plans. This  
8 is the first draft of the third Investment Plan, covering  
9 fiscal years '11-'12. It will form the basis for the  
10 upcoming fiscal year's solicitations, agreements, and other  
11 funding opportunities.

12 It identifies critical needs, priorities and  
13 opportunities for program funding. And based on current  
14 estimates we are anticipating \$100 million total funding  
15 allocation for a portfolio of fuels, technologies and  
16 supporting elements.

17 Obviously, we have updated the market and  
18 technology information in this Investment Plan, but there  
19 are a couple of other more notable changes that we've made.

20 First of all, we've taken a more comprehensive  
21 look at upstream issues for different fuels and  
22 technologies. This is particularly evident when we begin  
23 discussing biofuels, we've done a much more comprehensive  
24 look at the feedstocks that provide those fuels.

25 Additionally, we have moved the medium and heavy

1 duty discussions, which used to be separated into each fuel  
2 type, into one single section. This provides an opportunity  
3 for a deeper look at a single topic.

4 We've also moved into a deeper investigation of  
5 our workforce and training development opportunities. We've  
6 had a lot of focal demand for workforce training this fiscal  
7 year.

8 And then, finally, in the previous Investment Plan  
9 measurement, verification and evaluation ended up just  
10 being, I think, a two percent reduction for all fuels and  
11 activities. In this Investment Plan we just have it  
12 separated out, so the amounts you see won't be reduced for  
13 MV&E.

14 Moving into plug-in electric vehicles, one thing  
15 that I think we can all notice is the accelerated market  
16 demand and supply of plug-in electric vehicles or PEVs. All  
17 major auto makers have announced plans at this point for  
18 PEVs by 2015. Immediate consumer demand, especially for the  
19 Nissan Leaf and Chevrolet Volt, has outstripped supply.

20 And by 2020, there's a range of estimates about  
21 possible vehicle deployment, but it looks like it will be  
22 anywhere from three percent to 14 percent, and that's  
23 vehicle sales per year. That's not necessarily vehicle  
24 population.

25 Anticipated deployment of PEVs prompted the

1 creation of the State PEV Collaborative. If you haven't had  
2 a chance to look at their "Taking Charge Report", we  
3 strongly recommend it. It outlines the State's strategy for  
4 promoting and adapting to PEVs and it provides policy  
5 recommendations as to how to promote these goals.

6 Looking at the vehicles, first, vehicle incentives  
7 for plug-in electric vehicles are reasonably well covered  
8 through other sources, such as the ARB, the federal tax  
9 credit which, hopefully, might become a rebate.

10 The ARB allows up to 5,000 for light duty PEVs and  
11 up to 30,000 for medium and heavy duty hybrid vehicles and  
12 plug-in electric vehicles.

13 And then the federal tax credit which again,  
14 hopefully, will move to a rebate, which would be much more  
15 convenient for consumers, is up to \$7,500.

16 Additionally, there is ample outside funding for  
17 battery research and development. The federal stimulus  
18 package included more than \$2 billion for this work and  
19 additional work is going on at national labs. So, we  
20 haven't looked at trying to supplement this funding.

21 Charging infrastructure, I mentioned the PEV  
22 Collaborative was formed to coordinate our efforts, but the  
23 Collaborative identifies the charging infrastructure as that  
24 we've a lack of charging infrastructure as one of the most  
25 important hurdles.

1           We have a survey that we are anticipating the  
2 results from automakers that will inform the need for  
3 charging infrastructure, perhaps in a manner similar to the  
4 surveys and infrastructure analysis that we have for fuel  
5 cell vehicles in California.

6           Challenging -- it remains a challenging business  
7 model for public chargers in the State. We're talking about  
8 a fuel that is relatively cheap and fueling can be done at  
9 home. But, unfortunately, before people invest in these  
10 vehicles they want to know that there are public charger  
11 options out there. So, public support for public PEV  
12 charging is going to remain especially important.

13           We've made early progress as a State in  
14 establishing charging infrastructure. These are the planned  
15 or the anticipated, I should say, public charging options by  
16 2013, broken down by region. This includes not just our  
17 funding, but also funding from other sources that have  
18 announced their goals, the Bay Area Air Quality Management  
19 District, in particular, comes to mind.

20           So, for fiscal year '11-'12 we anticipate an  
21 allocation of \$8 million for charging infrastructure. We've  
22 broken this down into a couple of more specific areas,  
23 including PEV regional readiness planning. That will come  
24 on the heels and will supplement, as appropriate, the  
25 current PEV regional readiness plan that we -- or open

1 solicitation that we plan to release in the coming months.

2           We have an allocation for \$1 million for  
3 residential PEV infrastructure, another million for multi-  
4 dwelling residential PEV infrastructure.

5           For workplace and fleet PEV charging, again, we  
6 anticipate a \$1 million allocation.

7           And then, finally, for the mix of commercial,  
8 public and fast charging infrastructure we are allocating \$4  
9 million.

10           Moving to hydrogen, we see a steady increase in  
11 light duty fuel cell vehicles based on manufacturer survey  
12 data that the Energy Commission and ARB received. However,  
13 vehicle costs remain an uncertainty.

14           Fuel production costs are declining and SB 1505  
15 requirements will ensure that there is a significant  
16 renewable component to all hydrogen that is produced.

17           And we also see an increasing reliance on the  
18 lower cost option for fuel production, which is centralized  
19 production with trailer delivery.

20           In order to get the auto makers to commit more  
21 vehicles to California the necessary fueling infrastructure  
22 needs to be in place.

23           Fortunately, we see infrastructure costs  
24 decreasing, installation time decreasing and the retail  
25 experience of hydrogen stations improving. These are all

1 things that we noticed during our recent hydrogen fueling  
2 infrastructure solicitation.

3           Unfortunately, however, infrastructure remains  
4 expensive and the initial return on private investments in  
5 infrastructure may be slow. So, again, here public funding  
6 is needed for fueling infrastructure.

7           In providing our funding for fueling  
8 infrastructure, our program links anticipated vehicle  
9 deployments, as captured in the survey, which I believe is  
10 summarized in Appendix B of the Investment Plan. It matches  
11 that survey data to the need for fueling infrastructure.

12           In the most recent survey, fuel cell vehicle  
13 commitments dropped in the short term, which long-term  
14 commitments remained significant. You can see that it's  
15 anywhere from 23 percent to 44 percent lower vehicle  
16 deployment numbers from 2011 to 2014, but then a sizeable  
17 increase through the 2015 to 2017 period.

18           So, in 2010 we provided nine new and two upgraded  
19 fueling stations, capable of providing a combined more than  
20 2,000 kilograms per day. These deployments were matched to  
21 auto makers' vehicle commitments, both in terms of the scale  
22 of the fueling stations and the location of the fueling  
23 stations.

24           We had a requirement that at least one-third  
25 renewable hydrogen be used in supplying these fueling

1 stations and that these stations be online no later than  
2 2012.

3           Based on the success of that PLN and the reduced  
4 survey numbers, we're looking at shifting our emphasis for  
5 fiscal year 2011 to 2012 to fuel cell transit fueling, and  
6 we have allocated \$3 million for this purpose.

7           Moving to natural gas, natural gas reserves are  
8 high and prices are low relative to petroleum fuels. This  
9 makes them an attractive option for fleets considering  
10 switching to an alternative fuel.

11           Natural gas offers an immediate petroleum  
12 displacement option close to 100 percent, with moderate GHG  
13 emission reductions. However, as we expand biomethane  
14 development within the State, which is something, as Jim  
15 discussed, we have strongly committed to doing, we will be  
16 further reducing the carbon intensity of vehicles utilizing  
17 natural gas.

18           Biomethane, we'll discuss more when we discuss  
19 biofuels.

20           Light duty natural gas vehicle options remain  
21 limited. The Honda Civic GX is currently the only OEM  
22 model. However, Chevy recently -- or GM announced the  
23 Chevrolet Express and GMC Savannah as new van models that  
24 should be available in the next year or so.

25           The interesting thing about light duty natural gas

1 vehicles is that while they account for about 69 percent of  
2 the natural gas vehicle population, they consume only 12  
3 percent of natural gas that is used for transportation. So,  
4 obviously, there's a much bigger role for medium and heavy  
5 duty vehicles.

6           And increasing number of these medium/heavy duty  
7 vehicles are being deployed both to meet air quality  
8 standards and reduce long-term costs. We're starting to see  
9 analyses that it's becoming increasingly not just cheaper,  
10 but profitable in the longer term for fleets to switch over  
11 to natural gas vehicles.

12           As a result, we've seen an increase from less than  
13 2,000 vehicles in the year 2000 to more than 12,500 vehicles  
14 in 2009. But again, we've moved medium and heavy duty  
15 vehicles into a separate section, so we'll come back to this  
16 topic.

17           As for natural gas fueling infrastructure, there's  
18 a limited number of publicly accessible stations, about 130  
19 compressed natural gas, 13 liquefied natural gas private  
20 stations. There are an additional 85 CNG, 19 LNG.

21           But in order to be successful in expanding natural  
22 gas vehicle interest we need to have stations, new stations  
23 that match the needs of particular fleets and natural gas  
24 customers.

25           One more visible option is to build into the

1 Interstate Clean Transportation and Corridor Development  
2 Project, which is going to be connecting a lot of California  
3 cities on I-5 and other western states with a natural gas  
4 vehicle fueling corridor.

5           And in order to establish new, and expand, and  
6 upgrade the existing fueling infrastructure for the next  
7 fiscal year, we are allocating \$8 million.

8           For propane, like natural gas, propane offers a  
9 low-cost opportunity to displace the rising cost of  
10 petroleum fuels with a modest GHG emission reduction. Due  
11 to its low cost and relatively ease of availability for  
12 propane infrastructure, propane is particularly popular  
13 among rural communities that want to switch to an  
14 alternative fuel.

15           Research into propane production from renewable  
16 resources continues to offer an opportunity for lower carbon  
17 propane in the future, much the way that biomethane  
18 establishes a long-term, very low carbon option for natural  
19 gas.

20           As it stands, the number of certified light duty  
21 propane vehicles is limited, but there are additional  
22 certifications on the horizon.

23           There is an upcoming solicitation from fiscal year  
24 '10-'11 and previous fiscal year funding to provide an  
25 incremental cost incentive for propane light duty vehicles.

1           We anticipate that this amount of funding might  
2 carry us through January of 2012, but in order to finish out  
3 the next fiscal year with funding remaining for propane  
4 light duty vehicles, we're allocating an additional \$1  
5 million to support the -- for the deployment of these  
6 vehicles through the end of the next fiscal year.

7           And then, again, we'll discuss funding for propane  
8 vehicles further in the medium/heavy duty section.

9           We have a minor funding allocation for fueling  
10 infrastructure that we are also putting into the Investment  
11 Plan. This is to help establish ten key fueling stations  
12 along the I-5 corridor in Northern California. This will  
13 serve as a -- both a deployment and sort of a demonstration  
14 project as to the viability of propane vehicles in rural  
15 communities.

16           And this project will also touch on vehicle  
17 deployment and workforce training, as well.

18           Moving to biofuels, there's a wide variety of  
19 waste-based and purpose-grown feedstocks that exist for  
20 biofuel production. However, the vast majority of biofuels  
21 produced and consumed in California continue to be derived  
22 from purpose-grown feedstocks that we're all familiar with,  
23 particularly corn ethanol and soy bean-based biodiesel.

24           In the international community these sugar cane  
25 and palm oil are more prevalent.

1           However, we would like to sort of expand upon our  
2 analysis pertaining to waste-based feedstocks. These offer  
3 a significant volume in California and have a very high GHG  
4 emission reduction potential, 85 percent or higher in some  
5 cases.

6           This slide should give us a sense of the volume of  
7 waste-based feedstocks that we have in California. These  
8 are the sort of feedstocks that we want to take advantage of  
9 in building out an advanced, biomass-based fuel production  
10 within the State.

11           I won't -- I won't list them all, you can see  
12 them. But one thing worthwhile to note is the ethanol --  
13 ethanol consumption within the State, which you might  
14 compare to the number at the bottom of the biofuels  
15 potential in millions gas and gallon equivalent, we consume  
16 about one and a half billion gallons of ethanol each year.  
17 So, just looking at that you can see that if we were able to  
18 tap all of these waste-based feedstocks, we would have ample  
19 feedstocks to meet a lower carbon ethanol demand.

20           Alternatively, if you look at the right most  
21 column, the diesel potential of all of these waste-based  
22 feedstocks is about 1.7 billion diesel gallon equivalent.  
23 And you can compare that to about the 2.6 billion gallons of  
24 diesel demand that we have in the State.

25           So, obviously, these represent a tremendous

1 opportunity, both in terms of GHG emission reduction  
2 potential and in terms of volume of fuel.

3 MR. CACKETTE: Question, if I may?

4 MR. SMITH: Sure.

5 MR. CACKETTE: Does it mean that the -- does each  
6 column mean that if all of the biofuels went to biomethane  
7 this is how much it would do?

8 MR. SMITH: Yes, that's right.

9 MR. CACKETTE: So they're not additive across the  
10 bottom, it's --

11 MR. SMITH: No, that's correct. Yeah.

12 And, also, if you notice, there are two listings for forest  
13 waste. I think the -- if you look at the totals, I think  
14 the forest waste used in cellulosic ethanol is the number  
15 that contributes to the total at the bottom, so there's no  
16 double counting there.

17 In addition to discussing feedstock volume, the  
18 write-up within the Investment Plan also details the  
19 economic value, the market barriers, the environmental and  
20 social sustainability, and the likely fuel pathway for each  
21 major feedstock.

22 We also discuss fuel conversion processes for  
23 these feedstocks in two tables in Appendix D, at the very  
24 end of the Investment Plan.

25 Moving into more specific biofuels, looking at

1 ethanol now, we expect that ethanol will continue to play a  
2 significant role in meeting long-term State and federal  
3 policy goals. The low carbon fuel standard, there are a  
4 couple of scenarios, slipping to the bottom of this slide.  
5 LCFS scenarios range from 2.2 billion gallons to 3.1 billion  
6 gallons of ethanol by 2020.

7           Again, in the most recent year, 2010, we used  
8 about one and a half billion gallons of ethanol. So, the  
9 amount of ethanol that we use will be increasing both to  
10 meet potential LCFS scenarios, but also just as a oxygenate  
11 fuel component.

12           So if you look at the demand for ethanol, about  
13 one and a half billion gallons, California production is  
14 only about 240 million gallons per year, so that's quite a  
15 spread. And that one and a half billion gallons of ethanol,  
16 that's almost all -- well, not all, but close to all of that  
17 is used as fuel blend. Very little of that is actually E85.  
18 So, a lot of that is fuel that, you know, we need to use for  
19 air quality purposes, so there's quite an opportunity to  
20 meet our demand with in-state production.

21           That said, meeting California's aggressive goals  
22 for biofuels consumption, including the LCFS, will probably  
23 entail a significant expansion of vehicles that can utilize  
24 E85, the flex-fuel vehicles.

25           The incremental cost of these vehicles is minor,

1 but the greater barrier that they experience is in fueling  
2 infrastructure, so these are E85 fueling stations. To meet  
3 that need we are allocating \$5 million for the next fiscal  
4 year which, based on our estimates, will cover 50 to 75  
5 additional stations.

6 Looking now at ethanol production, again, we have  
7 a capacity of about 240 million gallons per year, but much  
8 of that has idled in recent years. All of our other ethanol  
9 is imported from out of state. So, again, there's an  
10 excellent opportunity to expand what we provide for  
11 ourselves.

12 We have a brief discussion of the CEPPIP,  
13 California Ethanol Producers Incentive Program -- that,  
14 unfortunately, got cut off at the bottom.

15 But these facilities that participate in CEPPIP are  
16 required to meet certain obligations to lower their carbon  
17 intensities over time and to repay any State funding during  
18 more favorable market conditions.

19 So, with our program support thus far, two of five  
20 eligible facilities within the State have re-hired workers  
21 and are now producing ethanol.

22 However, near record commodity prices for corn  
23 have raised questions about the CEPEP sustainability, so we  
24 are continuing to monitor that issue.

25 Considering our waste-based feedstocks, along with

1 our aggressive biofuels policy goals, both for production  
2 and consumption, we have an excellent opportunity to expand  
3 the advanced ethanol production facilities within the State.  
4 These are facilities that will gain credits through the LCFS  
5 and Renewable Fuel Standard which will have a significant  
6 role in ensuring their continued operation.

7 But in order to get the ball rolling on this, we  
8 need to establish early support for these advanced ethanol  
9 production facilities. So towards that end we have  
10 allocated \$7.5 million for the next fiscal year.

11 Similar to cellulosic ethanol, California's  
12 policies and supply of waste and low-carbon feedstocks also  
13 encourage the development of diesel substitutes. We have,  
14 within the State, 12 biodiesel production plans with a  
15 combined capacity of roughly 76 million gallons. Though,  
16 like the ethanol plants they, too, were idled or in much  
17 lower production throughout much of last year.

18 The LCFS scenarios range from .7 to 1 billion  
19 gallons of diesel substitutes needed by 2020 to meet our GHG  
20 emission reduction goals.

21 So, for fiscal year '11-'12 we are allocating a  
22 similar \$7.5 million for new diesel substitute plants and  
23 expansions.

24 Beyond production, diesel substitutes face a  
25 significant issue in the upstream fuel storage and blending

1 issue area. These facilities, the existing facilities are  
2 not modified in a way that will allow them to store the  
3 unblended diesel substitutes and to dispense the blended  
4 fuel for truck delivery to retail sites.

5 So to help provide for these modification, we are  
6 allocating \$4 million for the next fiscal year.

7 Biomethane, the third and last of our biofuels,  
8 again when sourced from waste-based feedstocks this  
9 biofuels, and the others, provide one of the lowest carbon  
10 intensity fuels available.

11 And biomethane can be used in a number of ways.  
12 We can use it to fuel natural gas vehicles, we can use it to  
13 produce renewable hydrogen through steam methane  
14 reformation, or we can use it to produce renewable  
15 electricity that will feed the grid and, in turn, power and  
16 electric vehicle.

17 Pipeline injection of biomethane remains a barrier  
18 but, alternatively, biomethane can be combined with natural  
19 gas at the point of compression or liquefaction.

20 So, for fiscal year '11-'12, recognizing the low  
21 carbon opportunities that exist, we've allocated \$8 million  
22 for biomethane production and support.

23 I mentioned earlier that we had established a  
24 unique medium and heavy duty vehicle section. These  
25 vehicles are more distinct from one another than light-duty

1 passenger vehicles tend to be, with a wider variety of  
2 weight classes and vocations. Which means that we needed an  
3 opportunity to do a deeper analysis into what kinds of  
4 vehicles are out there and what kinds of vehicle vocations  
5 will provide us the best opportunity to displace petroleum.

6           These vehicles, in the whole, represent less than  
7 four percent of California's vehicles, but constitute  
8 roughly 16 percent of our petroleum fuel consumption and GHG  
9 emissions within the transportation sector. So, there's  
10 obviously a significant opportunity here.

11           On a per-vehicle basis, medium and heavy duty  
12 vehicles are, again, an excellent opportunity that's  
13 illustrated in this table. It's just a hypothetical  
14 exercise where, you know, if you compare the incremental  
15 cost for converting a class A diesel truck to CNG, versus a  
16 light-duty sedan, to a fully battery/electric vehicle, the  
17 cost is perhaps four times as much, but the petroleum  
18 reduction is perhaps 15 times greater, and the GHG emission  
19 reduction is perhaps roughly in line with the cost.

20           We've seen a rapid expansion of natural gas and  
21 propane vehicles in the medium/heavy duty market. As of  
22 2009 there were more than 11,292 CNG medium and heavy duty  
23 vehicles, displacing about 50 million gallons each year.  
24 And that's just, yeah, CNG. And then about 2,000 propane  
25 vehicles that displaced about 6 million gallons.

1           For some weight classes and vocations, I think I  
2 mentioned, the long-term natural gas and propane vehicle  
3 costs are approaching market parity with diesel vehicles. I  
4 suppose that's increasingly true in light of petroleum  
5 prices.

6           So, in order to expand this market we are  
7 anticipating a \$12 million allocation for natural gas  
8 vehicles in the medium/heavy duty sector and \$3 million for  
9 medium and heavy duty propane vehicles, as well.

10           In addition to these gaseous fuels, there are  
11 advanced vehicle technologies, such as hybrid hydraulics,  
12 batteries, fuel cells that are just now starting to enter  
13 the medium/heavy duty market.

14           I mentioned that there are distinct vocations and  
15 weight classes that we need to pay attention to and that is  
16 especially true of these advanced vehicle technologies  
17 because they need to be able to match the unique duty cycles  
18 of a customer's vehicle.

19           In the early years, these kinds of vehicles are  
20 more likely to serve NESHAP applications, where the pay-back  
21 period is the most attractive.

22           We anticipate covering the costs, as we have in  
23 the past, for demonstration projects. The ARB's hybrid  
24 incentive -- sorry, Hybrid Voucher Incentive Program covers  
25 up to \$40,000 for vehicle deployment.

1           So, for our part we are allocating \$7 million for  
2 medium/heavy duty advanced vehicle demonstration.

3           Manufacturing has already attracted a significant  
4 amount -- let's see, California has attracted significant  
5 amounts of venture capital for in-state vehicle technology.  
6 However, this, unfortunately, does not always translate into  
7 expanded manufacturing of these vehicles and vehicle  
8 technologies within the State.

9           In the past we have focused primarily on electric  
10 vehicles, but we see no reason that this should not also be  
11 expanded to include other alternative fuels and vehicle  
12 technologies, as well.

13           As Jim mentioned, we are --

14           MS. SHARPLESS: Mr. Chair, can I --

15           VICE-CHAIRPERSON BOYD: Yes?

16           MS. SHARPLESS: -- ask a question regarding that?

17           Could you somehow repeat and expand your last  
18 comment about the State's investment in manufacturing and  
19 how it has not resulted -- what did you say?

20           MR. SMITH: Well, the State has invested  
21 significantly in vehicle technologies, but the danger is  
22 that once we have these technologies developed the risk is  
23 that the manufacturing of those technologies ends up being  
24 done out of state. So, that's what we're trying to  
25 counteract with this manufacturing incentive that we offer.

1 MS. SHARPLESS: Does -- it may be true, but  
2 there's a lot of things that go into siting manufacturing in  
3 a state, including, you know, the well-worn business  
4 friendly environment, environmental requirements, and so  
5 forth and so on.

6 Are you suggesting that you're going to  
7 pinpointing those issues or is there something else that you  
8 think that the CEC or its combination of partnerships could  
9 do to entice and attract that type of manufacturing into  
10 California?

11 MR. MC KINNEY: If I may interject here, Jim  
12 McKinney. I think that's a very good and complex question  
13 and I think that might be something we want to take up  
14 later, in the public discussion part of this. If that's  
15 okay with you, Ms. Sharpless?

16 MS. SHARPLESS: Yeah, he just opened the door and  
17 I walked right in.

18 MR. MC KINNEY: You bet. You bet, thank you.

19 VICE-CHAIRPERSON BOYD: But let me kick it open a  
20 little wider for future discussion and that is in this room,  
21 two to three weeks ago, the Commission hosted a workshop, an  
22 Integrated Energy Policy Report workshop on California's  
23 economy, and what it looks like, where it appears to be  
24 going.

25 Several impressive panels of economists and the

1 last panel of the day was representatives of the  
2 manufacturing sector, the chamber of commerce, the CMTA, and  
3 others.

4           The thing that struck a lot of us during the  
5 course of the day was the unanimous position of panel after  
6 panel, and member -- and individual after individual  
7 economist who basically say California's future probably is  
8 not in manufacturing, that California has become the land of  
9 the innovation, and the beta testing, and the creation of  
10 multiple projects, but likely manufacturing of whatever they  
11 are will be done elsewhere in the world.

12           That was not an easy pill for the manufacturing  
13 folks to swallow. In fact, they refused to even try to  
14 digest it. It was very contentious and they were very  
15 disappointed, upset, et cetera, et cetera.

16           And we don't know how to take that. I mean, what  
17 we have been trying to do, and I think what was just said  
18 and we can talk about it more is, well, is there anything  
19 that we can do in our power, with this agency, with its  
20 money, monies, to at least try to stimulate some forms of  
21 manufacturing, particularly in this more advanced  
22 transportation arena, you know, a component of the green  
23 tech revolution that we keep saying we need desperately to  
24 generate jobs.

25           Whether we succeed or not remains to be seen, but

1 I guess we want to try. More later, perhaps.

2 MS. SHARPLESS: Yeah, you know, it's like the  
3 great green hope, there's a lot written on it, a lot being  
4 talked about it. Things, innovations created in California,  
5 creating the next step, that we will be the State that does  
6 it and produces the jobs.

7 But the proof, I guess, is in the reality and I  
8 don't know whether this is myth or reality at this point.

9 MR. SMITH: So, to come back to the slide. The  
10 Energy Commission has made substantial investments in early  
11 manufacturing projects, some of which Jim outlined in his  
12 presentation. As these companies expand their customers and  
13 production orders it will also be important to ensure that  
14 they have the opportunity to expand into commercial scale  
15 facilities within California. And so that's sort of the  
16 other side is we want to provide for expanding  
17 manufacturers, not just new manufacturers, as well.

18 So, for fiscal year '11-'12 we have allocated \$10  
19 million for that purpose.

20 Moving to workforce training and development,  
21 skilled workers, training opportunities, these are things  
22 that we need in order to be on the forefront of a lot of  
23 both production and maintenance of alternative fuels and  
24 vehicles.

25 In the past we have established agreements with

1 other State agency partners, such as EDD, Community  
2 Colleges' Chancellor's Office, the Employment Training  
3 Panel. And through these partners we have a multi-faceted  
4 approach to the kinds of workforce training opportunities  
5 that we can offer.

6 Through the Employment Training Panel we are  
7 offering financial assistance to California businesses to  
8 support customized workforce training. To date, over 2,400  
9 individuals in the industry have received training through  
10 this program.

11 But we continue to receive requests for additional  
12 funds, so this is definitely an area of ongoing interest.

13 For the Community Colleges' Chancellor's Office,  
14 the office is assessing the industry needs, which they feed  
15 back to us, and they evaluate their current course offerings  
16 and curriculums accordingly, to make sure that they are  
17 matching industry needs.

18 Additionally, they provide support for instructor  
19 training and course materials based on those industry  
20 assessments.

21 And then, finally, the EDD engages with local  
22 workforce training programs and industry groups to provide  
23 workforce training.

24 So, for fiscal year '11-'12 we're looking at an  
25 allocation of five and a half million dollars. Most of that

1 goes directly for workforce training delivery. A quarter of  
2 a million goes to workforce outreach and workforce needs  
3 study, respectively.

4 Moving, finally, to market and program  
5 development, as we begin looking more deeply into individual  
6 feedstocks, as discussed, sustainability analyses will be  
7 critical to ensuring that we -- it shouldn't be minimizing  
8 biofuel investments, it should be minimizing environmental  
9 impacts from biofuel investments.

10 So, for that purpose we've allocated two and a  
11 half million dollars in the next investment plan.

12 Our market and outreach efforts will continue, but  
13 we do not anticipate a need at this time for additional  
14 funding for these activities.

15 There will also be an ongoing need for technical  
16 assistance in identifying our program's priorities and  
17 opportunities, so this will be a two and a half million  
18 dollar allocation.

19 And then, finally, as I mentioned, we've broken  
20 measurement verification and evaluation into its own  
21 category. So we will be allocating \$3 million for that  
22 purpose, which will go toward examining the benefits of  
23 individual projects, the overall contribution of the program  
24 toward meeting its policy goals, the identification of key  
25 obstacles and challenges to meeting these goals. And,

1 finally, we will build this into our recommendations for  
2 future actions as well.

3 So, this is a condensed version of our usual  
4 funding summary table. It's available in the Investment  
5 Plan as well.

6 So, that ends my presentation. I think next we  
7 will move into Advisory Committee discussion. I know that  
8 we've already raised a few issues. But I'll leave that to  
9 Commissioner -- oh, Pat Perez will take the mike from here.

10 MR. PEREZ: Right. Thank you, Charles, for that  
11 very comprehensive presentation. I'm sure that it's  
12 generated a lot of thoughts and questions in your minds.

13 And I think at this point in time what we'd like  
14 to do is entertain questions from the advisory group to  
15 begin with, and then we'll -- and we can certainly open to  
16 questions for others later.

17 In addition to that, I'm going to turn it over to  
18 Jim McKinney for some opening remarks, before we entertain  
19 your questions. Jim.

20 MR. MC KINNEY: Thank you, Pat. For the next part  
21 of the discussion Pat's going to moderate that and I'll  
22 coordinate supporting statements from our staff.

23 One thing that I wanted to clarify here is that  
24 the funding -- the staff funding recommendations that you  
25 see here, that is based on our conversations with industry,

1 on our technical services supports from our high-quality  
2 contractors, market assessments, our collaboration with the  
3 many agencies that we work with, especially the Air  
4 Resources Board, CalRecycle, UC Davis Biomass Collaborative.

5 This isn't the definitive answer. We put this out  
6 for your consideration as a starting point and a public  
7 conversation about what the right attributes -- or what the  
8 right funding allocations should be in here.

9 And I think Pat will moderate the committee --  
10 Advisory Committee discussion. Our staff is available to  
11 answer. It is not our intent to debate any point, it's just  
12 to clarify how we got here.

13 A good rule of thumb at the Energy Commission is  
14 if you don't like our numbers, bring up your own, let's have  
15 it be a stronger and better document based on your expertise  
16 that you bring in through your membership in the Advisory  
17 Committee.

18 MR. PEREZ: Okay, thank you, Jim. We'll open it  
19 to questions.

20 VICE-CHAIRPERSON BOYD: Why don't we go through  
21 the raised nameplate technique that was initiated there and  
22 give Pat a chance to write down the names in advance, and so  
23 on and so forth.

24 MR. PEREZ: Oh, wow. Okay, look at that, double  
25 up, double down.

1                   VICE-CHAIRPERSON BOYD: We're trying to overwhelm  
2 you.

3                   MR. SHEARS: For those on the phone, we're joking  
4 because -- this is John Shears, with CEERT, and I have two  
5 nameplates.

6                   So, just to kick things off, first, I just want to  
7 thank the staff because I think this is a great report.  
8 And, you know, to my eye it looks like a gold mine of  
9 information for the stakeholder community, both within and  
10 without the State.

11                  And I have a few comments and observations about  
12 the drafting of the report but, you know, I'll save those  
13 for direct discussions with the staff.

14                  I just want to make a few general observations.  
15 You know, concurrently, with the Investment Plan we have the  
16 Bioenergy Action Plan moving through the process. And, you  
17 know, I'm also on the board of the California Biomass  
18 Collaborative and, you know, we've produced a lot of the  
19 documents that are referenced in the Investment plan. And  
20 we try and provide, you know, objective advice on biomass  
21 issues.

22                  And I just want to caution that, you know, while  
23 laudable, the Bioenergy Action Plan Executive Order sets  
24 arbitrary goals. And so we need to be careful about, you  
25 know, how achievable those goals are which are referenced,

1 you know, as goals as a percent of in-state consumption.

2 So, we need to, you know, keep that in mind, as  
3 consistent as the goals of the Bioenergy Action Plan are  
4 with larger, you know, petroleum demand reduction in  
5 greenhouse gas and low carbon fuel standard goals.

6 And so we need to, I think, do a deeper dive into  
7 the whole resource base issue. So, for example, we  
8 talked -- in the report it talks about what's technical  
9 potential, but what we should really be talking about is  
10 what's, you know, in this current time what is economically  
11 recoverable.

12 And, you know, as an example of that, the Energy  
13 Commission, itself, conducted what's called a strategic  
14 value analysis for biopower. So, biomass resources, as they  
15 released biopower back in 2005.

16 And so, you know, we need to undertake that and,  
17 you know, whether the Energy Commission can fund that and it  
18 can be conducted through one of the research groups at the  
19 UC Energy Institute or through the Biomass Collaborative.

20 Those are discussions that we've been having also  
21 with the staff, some of the same staff that are working on  
22 the Bioenergy Action Plan.

23 On ethanol, you know, I agree with the observation  
24 in the Investment Plan that we should rethink the whole  
25 CEPIP program. I know myself and Roland Wong, on the last

1 go round around this issue, we were advising caution. And  
2 it's just because of the -- again, the economics and the  
3 challenges around ethanol, similar challenges fir biodiesel,  
4 similar challenges for biopower.

5           So we need to, I think, keep in mind, you know,  
6 the challenges for providing a sound economic basis for the  
7 industry.

8           Also just want to note that while there have been  
9 recent federal reports that the Department of Energy, in  
10 response to Growth Energy's petition on the E15 blend wall  
11 issue, which now basically says that it's okay for E15 to be  
12 used for 2001 and later model years, this issue area is --  
13 has all sorts of implications for air quality issues.

14           Even if you could put the infrastructure out and  
15 it met emission standards, and it had to be certified to  
16 those new standards, the issue is what happens to the whole  
17 fleet of different types of engines that are out there, that  
18 are not part of the vehicle fleet. So, what happens to the  
19 off-road fleet?

20           Also just to note that in order for California to  
21 use E15, the California Air Resources Board would have to  
22 update what's known as its predictive model, which it had to  
23 do when California moved away from MTBE to E6, to maintain  
24 two percent oxygen level at the time.

25           That process would probably take a couple of

1 years. Certainly, the last revisions, once undertaken with  
2 focus, took a couple of years.

3           On biodiesel, as opposed to non-esterified  
4 renewable diesel or, you know, hydrocarbon diesel, renewable  
5 diesel that comes in a hydrocarbon form, you know, this  
6 isn't the first time I've said this here and at other  
7 venues, given the new clean diesel technologies for  
8 passenger vehicles that are coming into the market, and some  
9 of them are -- you know, some models are showing fantastic  
10 market penetration rates, I recommend caution around the  
11 whole area of using esterified diesel even with, you know,  
12 the notion of that additives could work to alleviate some of  
13 the challenges in using those types of fuels.

14           And I'm not sure, but I would recommend, you know,  
15 in having conversations and surveys with the OEMs and any  
16 Tier One suppliers that the Energy Commission might want to  
17 delve deeper into what the implications of biodiesel are for  
18 the newer clean diesel vehicles.

19           The analogy I like to use is they're highly strung  
20 thoroughbreds as opposed to your old farm horses of  
21 yesteryear.

22           And so the equipment, the fuel injectors, and the  
23 emissions control equipment are very, very sensitive to  
24 just, you know, the minor -- the smallest amount of  
25 contamination.

1           So, just would recommend a little deeper look into  
2 that whole area.

3           Certainly, the non-esterified hydrocarbon  
4 renewable diesels are wholly compatible with the new -- the  
5 research has shown consistently it's compatible with the new  
6 clean diesels.

7           Also, when we're looking at the use of waste fats  
8 and greases, the emissions challenges come much, much  
9 greater in terms of making sure that you can meet, you know,  
10 emissions targets for the vehicles using biodiesel derived  
11 from those feedstocks, if you're not manufacturing a  
12 renewable diesel product from those feedstocks.

13           So, onto one of our other favorite topics here at  
14 the Advisory Committee, on the hydrogen infrastructure  
15 issue. I think my numbers are roughly accurate.

16           So, since the inception of the program I think  
17 roughly \$29 million has been allocated for the  
18 infrastructure, of which 17, 18 million has been encumbered,  
19 roughly 10 million will be coming out as part of a new  
20 series of PON -- or a new PON in the coming round.

21           And in this proposed Investment Plan it's just  
22 proposing that \$3 million be allotted for transit. And,  
23 certainly, that \$3 million is good because we know the  
24 parties involved in that project are quite capable of doing  
25 good things with those monies.

1 I just have a concern and would like a little more  
2 discussion and clarification around, you know, how AB 118  
3 funding -- Commission staff is viewing the AB 118 funding as  
4 being able to help maintain the rollout of the  
5 infrastructure so that the 2015 targets for supporting the  
6 vehicle fleet, you know, can be achieved.

7 I understand in the draft report it basically  
8 states that current round of funding could support, you  
9 know, the ramp up of vehicle developments through 2014. But  
10 I understand there may be some differences in understanding  
11 around the technical analyses behind that. And I'm not an  
12 expert who can speak to that, so if there are other people  
13 in the room, possibly Justin, who could speak to that, that  
14 would be helpful.

15 I'd just like to note that, you know, Germany,  
16 Japan and Korea are quite serious about this and are moving  
17 forward in a big way on this. And in fact, in Japan, on  
18 January 13<sup>th</sup>, there was an announcement at the same as  
19 everyone over here was noticing that Toyota had made an  
20 announcement at the Detroit Auto Show about its commitment  
21 to fuel cells in Japan.

22 They announced, it's a consortium of 13 industry  
23 members, that they were going to be building 100 hydrogen  
24 fueling stations by 2015. And that's backed up by a lot of  
25 government funding in Japan.

1           Certainly, Korea and German governments are also  
2 backing hydrogen fuel cell vehicles in a big way. So, would  
3 just like to tee that up. And I'll stop there. And again,  
4 thanks for a great job on the draft Investment Plan.

5           MR. PEREZ: All right. What I'd like to do is  
6 take Lesley next, Shannon, and then Eileen.

7           Okay, I had it turned away. Let's go to Lesley,  
8 then Shannon, and then Eileen in terms of the sequence of  
9 speakers.

10          MS. BROWN GARLAND: Thank you to the staff, so, so  
11 much for all that you have done. We're very excited about  
12 the incentive program coming out and I'm extremely excited  
13 about the numbers that I'm seeing on here. This is -- it's  
14 tremendous. It will be a boost for the industry.

15          One of the things that I've been happiest about  
16 over the last couple of months is seeing how come of my  
17 members are now expanding from just being fuel delivery and  
18 they're adding jobs for people to install these systems onto  
19 vehicles, and to do vehicle conversions, and to expand more  
20 into the ALT fuel territory that they gave up on about a  
21 decade ago. And now they're adding more jobs, which is  
22 great, especially in some of these smaller communities that  
23 need new jobs and new opportunities.

24          A couple of clarifications, though, I saw on slide  
25 42 there was one thing, it said that there was only one

1 light duty vehicle that's currently certified by both EPA  
2 and the Air Resources Board. And, certainly, that was the  
3 case earlier this year, except there seems to -- the log jam  
4 has -- there's been a flood of vehicles that have been  
5 coming out. And most -- and, actually, one just got  
6 announced this morning.

7           The E-series vans, the E-150, 250 and 350, and  
8 then the pickup trucks, the F-150, 250, 350, and then the E-  
9 450 cutaway van. All of these are Roush products that are  
10 coming out. And they're going to have a huge impact,  
11 especially down in the Los Angeles area.

12           A couple of the fleets at LAX, that are currently  
13 using gasoline and diesel, shuttle vans, they're totally  
14 replacing their fleet with propane units, so there's going  
15 to be an immediate impact, especially in that LAX area.

16           And we're working with a couple of other airports,  
17 in San Francisco and San Diego to, hopefully, introduce some  
18 of those cutaway vans and the E series vans.

19           So, we're very pleased. And also, with the heavy  
20 duty, the school buses, obviously, these school districts  
21 are slowly trying to replace those diesel vehicles.

22           The ones that we currently are offering in propane  
23 are the smaller -- the smaller buses. And a lot of them end  
24 up getting up-fitted for special needs children, the  
25 handicapped children, they have different ramps and things

1 like that. And these are some of the kids that they need  
2 these clean buses the most just because of their health  
3 difficulties that they're having. It improves a lot of, you  
4 know, just they're not having to get around those diesel or  
5 gasoline fumes. So, the heavy duty allocation is -- it's  
6 going to go a long way, especially for these kids.

7           The one thing I would ask Commissioner Boyd is,  
8 obviously, you get paid the big bucks to go and take bullets  
9 from the Legislature. But I think there's a lot of us  
10 sitting around the table, that we'd be more than willing to  
11 take some of those bullets for you because these programs  
12 are near and dear to our heart, just like your staff is near  
13 and dear to our heart.

14           So, please put us to work for you, too, because we  
15 believe in this program deeply and would do what we can to  
16 help you in your fights with the Legislature, especially as  
17 it gets more difficult.

18           VICE-CHAIRPERSON BOYD: I appreciate that latter  
19 offer. I'd love to stand you up in front of me in  
20 discussing --

21           (Laughter)

22           VICE-CHAIRPERSON BOYD: -- in discussing CEPIP, in  
23 particular. But, anyway, thank you.

24           MS. BAKER BRANSTETTER: I, too, would like to  
25 thank the staff. I really think this is a great report that

1 has a lot of exciting and inspiring material in it.

2 I have two specific kind of just discrete  
3 questions and then one broader comment.

4 My two questions are, the first one is why was the  
5 decision made to not include any funding for public  
6 education outreach? And I'm curious what the reasons are  
7 for that, if there are other existing programs that staff  
8 felt were already doing the job, or other reasons for that?

9 And I was also just curious of why Los Angeles was  
10 so far behind on that chart of the EV public charging  
11 stations? That just seems like a pretty big hole.

12 And my broader comment is I think that the staff  
13 did a really amazing job on the electric drive description  
14 of all the different projects and how the money was really  
15 targeting very specific needs.

16 And as well as with the fuel cell technology, I  
17 think it did a good job of showing kind of the short-term  
18 opportunities and I think the long-term plan.

19 But for the natural gas investments, it wasn't  
20 clear to me kind of how natural gas for light duty really  
21 fits into the short-, medium- and long-term plan. And maybe  
22 it's completely, you know, evident to the staff, but it just  
23 wasn't self-evident to me. It seemed disproportionate, I  
24 guess, to the broader vision of the rest of the plan and  
25 especially in combination of, you know, the biomethane

1 investments seems really great, but the natural gas seems to  
2 be, you know, not as targeted or not have the same kind of  
3 benefits as the great biomethane investments.

4 So, those were my comments and thank you.

5 MR. MC KINNEY: I'm sorry, could you -- Jim  
6 McKinney here. Could you be a little more specific on your  
7 questions about natural gas and exactly what you would like  
8 to see in, say, the revised version?

9 MS. BAKER BRANSTETTER: Right. For the \$8 million  
10 investment in the light duty infrastructure, just how that  
11 fits into the broad AB 118 plans of reduction. And also  
12 kind of match it with the auto manufacturer survey that I  
13 think is almost done, or completed, of just how natural gas  
14 vehicles really, for light duty, will fit into the carbon  
15 reduction and vehicle plans?

16 MR. MC KINNEY: Okay, thanks for clarifying. And  
17 as I say this, I'm going to look at Aleecia to make sure I  
18 got the numbers right. I think we have 1.5 million for  
19 public outreach and marketing, and I'm sorry if I glossed  
20 over that in my presentation. So we do have that, that's  
21 going to be a public contract or we're going to let a  
22 solicitation for contracting support.

23 MS. BAKER BRANSTETTER: Was that for the  
24 sustainability studies part of it or was that something --

25 MR. MC KINNEY: No, this is in addition to

1 sustainability.

2 MS. BAKER BRANSTETTER: Okay. Okay, great.

3 MR. MC KINNEY: So, sorry about that. From '10-  
4 '11.

5 MS. BAKER BRANSTETTER: But not for '11-'12.

6 MR. MC KINNEY: Correct.

7 MS. BAKER BRANSTETTER: That was what I was  
8 asking.

9 MR. MC KINNEY: Correct, okay.

10 MS. BAKER BRANSTETTER: If '10-'11 was going to  
11 continue and that was sufficient, or why there wasn't any in  
12 the new plan?

13 MR. MC KINNEY: Okay.

14 VICE-CHAIRPERSON BOYD: Okay, Eileen?

15 MS. TUTT: Thanks. I, too, want to really  
16 congratulate the staff on putting this together so quickly  
17 and I think it's a very good report and it's very clear that  
18 the iterations from the last three that this one is -- you  
19 really paid attention to what, you know, the suggestions  
20 that were made before.

21 I want to talk about, I have a couple of  
22 questions, in the plug-in electric vehicles it's 8 million  
23 for charging infrastructure, but I think I heard and I read  
24 that there is some money going into helping local  
25 governments as they prepare themselves to, you know, do

1 things like inspections and streamline the inspection  
2 process.

3           And so I wasn't sure if that's included in the 8  
4 million or if it's somewhere in the workforce training piece  
5 of the money pie there, but I think that that effort is  
6 going to be very, very important.

7           I know, as you really -- the allocations made in  
8 '10-'11 to the regional governments are going to make a  
9 profound difference, I think, in how the infrastructure's  
10 rolled out, but there's going to be a lot of struggles in  
11 terms of permitting and inspections. And so, I hope that  
12 that is reflected in here somewhere, and I'm sure it is.  
13 So, I just wanted to clarify that.

14           And then I mentioned to mention, the PACE program  
15 came up in the presentation, in the document. And Assembly  
16 Member Skinner is carrying ABX 114 and her companion AB  
17 1054, which helps implement the PACE program after the FHA  
18 pretty much stalled it.

19           But the legislation, right now, took out EV  
20 infrastructure. And so, I hope we can work together to get  
21 that back in, but right now it's not in, so I just wanted to  
22 clarify that for the staff.

23           And then, finally, in terms of the way the money  
24 is allocated I think perhaps the market program development,  
25 the last category there, I think that's quite a bit of money

1 for that particular category. And I have no experience to  
2 back this up, but I think that -- or education, for that  
3 matter -- but I think that manufacturing is important in  
4 California and I like the fact that there's money here. So,  
5 it might be worthwhile moving some of that money around,  
6 that 10 million, thinking about manufacturing, and maybe  
7 more creatively.

8 Like, in the electric vehicle world, I think the  
9 SMART grid effort is linked to successful electric vehicles  
10 and there are manufacturing opportunities there. So, maybe  
11 we could get a little bit more creative with that. Thank  
12 you.

13 MR. PEREZ: Thank you, Eileen.

14 We'll go to Justin, Joe and then Peter.

15 MR. MC KINNEY: Yeah, I can clarify that, Pat.  
16 So, the \$1 million for public sector planning support is  
17 coming from '10-'11. The '11-'12 money, the 8 million for  
18 infrastructure is new money. And we also have money in the  
19 development and demonstration of advanced technology  
20 vehicles that is meant to include electric drive and, as you  
21 pointed out, manufacturing. So, those are the three  
22 categories where funding for electric drive-related issues  
23 are located.

24 MR. JUSTIN WARD: Okay, thank you very much.  
25 Again, I'd like to, as everyone has done already, thank the

1 staff for a great work on this document. I know it takes a  
2 lot of time to write this type of thing and put this  
3 together, so you guys really did a good job to do that.

4           And I think, also, you did a very good to try to  
5 balance, really, the -- balance the different technologies  
6 in the Investment plan, so I wanted to make sure I said that  
7 as well.

8           Again, as I mentioned before, I'm a Vice-Chairman  
9 of the California Fuel Cell Partnership, so I represent  
10 hydrogen, so I'll make most of my comments about hydrogen  
11 technologies.

12           So, when I look at the investment plan,  
13 specifically the second paragraph after table 11, on page  
14 52, it makes a comment in there about analysis showing that  
15 the program will cover fuel demand until 2014. And the  
16 California Fuel Cell Partnership has done a study using the  
17 exact same vehicle OEM deployment numbers and we come up  
18 with a very different number. We actually come up with  
19 supply gaps in 11 regions.

20           I have a one-page document that the partnership  
21 had generated, that shows these 11 regions as being a gap.

22           Of course, in this, we had a different station  
23 supply, so we had a hundred KGs per day, on this -- on our  
24 particular study.

25           But even if we update the numbers to the 180 and

1 the 240 KGs, we still see supply gaps in nine regions. So,  
2 there's a very different -- there's a difference in math  
3 that I'm not sure I understand.

4 So, I would like to offer the California Fuel Cell  
5 Partnership, Bill Elrick is in the room over there, to  
6 really work with staff to try to make that math more  
7 transparent, to understand really why is there a difference?  
8 We're using all the same data, we're using all the same data  
9 points, so it's not clear why there's a difference. And so,  
10 I think it's a good opportunity for us to work together to  
11 try to understand where that is and try to make that  
12 transparent in the Investment Plan. That's item number one.

13 Another item I'd like to talk about is just the  
14 funding in general. So, I noticed that we do have the \$3  
15 million for transit and, as John had mentioned before, that  
16 program should be -- they should make well use of that  
17 money, three million is good for a transit program.

18 But we also noticed that there's a lack of funding  
19 for light duty stations. And we think that considering the  
20 supply gap that we see at the California Fuel Cell  
21 Partnership, we think there's still opportunity for funding  
22 of additional hydrogen stations in this investment plan.

23 To what extent, I think we probably have to look  
24 at the numbers more deeply, together with the CEC, to  
25 identify how much. But I do think there is an opportunity

1 there.

2           Additionally, I'd like to also talk about the  
3 transit station idea. I know it's mentioned that we talked  
4 about the \$3 million for transit, but I'd also like to urge  
5 the CEC to consider additional ways of deploying that money.  
6 And whether it's co-locating the transit station with a  
7 light duty station, I think that was a wonderful project  
8 that Jamie Levin did in Emeryville, where they did both the  
9 co-location of light duty and heavy duty. It's a good way  
10 to leverage the money to get the most out of the investment.

11           But I would also like the CEC staff to consider  
12 other opportunities where, since this particular bus  
13 projects that it's supporting is a small number of bus  
14 projects, it may make some sense to use existing CEC  
15 projects, that have already been funded in the current pond,  
16 and maybe upgrade them to support the bus. Again, that may  
17 help utilize the investment that the CEC's already made.  
18 So, and it's just another opportunity.

19           And then just another point is the idea of  
20 connector and destination stations. We do a lot of --  
21 there's a lot of study to match supply and demand gaps, and  
22 I think that's really the baseline. But you also need to  
23 look at market preparedness. And one of those ways is to  
24 make sure the market has some, the public has some  
25 accessibility to infrastructure when they're going on their

1 traveling outside of their normal commute.

2           And so I think the idea of connector and  
3 destination stations need to be revisited within the CEC,  
4 maybe in the current \$10 million that's going to be awarded  
5 and maybe in this future Investment Plan, or this current  
6 Investment Plan.

7           I noticed that philosophy or that idea was already  
8 considered for CNG, and propane, and the other technologies,  
9 and I think carrying that same logic through to hydrogen  
10 would be a logical pathway.

11           And that is all my comments at this point.

12           MR. PEREZ: Thank you, Justin.

13           And Tim Carmichael, I know you're on the line.

14 We'll take you right after Daniel Emmett speaks.

15           Okay, so we'll go to Joe Norbeck.

16           MR. NORBECK: Thank you. I'll echo what others  
17 said, it's a pretty good document.

18           However, and this isn't a criticism, it's an  
19 observation, we just did a similar report through PIER  
20 money, for CEC funding, and it included -- and in going  
21 through this, I'm trying to see if there was any input from  
22 that report. Black and Veatch did it with us, and Rowel,  
23 and a few others.

24           So, I would -- now, I'm not being critical here in  
25 any way, but when I went through this, I think there's a lot

1 of things that we may have in that report. One of them is a  
2 life cycle analysis and of all the different pathways and  
3 technologies.

4           So, what I'd like to suggest, if it's all right,  
5 is that we'll take our report and give you written document,  
6 written comments in comparison to this.

7           But in the longer term it may be, I don't know  
8 what the future of PIER will be, but there's got to be  
9 input, I think, and maybe you already have it, that would  
10 help.

11           The other thing I want make, because this is a  
12 rapidly, rapidly changing area and even things that we've  
13 just done is already dated. So, you may want to also make a  
14 recommendation or start thinking about, you know, just like  
15 in the Clean Air Act, they review the air quality standards  
16 routinely and it may be important that we have something  
17 like this.

18           So, I've got the guys already working on it, to  
19 where they're taking this report and ours and we'll give you  
20 written comments. Okay. It's not criticism, it's just --  
21 the LCA, the life cycle analysis, however, is I think really  
22 important.

23           And we were delayed because when I finally did the  
24 review of that it took -- that the information had changed  
25 so dramatically within three or four months in the public

1 domain that we had to update it. So, these were comments.

2           You know, and then the other is that the Air  
3 Quality Management District, and as well as ARB, I'm sure  
4 you've got a good relationship with ARB, but we're being  
5 funded to look at anaerobic digestion versus producing green  
6 methane from our gasification process.

7           And so the other thing is that there's -- AQMD  
8 funds this stuff, too, so you maybe need to have them  
9 included in the loop a little better. It's just a  
10 recommendation.

11           Other than that, you know, what I read of it, I  
12 thought it was reasonable. But as I said, it's changing  
13 rapidly.

14           MR. PEREZ: Okay. Thank you, Joe. It looks like  
15 you're going to have a busy retirement, from what I hear, so  
16 we look forward to those written comments.

17           We'll go to Daniel next and then hear from Tim  
18 Carmichael, who's patiently standing by.

19           MR. MC KINNEY: Well, Pat and Daniel, if I could  
20 ask a clarifying question of Mr. Norbeck, please, before you  
21 make your statement?

22           Joe, when you talk about life cycle, or LCA,  
23 you're talking about the life cycle analysis of the  
24 different fuels or are you talking about a more complete  
25 technology overview?

1 MR. NORBECK: Well, most of this is about the  
2 fuels, and the process of the fuels, and how you make the  
3 fuel and the products, and what the costs are going to be.

4 MR. MC KINNEY: Okay.

5 MR. NORBECK: You know, it's a separate business  
6 for the vehicles but I think, in all honestly, the vehicle's  
7 pretty well understood in a lot of ways. It's not going to  
8 change as much as the fuel processes, possibly.

9 MR. MC KINNEY: And I'm asking for clarifying,  
10 when we use the term "life cycle analysis" we use it in  
11 terms of how the Air Resources Board and other kind of  
12 technical groups calculate, you know, the GHG emissions.

13 MR. NORBECK: That's one, but you also can include  
14 the economics.

15 MR. MC KINNEY: Right, thank you.

16 MR. NORBECK: That's called well to wheels in one  
17 aspect. And then in the other is, you know, to really start  
18 to understand what it's going to cost us in the future.

19 MR. MC KINNEY: Great, thank you. We look forward  
20 to that.

21 MR. NORBECK: Yeah.

22 MR. PEREZ: Okay, Daniel.

23 MR. EMMETT: Thank you. Daniel Emmett, Energy  
24 Independence Now.

25 First of all, again, I'd like to echo what

1 everyone's been saying, that this is an incredibly  
2 thoughtful and robust report, and there are a lot of  
3 exciting elements to it, certainly. And I certainly  
4 appreciate being able to participate in this capacity on the  
5 Advisory Panel.

6 I'm going to make a few comments around four  
7 themes, one being coordination with industry stakeholders  
8 and public/private partnerships, which is a great thing.  
9 Upstream considerations, which we see sort of throughout,  
10 but inconsistently in some areas throughout the report.

11 Availability of fuel versus capacity, that's a  
12 little distinction. And then general sort of comments about  
13 gap analysis and needs assessment.

14 Starting with -- and then I'm going to talk about  
15 a couple of things that I think are really great in the  
16 report, that I'm going to highlight, there's a lot of great  
17 things. But I'll actually start with that.

18 One of the concerns I had in reading the draft  
19 report was around manufacturing and it wasn't explicit in  
20 there that it was going to be expanded beyond EV  
21 technologies. And I see from this presentation that it  
22 looks like it will be and I think that's really exciting.  
23 There's certainly a lot of other manufacturing opportunities  
24 in the State around a whole suite of fuels and technologies,  
25 and this manufacturing component is really important in

1 terms of embedding and institutionalizing this sector in our  
2 State. And I think it's really great that there's a  
3 commitment to manufacturing, and more broadly, now.

4 Another one I think is really important is this  
5 separate section of heavy duty and medium duty. That helps  
6 to define that category quite nicely and the opportunities  
7 that exist and, obviously, different fuels and technologies  
8 play a role in that categorization.

9 I'd like to make a couple comments about hydrogen  
10 and this gets to some of the questions about upstream  
11 considerations and the coordination with industry  
12 stakeholders and public/private partnerships.

13 Obviously, it's really important we have these  
14 resources, like Cal/ETC, and the Fuel Cell Partnership, the  
15 Propane Association, and these are incredible sources of  
16 knowledge and information to sort of feed into this process.

17 And I think with regard to the hydrogen piece, as  
18 Justin's just indicated, it sounds as if there's a bit of a  
19 delta between the analysis done by the Fuel Cell Partnership  
20 and sort of the needs moving forward. And this gets to this  
21 question of availability, perhaps, versus capacity.

22 And it sounds, my guess, and I'm not sure, but it  
23 looks to me like that delta could in part be explained by an  
24 emphasis on CEC's part about capacity versus availability.

25 And the distinction there is, you know, looking at

1 a whole region and the capacity production -- the production  
2 capacity of the fuel versus where these actual stations are  
3 in relation to the drivers.

4           And there's been a pretty robust process for  
5 trying to determine rollouts of vehicles and placements of  
6 stations in attendance with those rollouts.

7           And so that's -- I think that could be something  
8 worth looking at and certainly is important for the future  
9 of hydrogen in these critical years. I think there is this  
10 gap and we need to, I think, pop up that number to fill that  
11 gap, pop up the funding level.

12           Let's see, upstream considerations on the hydrogen  
13 front, I think we're seeing it nicely in other areas of the  
14 Investment Plan around other fuels, but perhaps there's an  
15 opportunity here, and it's sort of embedded in the  
16 biomethane piece, which is excellent. But I think in light  
17 of SB 1505, the renewable hydrogen standard that is on the  
18 books and the regulations being developed, it would make  
19 sense to me to sort of call out the need to develop or to  
20 support development of renewable hydrogen at a centralized  
21 facility.

22           And not just focus on the retail fueling outlets,  
23 but also on the capacity to produce renewable hydrogen so  
24 that this renewable requirement can be met in the future.

25           And we're seeing it nicely on biomethane and that

1 does possibly translate to the hydrogen side, but there are  
2 other technologies and methods that should also be on the  
3 table and, perhaps, specifically called out for hydrogen.

4           Let's see here. I, too, sort of reacted a little  
5 bit for the \$10 million for market and program development.  
6 Obviously, AB 118, the legislation, calls out a role for  
7 funding for this and I think it is important, but it just  
8 struck me as ten percent of the program it seemed a little  
9 high. And again, it's arbitrary, it's just sort of a  
10 reaction.

11           And I don't know, perhaps this is sort of -- I  
12 don't know if this is a one-year commitment or if this is  
13 going to be spent over a number of years, or if this is  
14 going to be kind of the level of funding that staff expects  
15 will be allocated on an ongoing basis. It seems high and I  
16 would rather see some of that money spent on actual  
17 deployment and demonstration of the vehicle technologies,  
18 and the fuel technologies.

19           And then on, again, back to this theme of  
20 coordination with industry stakeholders, I also -- someone  
21 else made this comment about, I think it was Shannon, about  
22 the natural gas piece. And it wasn't clear to me that  
23 there's been the same level of robust analysis done on the  
24 coordinating with OEMs about -- about the deployments,  
25 especially on the light duty side, so I'm really just

1 talking about light duty.

2           There's one OEM that I'm aware of that makes a  
3 natural gas vehicle, and there should be more, I agree, but  
4 for now it doesn't look to me like there's been an analysis  
5 about sort of the needs assessment for the natural gas side.

6           And just on a cursory level, looking at the  
7 economics, they're even presented in the staff report, the  
8 economics are looking really favorable for natural gas  
9 fueling stations, so it's not entirely clear to me why we  
10 need -- it needs the support on the light duty side.

11           Certainly, with the heavy duty side it makes sort  
12 of more sense to me and that's sort of laid out more  
13 clearly. And I don't know if this \$8 million for  
14 infrastructure, is that really focused on the heavy duty and  
15 sort of goods movement piece or is it on light duty? So,  
16 that wasn't really clear to me. Thank you.

17           MR. PEREZ: Okay, thank you. We'll go ahead and  
18 take Tim Carmichael next, then go to Peter, Bonnie, and Jan.

19           Okay, Tim, are you there?

20           MR. CARMICHAEL: I am. Good morning. Thank you.

21           First of all, a quick thanks to the staff. I  
22 really feel like the process and the strategy is getting  
23 better with each iteration of this plan. And I know a lot  
24 of us were hoping to see that and it seems to be happening.  
25 So, thank you to the staff efforts in that regard.

1           Consistent with that improved process, we will be  
2 submitting written comments either later this week or early  
3 next week. And I would just touch on a few things, since we  
4 have that group together.

5           We had a good call with the staff last week, we  
6 discussed a lot of issues that relate to natural gas. The  
7 short takeaway for Commissioner Boyd, and others, is our  
8 organization is encouraging more money to be spent on  
9 vehicles and less on refueling infrastructure. We're  
10 supportive of upgrading existing infrastructure, but we  
11 think we get and CEC gets more impact with the public funds  
12 if they put the money into the vehicles.

13           I think it's part of what Daniel Emmett was just  
14 referring to as well, that the economics on the stations are  
15 pretty good and there's a developing industry that can build  
16 the stations using private financing.

17           Slide 40 in the presentation, I think there may be  
18 a typo on that. That's the one that referred to the number  
19 of natural gas stations that are already out there. It's  
20 very close on the public stations to the numbers that we  
21 have, but on the private stations we have about -- you know,  
22 our records show about 400 private natural gas refueling  
23 stations in the State and the CEC presentation showed quite  
24 a different number. We'll follow up on that in our written  
25 comments.

1           And then, finally, I just want to mention two bits  
2 of legislation -- two pieces of legislation that are going  
3 to be moving this spring, I think would be of interest to  
4 everyone in the room. One is Assembly Bill 638, by Nancy  
5 Skinner, that relates to petroleum reduction and alternative  
6 fuels growth in the State.

7           And Assembly Bill 371, by Assembly Member Betsy  
8 Butler, and that relates to State and local public  
9 purchasing of alternative fuels.

10           Thanks very much for the opportunity to comment.

11           MR. PEREZ: Okay, thank you, Tim.

12           All right, Peter.

13           MR. COOPER: Thank you for the chance to comment.

14 I, also, would like to reiterate thanks for the staff,  
15 especially the increased focus on workforce development and  
16 job training issues.

17           You know, I think when the staff started to look  
18 at some of the programs that have already rolled out or are  
19 in the process of funding job training, they realized that  
20 there is such a huge demand for workforce training funding  
21 that is not being met. And I think that in order for AB 118  
22 to be successful, for the goals to be met that quality  
23 worker training, worker performance is essential. So,  
24 again, thanks for that focus.

25           Let me see, I have a couple of different comments

1 and will be submitting a letter later, as well.

2           Later in the day you will probably be hearing from  
3 Michael Hursh, who's with the Santa Clara Valley Transit  
4 Authority. He's coordinating training in cooperation with a  
5 number of labor representatives in the San Jose area. And  
6 he will be talking a little bit about some of the funding  
7 from AB 118 funds and the Employment Training Panel that  
8 three transit agencies are receiving for training 900  
9 workers in those transit agencies.

10           And he'll probably be discussing some of the  
11 workforce gaps in the public transportation sector, so I'll  
12 kind of leave the details to him when he speaks later.

13           I do have a couple of suggestions for the draft  
14 and perhaps staff can respond to this, there may have been  
15 oversights by myself. But it would be useful, when looking  
16 at the workforce needs to, and we've discussed this before,  
17 look back at past recipients and survey the past recipients  
18 of AB 118 funds, and to ask a simple question about their  
19 needs as far as job training for the workers that are  
20 working on those projects.

21           I do see that CEC is going to work with the  
22 Employment Development Department to develop a plan to  
23 deliver workforce training related to 2011 vehicle rollouts  
24 through existing workforce training grantees, as on page  
25 137.

1           But I think that kind of -- I think that's the  
2 right direction to look at, but I think it could be expanded  
3 to all aspects of AB 118 and the workforce training needs  
4 there.

5           Now, finally, I just have two or three comments  
6 regarding -- regarding the opportunities for soliciting, for  
7 funding training that is really leading to high road job  
8 training. So, there are a lot more solicitations, a lot  
9 more need than there is supply right now.

10           And let me see, there is a section regarding the  
11 regional industry, the RICOG grants, under the California  
12 Workforce Investment Boards and how those funds will may be  
13 augmented.

14           I think part of the augmentation will be looking  
15 at if those grants that have already been made will be  
16 creating jobs and producing a certain number of trainees and  
17 inspectors trained. I think that's valuable.

18           One of the problems that we've run into, as being  
19 partners in some of the projects of the State Workforce  
20 Investment Board, has been that there have been a number  
21 of -- there have been five different regional studies across  
22 the State about training gaps, as well as a number of other  
23 projects where industry partners were supposed to include  
24 labor.

25           And there have been some that have done very well.

1 For example, in Sacramento, the local Workforce Boards have  
2 included labor organizations and labor training programs.  
3 But there have been other areas of the State where the  
4 performance has been very poor, including those partners,  
5 for a variety of reasons.

6 So, my point is that there are some really good  
7 models throughout the State and I think that those models  
8 should be given preference in future funding

9 And, lastly, just one other suggestion and I'll  
10 discuss it a little bit more in my written comments later,  
11 but I think that the Energy Commission has the opportunity  
12 to give workforce training funding priority to employers who  
13 promise to give priority to hiring from candidates who have  
14 recently been laid off, and have experience in the industry.

15 This came to mind when I was reading about the  
16 funding that TESLA has received from the Energy Commission  
17 and the plans to build out TESLA operations in the former  
18 NUMMI plant. With so many NUMMI employees out of work,  
19 4,500 lost their jobs, and many have been rehired by TESLA,  
20 but I think it's maybe, you know, between 500 and 1,000 have  
21 been rehired. As they ramp up and plan to hire more, I  
22 think that there's an opportunity to encourage them to hire  
23 former NUMMI employees.

24 And that way not only help their community, but  
25 also get quality employees that already have the skills to

1 make their program successful.

2           So, that kind of concludes my remarks for now, but  
3 I'll include that in writing later.

4           MR. PEREZ: Great. Bonnie, and then Jan next.  
5 Okay. Okay, John, and I also see Howard's down here, too.

6           MS. HOLMES-GEN: Thank you. Bonnie Holmes-Gen,  
7 again with the American Lung Association in California, and  
8 I also want to express my appreciation for the tremendous  
9 amount of work this document represents. And I'm really  
10 pleased to be part of this group and the American Lung  
11 Association is strongly supportive of this program, and  
12 we're pleased to do anything we can to keep this moving  
13 forward.

14           And I just wanted to -- I wanted to raise, speak  
15 to the issue of what are the key priorities that this plan  
16 is promoting in terms of really focusing down on what are  
17 the key priorities that we're promoting for this next decade  
18 and beyond, and how can we measure the progress toward these  
19 priorities in terms of specific numbers of increases in  
20 fuel, increases in infrastructure, and vehicles, and has  
21 been brought up earlier, reductions in greenhouse gases.

22           I think we've had a lot of discussions over the  
23 past years of the program about the balance between trying  
24 to focus on a few key technology areas versus having a much  
25 broader focus. And I think in the past plans I think there

1 has been a little more focus, for example, on electric and  
2 hydrogen technologies as a larger part of the funding pool.

3           And I know you've got this -- the funds are --  
4 like you have electric in a couple different categories and  
5 so we have to look at it in terms of the total amount that  
6 might go to that area.

7           But it seems to me potentially a little light on  
8 the electric and hydrogen areas, and I wanted to see if you  
9 could speak to that given the tremendous amount of -- the  
10 tremendous increase in vehicles that are coming out, the  
11 Plug-In Electric Collaborative, and all the work that's  
12 going on there.

13           As Eileen mentioned, the tremendous need to focus  
14 on plug-in electric vehicle charging and working with local  
15 governments in terms of getting -- getting local government  
16 focused on streamlining the process to get that charging --  
17 make that available quickly to consumers.

18           And given the numbers that I'm seeing about  
19 potential increase in hydrogen vehicles to around the 50,000  
20 mark in 2015 to 2017, and then I also understand from  
21 previous workshops that the ARB, while there's funding  
22 currently available for incentives for zero emission  
23 vehicles, that that money may run out this year because of  
24 increasing demand for those vehicles. And that pot of money  
25 might not be enough.

1           So, I guess I'm asking maybe two things. Number  
2 one, if you could speak to how does -- what does this total  
3 mix of funding say in terms of what are the key priorities  
4 for the State moving forward. Number two, can we provide a  
5 little more information in terms of what we're trying to get  
6 to, not just by the funding amounts, but in terms of the  
7 actual infrastructure vehicles and GHG reductions that we're  
8 trying to get with these funds?

9           And can you speak to the issue of are we really  
10 doing enough for the electric plug-in and hydrogen sector,  
11 given all the needs that I've laid out?

12           MR. MC KINNEY: Thanks, Bonnie, for your comments.  
13 And I think, as I was trying to say earlier on, for this  
14 part of the public discussion we are really interested in  
15 what each of the Advisory Committee members has to  
16 recommend, specifically. If you think one category is  
17 under-funded, something else is over-funded, we'd really  
18 like to hear from you on that.

19           Again, we've put forth our best effort to  
20 recommend funding on a portfolio basis and, again, we're  
21 available to explain how we arrived at these  
22 recommendations.

23           But this is really your chance to put out the  
24 specific recommendations from the American Lung  
25 Association's perspective.

1 MS. HOLMES-GEN: Okay. Well, I'm not sure if it  
2 came through, but I'm thinking that it might be a little  
3 light in those areas that I mentioned, on electric and  
4 hydrogen. And specifically concerned about no funding for  
5 hydrogen stations, concerned about zero emission vehicles  
6 and the potential need for more incentive funds to assist  
7 with consumers buying, and concerned with the plug-in  
8 electric vehicle infrastructure needs and so I would like to  
9 have another look at those areas.

10 And we'd also like to ask, to the extent possible,  
11 that the Commission could look at providing some more  
12 specific guidelines in terms of what we would be getting for  
13 this funding in terms of numbers of stations, vehicles, and  
14 overall benefit in terms of greenhouse gas reduction.

15 This whole program, of course, is, you know, as  
16 we've always said over the years, we want to both provide an  
17 emphasis to try to provide some technology break throughs to  
18 get our cleanest, most sustainable, the long-term  
19 technologies moving forward as quickly as possible. And we  
20 also want to provide funding for a range of other  
21 technologies because we can't put all of our eggs in one  
22 basket.

23 And I appreciate that you've done a really good  
24 job of trying to meet all those needs, but I am concerned  
25 that we might need a little more emphasis, again, in the

1 electric and hydrogen area.

2 MR. MC KINNEY: Yeah, and I will say that kind of  
3 as a general overview, our core strategies on these is to  
4 work with the OEMs as best we can to identify their  
5 anticipated deployment dates for new vehicles. And this  
6 could be, you know, with NaviStar, on class A natural gas  
7 engines, or it could be on the fuel cell vehicles, or EVs,  
8 and plug-ins, and whatnot.

9 We're trying to get the best information we can.  
10 I think Charles referred to a major request for survey  
11 information to the OEMs, that's still forthcoming.

12 When we get that data, we look at the regional  
13 distribution, where the vehicles are supposed to go. We  
14 then look at the baseline fueling infrastructure facilities  
15 for each of the fuel categories or fuel types. And then we  
16 make our best effort to try to bridge any gaps that we see  
17 between where the vehicles are scheduled to go and what the  
18 supporting infrastructure is supposed to be.

19 And I know many, many parties and contributors to  
20 this process have different perspectives and, again, that's  
21 great. That's really what the Advisory Committee is all  
22 about and we welcome your technical expertise, your data to  
23 help us make a better informed funding decision.

24 MR. PEREZ: Thank you, Jim. We're going to go to  
25 Jan next, and then Jan will be followed by Brian, Jack,

1 Howard and John.

2 MS. SHARPLESS: Well, what this report told me was  
3 that there is a lot of opportunity out there and not enough  
4 money to cover all of the potential opportunities that we  
5 have. That we have enormous, challenging and aggressive  
6 goals in this State to be met, and the California  
7 Legislature has given us a little bit of money to help  
8 advance to meet those goals.

9 But I think as John Shears said, and I wouldn't  
10 want to misquote you, but they are ambitious and we don't  
11 know if we can meet them. But we're giving it our Herculean  
12 effort in trying to do so.

13 Having said that, you know, we always get back to  
14 the primary goal of this advisory group, which is, well, how  
15 do you divvy up the money given the great challenges that we  
16 face?

17 Now, these are the best of times and worst of  
18 times. We're sitting here with enormous economic challenges  
19 in the nation, the world and the State, on top of these  
20 other goals of becoming, you know, petroleum independent,  
21 and fuel independent, I guess. And so it all comes kind of  
22 crashing together with these numbers to say, well, is this  
23 the right grouping or not.

24 I think the other factor that comes into it is  
25 some of these areas that we're talking about are

1 commercialized, are more mature than other areas, so maybe  
2 they don't have the same -- even though they are important  
3 in meeting our goals, they don't have the same need,  
4 financial need for getting there. They need little pushes  
5 here and there, but if some of them don't have as much money  
6 as other categories, that doesn't mean that they're less  
7 important, it might mean that the money that we do have, as  
8 far as government role in this market place is concerned,  
9 you know, let's make sure that we -- that we spend it wisely  
10 in those areas, but not try to meet all of the market needs  
11 of those areas.

12           And because, you know, I'm sure that trying to get  
13 a much larger infrastructure for EVs or other areas where  
14 we're seeing a lot more penetration by these advanced  
15 technologies are warming and cheering our hearts.

16           But at some point the market has to start taking  
17 over. And so, I guess when I look at these, these  
18 categories, I kind of frame them with that in mind. You  
19 know, where are they in terms of maturity, where are they in  
20 terms of commercialization? Is there enough market forcing  
21 going on now that perhaps a gentle nudge in the right  
22 places, and I think that the CEC has identified those.

23           And I think they've done a good job with --  
24 Bonnie, yeah, you know, you want to be able to justify how  
25 we're doing this and what the priorities are.

1           This is an iterative process and it's been going  
2 on for three years. So, the good news is we've learned from  
3 that process.

4           I do see, sort of in answering Bonnie's question,  
5 that there are different priorities in this investment than  
6 there have been in previous Investment Plans. But I've  
7 looked at them in terms of my earlier comments as to where  
8 the market has moved, and where people are positioned.

9           So, when I read this report, I was a little  
10 overwhelmed when I got to the biofuels, biomethane, bio  
11 everything, biodiesel, with all of the potential  
12 opportunities and possibilities.

13           But there's a really high risk factor there and we  
14 heard some of them from John, and others, concerned about,  
15 you know, air quality issues or other kinds of issues. And  
16 it's an enormous investment.

17           So, get to the point, Jan. In that particular  
18 section I had a really difficult time trying to translate  
19 from the report to the chart exactly what are we spending on  
20 the biofuels, the bio area.

21           The terminology, "advanced cellulosic ethanol  
22 production plants," to me that's talking about facilities,  
23 it's not talking about -- well, maybe that is the same  
24 thing. You know, the different types of feedstocks that you  
25 would be using.

1           So, if that is what that is, then we've got 7.5  
2 million in ethanol and we've got 8 million in biomethane.  
3 So, let's see, that's approximately 16 million.

4           And then we've got, somewhere in there, diesel  
5 substitutes, okay. So, we're looking at over about 20  
6 million going into the biofuels area.

7           To me, Bonnie, that spells a priority somehow. Am  
8 I -- can staff help me out with my math? Am I looking at  
9 this properly, are we spending a lot more money in that area  
10 than we have in the past? And so this would be a priority  
11 in this investment plan because of the low carbon fuel  
12 issues, because of the advanced technologies.

13           Well, not even the advanced technologies, just  
14 current technologies, where we could start using fuel in  
15 this way, so that seems to be one. That's a lot of money,  
16 okay.

17           And then the other area is in the medium and heavy  
18 duty vehicle. Now there, for advanced technologies, that's  
19 an area that I think we'll see benefits, lasting benefits.  
20 Any time you find ways to advance ways in those  
21 technologies, so I think that's good.

22           So, so far I'm sort of thinking, okay, this is  
23 what you're proposing for the next Investment Plan. It has  
24 a lot of information in the report giving reasons for doing  
25 this, but I think it's a much riskier area, given this

1 economy. So, the question is, you know, should we move away  
2 from high-risk areas, high-profile areas and go with the  
3 more certain?

4           And this gets me to sort of -- oh, and in the  
5 manufacturing area, I'm still not convinced, Daniel, about  
6 the \$10 million for manufacturing, I'd like to hear a little  
7 bit more on that.

8           And what was my final point? Oh, I lost it. It's  
9 a senior moment, Jim.

10           So, you have your biofuels, you have your  
11 manufacturing, you have your sort of more near term stuff.  
12 That's where I see this plan going and with a lot of  
13 different plans that back it up, like the Bioenergy Plan and  
14 other plans.

15           So the question is, to me, should we move a little  
16 away from the higher risk stuff and put our money, as  
17 perhaps Bonnie has suggested, in areas where by 2014 we can  
18 point to something.

19           You know, in 2014 are we going to point to a  
20 gazillion interesting concepts, fuel concepts that we can't  
21 advance any further than we're able to in the next how many  
22 years it is?

23           So, I'm kind of looking at the other direction,  
24 rambling, looking at it from 2014. Say 2014 is the end  
25 point, what are we going to have in 2014 that we can say has

1 been the best way we could have spent the limited amount of  
2 money to meet the goals, which we are not going to meet with  
3 118 money. I mean, this is just a jump start.

4 So, that's kind of where I am to open the  
5 discussion. I'll just add my two bits in, it's a great  
6 report, but it was a lot of information and I couldn't  
7 always back out the information to the dollar figures. So,  
8 thanks for listening.

9 VICE-CHAIRPERSON BOYD: Jan is incredibly  
10 perceptive as always, historically. And as I said before,  
11 I'm sitting here with you, going through this almost for the  
12 first time. Staff has moved a long way over the years and I  
13 was quite confident that -- nor did I have the time,  
14 anymore, to do as much coaching, let's say, as in the past.

15 I think you've hit upon some key points that are  
16 talked about within this agency that probably, therefore,  
17 affected the staff's thinking. For several years now we've  
18 recognized the medium and heavy duty area is very ripe and  
19 felt that we're not doing enough in that area. You detected  
20 that.

21 There's no question that the bioenergy area is  
22 heavily emphasized.

23 And one of the criteria is -- that you and others  
24 have mentioned, and I'll state it kind of differently is,  
25 you know, trying to decide when you get to the point that

1 the government doesn't need to spend any more money, that  
2 the processes, programs, what have you, have become somewhat  
3 self-sustaining and the government really should back away.

4           As you've said, you know, we're debating here a  
5 tiny amount of money. We spend \$150 million a day in  
6 California on transportation fuel. We're talking about  
7 investing less than one day's investment in fuel. So,  
8 you're right, it's peanuts and it's hard to tell where you  
9 emphasize and where you don't.

10           In respect to what Bonnie was saying about  
11 electricity and hydrogen, certainly on electricity, in terms  
12 of hours invested by some of us and staff, too, in the  
13 subject area, Lord, we spent a tremendous amount of time in  
14 electricity. And there's a lot of it spread through here  
15 and a lot of efforts. And, you know, it's really going  
16 pretty well. We're, obviously, not intending to see it  
17 falter.

18           Hydrogen is always an interesting debate as to  
19 where it stands and I'm anxious to hear more on that.

20           And manufacturing, your three categories,  
21 biofuels, medium duty, heavy duty and manufacturing.  
22 Manufacturing, we desperately want to attract the maximum  
23 amount of manufacturing to California and we have to weigh  
24 it against, like I said earlier, other advice we get that  
25 this isn't the Mecca of manufacturing anymore. I don't want

1 to agree with that, personally, and maybe a lot of other  
2 people don't, either. And a lot of political and other  
3 capital is being spent on trying to make sure we are part of  
4 this green tech revolution that we, as a State, have been in  
5 the forefront of.

6 So, it is tough and I'm looking forward to hearing  
7 more from folks later today.

8 But back to bioenergy for a minute, because it  
9 uses the waste stream, which is costing us so much money, it  
10 becomes more of a priority, and the economic payoff here is  
11 very significant. But private investment and other  
12 government investment hasn't been made very much in this  
13 area.

14 When I first approached the new administration in  
15 Washington about bioenergy, DOE, where one would go first, I  
16 was told, well, all we care about is corn ethanol. And by  
17 the way, you know, you should go down the street to the  
18 Department of Agriculture and see if they've got any  
19 interest or any money? And that is the dialogue we've been  
20 having.

21 But the potential is significant, as you've heard,  
22 and I guess the staff is detecting what they're seeing this  
23 agency doing in other areas, particularly the Bioenergy  
24 Action Plan and the fact that it's being updated this year.

25 So, there's kind of a policy wants evaluation of

1 what I'm interpreting from the staff. But I am anxious to  
2 hear from all of you and the public, later on today, as to  
3 whether they, we have gotten it right.

4 But I mean you're right on point, as far as I'm  
5 concerned in having looked at this, and detected where  
6 emphasis seems to be. Now, there's a few areas where people  
7 think there's not enough emphasis and we've heard that.

8 Now, I've jumped in on top of what you're supposed  
9 to be speaking to, so feel free to have at it. Don't  
10 presume that I coached you on what your reaction is on this.  
11 I'm easy. I knew I shouldn't have opened it up.

12 MR. MC KINNEY: Yeah, again, to follow up on  
13 Commissioner Boyd's points and some of what you were getting  
14 at, Jan, say for example in the biofuels arena we really  
15 wanted to shift the conversation so it wasn't just about  
16 corn and soy, and really look at everything else you can,  
17 you know, convert into a transportation fuel, whether it's a  
18 liquid or a gaseous fuel.

19 And your comment about the commercialization  
20 continuum is right on point. So, you know, for biogas it  
21 really varies by which sector we're talking about.

22 So, landfill gas is fairly mature, we know how to  
23 do that. Diverting MSW before it goes to a landfill,  
24 getting that into a digestion or, as Mr. Norbeck said,  
25 gasification, you know, Jacques is here from CalRecycle and

1 we have somebody else from CalRecycle on the board, we've  
2 been looking at that issue very closely.

3           And with the vehicle side, again, this is -- the  
4 amount of money we've put forth is probably not going to  
5 influence a major auto manufacturer on how much money they  
6 put into developing these vehicle categories.

7           In terms of making sure that as many of those  
8 vehicles as possible come to California is something we have  
9 a little bit of control over. Ergo, we put a lot of money  
10 into EV charging infrastructure to try to demonstrate and  
11 signal that, hey, we are ready and we have consumers that  
12 really want to purchase these vehicles and get involved.

13           So, that's just a little bit of the staff  
14 perspective on how we kind of think about the different  
15 parts of the fuel types and the vehicle technologies.

16           VICE-CHAIRPERSON BOYD: And I left out one  
17 comment, but I'll choose to make it here. For a long time  
18 we've been pushing the idea of getting our ethanol needs in  
19 this State met from something other than corn, because we're  
20 not a corn growing state, and we've been waiting and waiting  
21 for technology. Cellulosic ethanol is beginning, to me, to  
22 dangerously mirror vehicle battery technology development,  
23 kind of wait, and wait, and wait.

24           But nonetheless, for a host of reasons, we're  
25 keenly interested in making that shift and almost desperate

1 to make that shift.

2           The CEPIP program was mentioned earlier, it took  
3 the staff a long time to develop a program that we thought  
4 was economically viable, and defensible, and somewhat bullet  
5 proof in that if we have to produce the bloody stuff, we  
6 could produce some in California, and the carbon footprint  
7 was less when you produce it in California.

8           But quite candidly, while you see the blank space  
9 in the report is just we have just been unmercifully  
10 hammered politically. We're at the point where it ain't  
11 worth taking the crap we're taking over this program because  
12 it threatens everything else we're doing here.

13           Therefore, we have pretty well concluded the  
14 market has gone crazy, beyond what was envisioned, and we  
15 are trying to figure out what do you do next. So that,  
16 probably, statement will not go down well with the ethanol  
17 industry, if they're in the room. The staff is meeting with  
18 some of them tomorrow just to talk about what the heck has  
19 happened out there.

20           But so we pretty desperately need some ways to  
21 turn the corner on getting that billion and a half  
22 gallons -- I mean million and a half gallons, and more, out  
23 of California. It is billion, I'm right.

24           MR. PEREZ: Yeah, right.

25           VICE-CHAIRPERSON BOYD: I mean, it jumped so fast

1 from 900,000 to a billion and a half that even I can't keep  
2 up. I've been talking, lately, about a billion and I just  
3 learned today it's a billion and a half. Anyway, there's no  
4 turning around from that, it's going to be there. That's  
5 only E10 and, hopefully, some E85.

6 In any event, I'm taking too much time rambling  
7 here, philosophically, at best.

8 MR. PEREZ: Thank you, Commissioner. We'll turn  
9 to Brian next.

10 MR. MAC MAHON: Thank you. I also wanted to thank  
11 staff for returning to investment in workforce development  
12 in the '11-'12 plan.

13 Many of the categories that you've identified for  
14 investment produce workforce needs. And we've found in our  
15 experience in working with many employers that the ability  
16 to allocate resources to training employees during a fast  
17 growth or initial growth phase is limited. And the types of  
18 partnerships that we're proposing with the workforce  
19 partners do allow for the injection of funding that allows  
20 an acceleration of expansion of the capacity of companies to  
21 invest in that type of training.

22 And I'd certainly like to also thank the  
23 Commission for its partnership with the Employment Training  
24 Panel as an infrastructure to work directly with employers.  
25 Over the last year we've developed guidelines for the

1 program, we've developed a process for project review.  
2 We've developed a framework for strategic investment that  
3 lets us connect with the Governor's Office of Economic  
4 Development, for instance, local economic development  
5 corporations, workforce investment boards, all of these  
6 entities that are working with the types of projects that  
7 are highly consistent with the goals of AB 118.

8           So, again, I just want to reiterate that I think  
9 it's very positive direction for the committee.

10           And then, also, I have a procedural question.  
11 During the year of implementation of a plan should  
12 performance not meet original assumptions is there ability  
13 to shift funding among the categories mid-year?

14           MR. PEREZ: It's a good question.

15           VICE-CHAIRPERSON BOYD: I'd say yes, within  
16 limits. Last -- well, we didn't do -- we did a little bit  
17 of shifting, as we discussed in the November meeting. And  
18 at the November meeting we also discussed the idea of  
19 reaching forward to pay for projects that met all our  
20 criteria and had passing scores, but we didn't have enough  
21 money. That was a degree, a latitude of flexibility that we  
22 broached to this group and the group saw the merits in doing  
23 that.

24           So, we try not to stray far from the categories,  
25 but the group in the past, the Advisory Group, has

1 recognized the need to be adept enough to change pace on  
2 some things, if we don't realize where we want to go. So,  
3 I'd say generally a qualified yes to your question.

4 MR. PEREZ: Yeah. And maybe I could just add to  
5 that, that qualified yes. Certainly, under Senate Bill 855  
6 we're under a new environment. So, if those changes and  
7 movements of funding from one category to another are  
8 significant, we have to get the blessing of the Legislature  
9 for that. So, any significant changes go back to the  
10 Legislature.

11 VICE-CHAIRPERSON BOYD: You know, if we're talking  
12 about inside the workforce development category, I'd say we  
13 have lots of latitude. If somebody there -- if some sector  
14 is not performing as we all hoped, and we collectively see  
15 opportunities within that category, that's -- I think that's  
16 pretty much understood among folks that we had pledged to  
17 spend X dollars in that area. And if we -- you know, if  
18 it's pointed out that one's not -- something's not working,  
19 other areas have potential, I think it's fairly easy to  
20 change there. It's when we go beyond the category that --

21 MR. MAC MAHON: It was a broader question, as a  
22 newcomer to the group.

23 MR. PEREZ: Okay. A key question, though. Okay,  
24 Brian.

25 Okay, Jack.

1           MR. MICHAEL: I guess that's better, he can hear  
2 me now.

3           Thank you for allowing the recreational boaters to  
4 be involved in this group. I would just like to mention  
5 that I haven't gone through all 170 pages of this report,  
6 but the only mention that I've seen so far about vessels is  
7 the fact that boater registration fees partially fund the  
8 program.

9           But I would like the group to know that there is a  
10 potential -- potentially large problem with ethanol and  
11 marine applications along with, as John mentioned, other  
12 off-road motors. And we don't know exactly what those might  
13 be, but there's been very little testing done to determine  
14 what the problems are.

15           We do know that ethanol and water are great  
16 together, except when there's too much water with ethanol we  
17 get an acidic reaction that has the effect of eating things  
18 up, like fuel tanks, and vessels, and components, engine  
19 components and other things.

20           So, vessels are certainly not a large part of the  
21 fuel use and we know that, but we do know that there are a  
22 lot of issues there. And ethanol is pretty much being  
23 pushed on us before the testing is done to find out what  
24 really the problems are.

25           So, we're hopeful that maybe somewhere through

1 this process we can get some minor amount of funding, and  
2 I've been in discussions with Tim, to be able to fund some  
3 of the testing that is necessary so we really know what the  
4 issues may be. Thank you.

5 MR. PEREZ: Thank you, Jack.

6 Howard.

7 MR. LEVENSON: Thanks, Pat. Originally, I wasn't  
8 going to make any request for changes, but I think I need to  
9 make a case for retention, perhaps, particularly with  
10 respect to the biomethane line, pre-landfill biomethane  
11 production. And I appreciate the points that Jan's brought  
12 up, and I think Jim Boyd and Jim McKinney more or less  
13 answered the same kind of thinking that I would provide and  
14 I want to concur with that.

15 That these are areas where the Energy Commission  
16 has funded a lot of landfill fuel projects in past cycles  
17 and now has made an important distinction in the plan  
18 between that part of the waste stream life cycle and sort of  
19 the pre-landfill process.

20 It's also make a real distinction between the  
21 purpose-grown crops, the corn and that kind of focus, and  
22 the waste-based approach, which CalRecycle certainly concurs  
23 with. And we see a lot of benefits in this in terms of  
24 lower transportation costs of moving that material back and  
25 forth, and greenhouse gas emissions reductions.

1           And so I just want to make a case for that  
2 particular line. I certainly understand the broader  
3 discussion about the bio category and there may need to be  
4 more fine tuning there.

5           Also want to make a point, and we'll provide some  
6 written comments, that there are some linkages here with a  
7 low carbon fuel standard in that particular category. And  
8 you're right, it may not be things that are going to come  
9 online in the next year or two, but there are a few projects  
10 that are coming online, and I think this is one of those  
11 midterm kinds of efforts that we need to be paying attention  
12 to.

13           Beyond that, I also, obviously, am going to echo  
14 everybody else in lauding the staff. I think under the time  
15 constraints that you've operated under and the resource  
16 constraints, you guys have done a remarkable job.

17           And I also want to thank you for paying attention  
18 to the Committee's suggestion the last time on some of the  
19 procedural issues, such as the pre-proposal idea, and the  
20 at-risk funding, things like that. So, I think it's  
21 important not to lose sight of those inclusions in the  
22 report as well. Thanks.

23           MR. PEREZ: Okay. Let's see, Daniel, you have an  
24 addition comment. No. Oh, that's right.

25           MR. EMMETT: Just a quick follow up, I had my own

1 senior moment and dropped a couple of things. But I also  
2 wanted to just acknowledge Jim's sort of request for  
3 specific recommendations at this point.

4 But I'll start with a question, a specific  
5 question. The \$3 million in the hydrogen category for  
6 transit, that's the same number as was in last year, there  
7 was a \$3 million allocation for AC transit for a station.  
8 Is this different than that or is this the same funding?

9 MR. MC KINNEY: This is new money.

10 MR. EMMETT: This is new money. Okay, great. It  
11 looked similar, so I just wanted to clarify that, thank you.

12 And also, one thing I forgot to mention in the  
13 context of the theme about the gap analysis and needs  
14 assessment, I'm wondering if the recent federal  
15 announcements at the DOE level to reduce hydrogen funding  
16 by, I think, a hundred million bucks or something like that,  
17 was taken into consideration in this analysis?

18 MR. SHEARS: Seventy-one million.

19 MR. EMMETT: Seventy-one. So, in terms of  
20 overall, you know, sort of a look at what's happening at the  
21 federal level, I didn't see any reference to that recent  
22 development.

23 MR. MC KINNEY: I'm looking over at Mr. Muench and  
24 we're happy to include that in. Toby, do you have any --

25 MR. EMMETT: Okay, we'll include reference to that

1 in our comments.

2 MR. MC KINNEY: Great, thank you.

3 MR. EMMETT: And then the final question, I'm  
4 curious, I participated in the Southern California  
5 Consortium for the electric vehicle charging solicitation  
6 that came out and it seemed to me that there was going to be  
7 a huge excess demand for the funding that was available.  
8 I'm curious if you can speak to, sort of looking back, what  
9 kind of excess demand you had for the EV charging and if we  
10 think that demand is being met by the 8 million?

11 Because I'd agree that just on sort of a cursory  
12 level it seemed to me that there was quite a bit of excess  
13 demand and someone acknowledged this gap in Southern  
14 California for EV charging.

15 MR. MC KINNEY: Yeah, I'm going to call Leslie  
16 Baroody up here to --

17 MS. BAROODY: Thanks. Good morning, everybody.

18 MR. EMMETT: Good morning.

19 MS. BAROODY: Yeah, at this point most of the  
20 charging infrastructure has gone to San Diego because of the  
21 Nissan E-Tech project.

22 And then in the Bay Area there are several  
23 entities that are rolling out EV infrastructure, including  
24 the Bay Area Air Quality Management District, the MTC,  
25 Metropolitan Transportation Commission, as well as ABAG.

1 So, Coolum is also putting in infrastructure in the L.A.  
2 area, as well as the Bay Area, Sacramento, and San Diego.

3 So, the Southern, SoCal Collaborative will be  
4 getting funding from us to be putting in more infrastructure  
5 and that should happen in the next several months, at least  
6 the finalization of the agreement.

7 Other than that, we're waiting to hear from our  
8 automakers on their plans for deployment, where we'll want  
9 to put further infrastructure funds. So, that's where it  
10 stands right now.

11 MR. EMMETT: Just a sort of a clarifying question  
12 then, I think there was a slide that showed there was \$1.8  
13 billion that was requested, essentially, and a hundred and I  
14 think 80 million dollars, and I'm not sure if I'm getting  
15 these numbers right, that was able to be awarded. So,  
16 there's obviously a huge demand for these funds, which is  
17 great, and shows that there's an appetite for this work.

18 On the EV side and the charging side,  
19 specifically, I mean, is the -- the demand, it seemed to me,  
20 was really, really significant for the charging systems and  
21 I'm wondering if there's sort of a similar delta there and  
22 if we're doing enough to make sure that that's funding  
23 there?

24 MS. BAROODY: Yeah, I think we're still -- we're  
25 trying to avoid stranded investment.

1 MR. EMMETT: Uh-hum.

2 MS. BAROODY: So, we're trying to balance that  
3 with the need for public charging. And there's quite a  
4 diversity of opinion on what is the appropriate ratio of  
5 vehicles to -- charging infrastructure to vehicles.

6 So, I think we also want to learn from what is  
7 being rolled out right now, and whatever lessons we gain  
8 from that we can apply to future funding. So, I think we're  
9 maybe being a little bit conservative at this point.

10 MR. EMMETT: Well, I think it's great you're  
11 coordinating closely with the OEMs, that makes a lot of  
12 sense.

13 And then in terms of a specific recommendation on  
14 the hydrogen side I would say I'd make this specific  
15 recommendation to take a look at the Fuel Cell Partnership's  
16 analysis and the need for \$10 million for five to seven more  
17 stations in that time frame. Thanks.

18 MR. PEREZ: Okay, thank you, Daniel. Bonnie?

19 MS. HOLMES-GEN: Thanks. I just wanted to ask one  
20 quick follow up on my comments. I'm wondering -- I know Tom  
21 had to leave, but since Sandy's here if we could get a quick  
22 update on the consumer incentives for ZEVs and potential  
23 needs next year, and how that might impact our amount of  
24 funding that we have to allocate here?

25 SANDY: Yeah, that's a good question. ARB has

1 already allocated \$9 million to fund consumer rebates for  
2 ZEVs. We, actually, looking at the numbers of the vehicles  
3 that are coming, even in the first half of this year, we  
4 believe we're going to run out of money before the middle of  
5 the year. And we actually worked closely with the Energy  
6 Commission and, as was mentioned earlier the Commission,  
7 through this part of the AB 118 program, has added another  
8 \$2 million, so that brings us up to about \$11 million.

9           You know, we expect, you know, on the order of  
10 2,000 light duty ZEVs to come to California by the middle of  
11 the year, a larger amount by the end of the year, maybe on  
12 the order of 3,000, maybe even more.

13           So, we're really at that point where we're  
14 carefully trying to balance supply and demand. We think we  
15 can make it to roughly the middle of the year with the money  
16 that we have, if that number, on the order of 2,000 vehicles  
17 by the second or third quarter of this year holds up. But  
18 we know there are more vehicles coming and we know there's  
19 going to be a substantially larger demand.

20           We're in the process of doing our funding plan for  
21 our next allocation and we've already said at our first  
22 round of workshops we think that -- we know that there's  
23 going to be a need for a lot more money for ZEV rebates, and  
24 that's going to be a large part of our investment plan.

25           We also said we're going to need to make some

1 touch decisions about how to stretch that money out and so  
2 we encourage people to participate in our part of the -- in  
3 our -- the development of our funding plan.

4 So, you know, we think we can balance, meet the  
5 need through the middle of this year with -- and then next  
6 year's funding is going to take us through the end of the  
7 year, but we're worried we're going to run out of money, you  
8 know, again, next spring. So, it's an issue that we're  
9 struggling with, we're trying to balance.

10 But it's a good issue to be facing, to be honest.  
11 You know, we're happy that the vehicles are coming and I  
12 think that's a win for all of us.

13 MR. PEREZ: Okay, thank you.

14 MS. HOLMES-GEN: Thanks for the update. And,  
15 again, I hope we can just put that on the list of things to  
16 be considered, for setting aside some additional funding to  
17 help with that program.

18 SANDY: And the plan this year includes similar  
19 language that you -- that the Commission funded, included  
20 last year, that gave you the ability to kind of contribute  
21 some money to us and that you took advantage of with the \$2  
22 million that you did include. And there is some language in  
23 the electric vehicle section that talks about that and  
24 reserves the right to do the same thing again.

25 And we appreciate that and fully support that.

1 MR. PEREZ: All right. Let's pause for a moment  
2 and look at the schedule here. It's 12:15. John, you want  
3 to go ahead, one more? Go ahead, let's take John, first,  
4 and then I think what we're going to do is break for lunch.

5 But I wanted to also get a show of hands from the  
6 general public and stakeholders out there, how many of you  
7 would like to speak this afternoon or have comments and  
8 questions, just give us a feel?

9 Great. Okay, thank you. John.

10 MR. SHEARS: Yeah, great. Thanks. So, I just  
11 wanted to clarify on my comments, earlier, about ethanol. I  
12 think I sort of slightly misspoke and referred to the DOE.  
13 I mean, there were a series of DOE reports out on higher  
14 blend ethanol pre-dating the growth energy petition to the  
15 EPA and it was the EPA that did the follow-up analysis and,  
16 you know, ruled that 2001 and later model years, at least  
17 for light duty vehicles, et cetera, are okay.

18 I think part of the challenge for the staff is,  
19 you know, in terms of trying to help us get a grasp around  
20 sort of the emissions profiles and the potential emissions  
21 profiles going forward on these projects is -- you know,  
22 this program's got everything in it, including the kitchen  
23 sink, so it's like mind-boggling complex to try and manage  
24 all of this.

25 And, you know, I think part of it is staff having

1 the availability of tools and outside expertise to help  
2 them, you know, be able to -- in, hopefully, future  
3 Investment Plans to be able to give us a better picture of  
4 what things could look like.

5           And I'll take the opportunity here to put a plug  
6 in for one of the projects that's actually funded by this  
7 program, that's built on some previous PIER funding, which  
8 is the UC Irvine stream modeling work. And, hopefully,  
9 we'll get a little preview from the folks at UC Irvine that  
10 I noticed are in the room, maybe a little bit this  
11 afternoon, that can talk a bit about the modeling.

12           That modeling is a valuable tool. That model is a  
13 valuable tool for, you know, making good targeted  
14 infrastructure deployment decisions, which I think will be  
15 very valuable in this whole discussion around EV  
16 infrastructure and hydrogen infrastructure, and at the same  
17 time they also do localized mapping for the emissions  
18 profiles. That's related from the use of the infrastructure  
19 and the vehicles that are using the fuels made available by  
20 the infrastructure.

21           And then Jan sort of, you know, waxed poetic about  
22 how the cup runneth over here, and Daniel mentioned a little  
23 bit about the gap analysis. That reminded me that Mike  
24 Walsh and I, back in the first round of this, you know, when  
25 staff were conducting the initial gap analysis that is

1 referred to in this Investment Plan, we had actually pushed  
2 for a more extensive, actually international in scope gap  
3 analysis, which is very important given that so much of  
4 these efforts especially, you know, through the mature  
5 industries are part of international efforts. And that can  
6 also help, I think, help staff give the Advisory Committee  
7 get a -- hopefully, a better focus on where the monies could  
8 go.

9           And I'm not sure if maybe the NREL business part  
10 of the agreement, that's being worked out with NREL, is the  
11 idea that NREL would help the Energy Commission maybe  
12 conduct that work and continue in terms of iteration around  
13 that work going forward.

14           So, I just wanted to touch on that because I think  
15 that's also very valuable given, you know, how especially  
16 with the vehicle technology so much of this is -- so much of  
17 the development, and the funding, and the incentives are  
18 happening on global scales.

19           And I want to acknowledge that staff did a very  
20 good job of sort of trying to cover all of the funding and  
21 incentive programs that are happening nationally that  
22 impinge upon, you know, the AB 118 program here in  
23 California.

24           MR. PEREZ: Thank you, John.

25           Okay, why don't we adjourn for lunch and let's

1 return by 1:30. That sounds good.

2 (Off the record at 12:19 p.m.)

3 (Back on the record at 1:35 p.m.)

4 VICE-CHAIRPERSON BOYD: Ladies and gentlemen, can  
5 we resume, reconvene for the afternoon session? Okay.

6 Okay. Let's ask, first, if members of the  
7 advisory group have any additional comments that they would  
8 like to make, that they thought about over lunch, before we  
9 move to a public comment, because that would be the next  
10 thing on the agenda.

11 And, Pat, here's Justin.

12 MR. PEREZ: Okay.

13 MR. JUSTIN WARD: Yeah, so I had a little bit of  
14 time to digest and eat my lunch, so now I feel energized,  
15 hopefully, before I get sleepy.

16 There was a lot of talk before lunch about the  
17 difference in an office between the CEC -- let me go back to  
18 what I'm talking about, which is hydrogen and the supply  
19 demand for 2014.

20 So, maybe it's pretty clear that there's a gap, at  
21 least between the California Fuel Consortium calculation and  
22 the CEC staff calculation. So, I'm wondering if there's a  
23 commitment from CEC to kind of share the analysis and  
24 assumptions so that we can kind of figure out where the  
25 differences are?

1 I think we started sharing our side information,  
2 but we haven't seen the CEC's side.

3 MR. PEREZ: Sure. In fact, I'll make my staff  
4 available to meet with you, at your earliest convenience --

5 MR. JUSTIN WARD: Okay.

6 MR. PEREZ: -- so we can review and look at both  
7 documents, and how we arrived at the supply and demand  
8 balances.

9 MR. JUSTIN WARD: Okay. And I think Bill Elrick,  
10 somewhere, he'll raise his hand --

11 MR. PEREZ: Is he here?

12 MR. JUSTIN WARD: -- he'll be the window for the  
13 CFCP to manage that.

14 MR. PEREZ: Okay. I'll have Jim work with Mr.  
15 Elrick on that.

16 MR. JUSTIN WARD: Okay. And then just a couple  
17 other statements -- I turned myself off, maybe it's a sign.

18 Just a couple other statements, you know, I wear a  
19 couple hats, so I had my partnership hat on just then. But  
20 I also have my Toyota hat that I'd like to put some comments  
21 on there, as well.

22 And I just want to again warn that the current  
23 Investment Plan does have the no funding for light duty  
24 vehicle stations, hydrogen stations in its current plan, and  
25 we really want to be careful about the message that sends to

1 private companies, as well as venture, possible venture  
2 funders.

3           We want to make sure that we -- I feel like we're  
4 on a really good path to really bring in more private  
5 investors and more of the ventures. It's a feeling I got no  
6 doubt on, on that, other than what we've seen to the  
7 responses from the pond.

8           But I do feel if there's a significant drop off  
9 that that may cause some loss of enthusiasm.

10           And the other thing I want to just make aware is  
11 that when we look at vehicle development schedules, so in  
12 the Toyota timeframe we -- our vehicle development  
13 schedule's three to five years.

14           So, in the three- to five-year time frame, usually  
15 the five-year's the first ping where we look at where is the  
16 market, what can the market sustain for our vehicle  
17 deployments? Are the stations in the area where we're going  
18 to deploy that vehicle and that brand of vehicle, because it  
19 changes based on brand.

20           And we look at it for five years and then we make  
21 our first cut on the vehicle number, what we think that  
22 market can sustain. And then we go back and we revisit it  
23 again about three years out, and about two years out, and we  
24 adjust the numbers as such.

25           So, one of the worries I have is that considering

1 and, again, I can only be selfish and talk about the Toyota  
2 development schedule, but looking at that development  
3 schedule if there is a taper off then that's going to give  
4 an indication to us that there isn't a commitment for the  
5 long-term commercialization.

6 So, I just wanted to put that out there as it  
7 could be a driver for some of the auto deployment plans.  
8 So, it could inadvertently end up as a decrease in the  
9 deployment.

10 MR. MC KINNEY: Thank you, Justin. And just as a  
11 friendly reminder, we have -- we still have \$10 million from  
12 '10-'11 for light duty fueling stations that we haven't put  
13 on the street, yet, so just keep that in mind.

14 MR. JUSTIN WARD: Yeah, that's great, we're going  
15 to need that. And as you can imagine me saying this, and  
16 more on top of that.

17 As maybe everyone on this panel will also say,  
18 hopefully, there's going to be an opportunity in the public  
19 session, I think there's a couple of good presentations,  
20 maybe I can ping UCI, that's going to show that there's a  
21 need for a significant number, maybe 40 plus, stations.

22 MR. PEREZ: Okay. Eileen.

23 MS. TUTT: Thank you, Pat. Eileen Tutt, from  
24 Cal/ETC. I do want to say, I wanted to thank the staff for  
25 moving the 2 million from the infrastructure side to the

1 AQUIP side this last go around. And it sounds like there's  
2 some flexibility thinking about making sure that the  
3 vehicles are incentivized this time around. So, I just  
4 wanted to point that out as starting out on a high note.

5 I also want to bring up a number of things that I  
6 heard as I was listening here. One of them is the chart  
7 that shows the money and stations in L.A., in Southern  
8 California, particularly L.A., and relative to the other  
9 areas in the State.

10 And I just want to point out that L.A. is 40  
11 percent of the vehicle market and it's much, much more  
12 complicated than San Diego because of all the small  
13 utilities.

14 So, I do think that I didn't quite understand the  
15 answer. What I understood the answer to my question was  
16 that the 1 million for helping with the permitting  
17 processing at the local government level was from last year.  
18 But what I want to know, specifically, is -- are there any  
19 of these -- is workforce training, are there any of these  
20 categories in which another amount of money could be used to  
21 help with some of those, especially -- especially I would  
22 say Southern California because of the lack -- you know, the  
23 discrepancy, the gap, I would say, in the number of stations  
24 and the amount of money that has gone to the L.A. region.

25 Is there a way that there's still money, and I'm

1 looking at workforce training, but maybe market and program  
2 development, I don't know, where more money could go to help  
3 local governments as they try to streamline permitting.

4           Because I'm specifically -- when Jan said we look  
5 back from 2014 and where are we, I think that in 2014 there  
6 could very easily be a significant number of electric  
7 vehicles.

8           And this funding, if you look at the leverage  
9 dollars, the ARRA leverage, even though it wasn't as much as  
10 we all hoped, in the electric transportation world it was  
11 more significant than anywhere else. And the amount of  
12 private dollars that were leveraged with this, with the 118  
13 money, I would bet is very significant.

14           So, I think there's a message there and the  
15 message is when we get to 2014 we could very easily have  
16 significant numbers of plug-in electric vehicles, and I  
17 would say in L.A., in particular. And that's where there is  
18 kind of a gap in funding.

19           So, I will come in and probably talk to you more  
20 about that, but I wanted to bring it up now. And I thank  
21 you.

22           MR. PEREZ: Thank you, Eileen.

23           Okay, John. Oh, sorry.

24           MS. TUTT: I just had the one question. Is there  
25 a category where the more --

1           MR. MC KINNEY: So, part of your discretion as an  
2 Advisory Committee member is that if you don't see an issue  
3 fairly represented in the funding categories, you can create  
4 a new category, you can recommend that you create a new  
5 category with \$20 million, if you can provide the data to  
6 justify that. But that's really the type of input we're  
7 looking for from the Advisory Committee.

8           MS. TUTT: Well, I'm not sure we need a new  
9 category. I guess what I'm asking is in some -- in, say,  
10 workforce and training or market program development could  
11 that money be used to help local governments with  
12 inspectors, or streamlining permitting help?

13           MS. BARODY: Eileen, can I just clarify for you  
14 very quickly? The \$1 million for PEV regional readiness,  
15 that is also for helping with streamlining permitting and  
16 all of that. That would compliment the solicitation that  
17 we're developing right now, using a million dollars from the  
18 last funding cycle.

19           So, in essence, you will have \$2 million for  
20 permitting streamlining, et cetera. Does that make sense?

21           MS. TUTT: I'm just not sure where the -- I know  
22 there's 1 million from last year.

23           MS. BARODY: Right.

24           MS. TUTT: I understood that from Mr. McKinney.

25           MS. BARODY: Right. And then we're proposing an

1 additional million.

2 MS. TUTT: Okay. I didn't -- I didn't know that.

3 MS. BAROODY: Yeah, I just wanted to make sure you  
4 understood.

5 MR. SHEARS: Yeah, just for folks on the WebEx,  
6 John Shears with CEERT.

7 So, I was just wondering if -- I had teed up the  
8 issue of a gap analysis and I was just wondering if, just  
9 for everyone in the room, if staff wanted to maybe discuss a  
10 little bit their thinking on gap analysis going forward  
11 or -- so that's my first question, just to follow up from  
12 before lunch.

13 MR. MC KINNEY: I appreciate what you are offering  
14 up for an international gap analysis. I would note that we  
15 have several of the staff from the ICF Technical Team here,  
16 who might be able to, you know, articulate better than I  
17 could the scope of their gap analysis. It's been a little  
18 while since I've read that report. That's about what I can  
19 offer from staff's perspective.

20 MR. SHEARS: Okay, just seeking clarification  
21 since I wasn't sure if NREL was going to be doing some of  
22 that work or -- yeah, so it sounds like ICF is --

23 MR. MC KINNEY: The ICF -- the NREL contract is  
24 not yet in place. The ICF contract runs through June. We  
25 may be able to double dip a little bit there.

1           But I think your comment might be interpreted as  
2 if it's not in the NREL contract, you suggest that we might  
3 want to put it there?

4           MR. SHEARS: Or as soon as practicable as part of  
5 the program, I think it will be important for going forward  
6 with, if not the current Investment Plan, certainly future  
7 Investment Plans.

8           And as I mentioned, it was Michael Walsh, who's an  
9 internationally well-known and respected, you know,  
10 consultant who works in this area, and myself, both,  
11 advocated for this back in the first round of the Investment  
12 Plan.

13           So, and then my second issue, I just wanted to  
14 follow up on the biodiesel. So, I note on page 102, on  
15 Table 20 there's a citation for sort of emission reductions  
16 based on a National Biodiesel Board source. And I'm not  
17 sure if that's based on CARBs, any of the work coming out of  
18 CARBs Biodiesel Emissions Study.

19           If not, I'd refer folks to that work, recognizing  
20 that that's looking at a limited number of feedstocks that  
21 have been used to, you know, produce the biodiesels that are  
22 part of that emission study.

23           So, the profile might look a little different  
24 depending on what CARB's research shows versus what the  
25 National Biodiesel Board may be demonstrating.

1           And then in terms of the 11 and a half million  
2 dollars in diesel substitute funding for 2011-2012, so  
3 again, 7.5 million essentially for approaches to production  
4 of biodiesel including, you know, algae research, et cetera.  
5 I was just curious in terms of bulk terminal storage  
6 blending facilities and fleet dispenser equipment.

7           At the moment, given, you know, that there was  
8 almost 4 million the last round, have there been putative  
9 projects that have sort of already identified themselves  
10 going forward or is it just sort of referenced against the  
11 level of funding from the previous -- the previous round?

12           Because just in terms of trying to manage, you  
13 know, where the dollars could be going and the issues around  
14 the use of biodiesel, I'm just a little concerned that we're  
15 putting a lot of money into infrastructure that may be  
16 supported and only needed in the shorter term given, you  
17 know, where the industry needs to be going is more over to  
18 the renewable diesel.

19           So, I just was wondering if there could be a  
20 little further articulation on that \$4 million?

21           MR. PEREZ: John, we'll have to get back to you on  
22 that with the staff who performed the analysis for that  
23 section on how they arrived at that 4 million justification,  
24 and continued support for the bulk storage facilities.

25           Okay, Bonnie.

1 MS. HOLMES-GEN: Thanks. It sounds like we're  
2 winding down with our advisory comments. I wanted to just  
3 clarify on one point that is of very great concern to the  
4 American Lung Association in California. And that's that  
5 while we're pursuing, of course, a mix of strategies, of  
6 course, to further our greenhouse gas reduction goals, at  
7 the same time we're very focused on trying to make progress  
8 toward improving air quality. And I think that is written  
9 into and built into the AB 118 effort, that we're trying to  
10 focus on the GHG and air quality reduction, and a number of  
11 goals.

12 And I just wanted to make sure that that air  
13 quality component doesn't get lost as the Commission is  
14 developing the priorities.

15 And this just kind of goes back to my earlier  
16 comments that as we are making decisions about the emphasis  
17 for this funding, I would like to make sure that air quality  
18 benefit is a key factor that's considered, and that's one of  
19 the reasons that we arrive at our recommendation that we  
20 have an increased focus on plug-in ZEVs, renewable hydrogen,  
21 and I think some of the other categories you have here in  
22 terms of natural gas, and biomethane fall in that category,  
23 also.

24 But I am concerned, again, I think others have  
25 raised this, about the increase in funding for biodiesel,

1 and some of the biofuels, just from an air quality  
2 perspective, that I don't know that we're getting much air  
3 quality benefit in that arena.

4           So, I wanted to just raise that issue as another  
5 lens that I think it's important to look through as we're  
6 designing these priorities. And encourage that, as we go  
7 through the process of commenting and finalizing, that we do  
8 make air quality and health benefits another -- a key  
9 priority that we use to make those final decisions.

10           And we will be submitting some follow-up comments,  
11 of course. I know that this is kind of an initial look that  
12 everybody's had at this and we're giving you some of our  
13 initial feedback and we'll provide something more in  
14 writing.

15           When you did, as has been mentioned, go through  
16 some of the air quality issues that have been raised by the  
17 ARB with some of the biodiesel fuels, and those haven't all  
18 been resolved, yet, so we don't have all the final answers  
19 as to what the mitigation is.

20           But, clearly, it's a matter of bringing it back to  
21 a neutral position in terms of air quality, in terms of  
22 making progress toward further air quality benefits.

23           And, obviously, with all these fuels we have to be  
24 concerned about the feedstocks to make sure we are getting  
25 those air quality benefits, and I recognize that, and that's

1 clearly an important focus, also.

2           And I did want to ask one question that came to  
3 mind and the question is regarding the ethanol piece. Is  
4 there any of that funding that would go to the producer  
5 incentive, is that what it's called, program from the last  
6 Investment Plan? I just want to be clear, any of the money  
7 in this new Investment Plan that would go back to that  
8 program from last year?

9           MR. PEREZ: No, I don't believe there's anything  
10 proposed right now for that.

11           MS. HOLMES-GEN: It doesn't look like it in the  
12 chart, but I just wanted to clarify that --

13           MR. PEREZ: For that program, right.

14           MS. HOLMES-GEN: -- that point.

15           MR. PEREZ: Yeah.

16           MS. HOLMES-GEN: Okay. I appreciate the focus on  
17 the cellulosic ethanol.

18           MR. MC KINNEY: And then Bonnie and Jan had raised  
19 a question earlier. Proportionally, our proposed funding  
20 for biofuels is about the same as it has been in the  
21 previous years on a proportional, so it's about a quarter of  
22 the total funding allocation.

23           MR. PEREZ: Okay, I think that might --

24           VICE-CHAIRPERSON BOYD: If I might, Pat, just a  
25 quick comment. Somebody has to speak up for the other

1 priority, which is energy security through energy diversity.  
2 So, we have to weight that in our debate as well.

3 Plus, I wanted to raise a question. We talked  
4 long and hard last year about an innovative technology  
5 category, I note it's -- and we created it and I note it's  
6 not here this year, at least I couldn't detect it. And I  
7 just want to put that on the table as something, obviously,  
8 we'll have to talk more about.

9 And I know you're working to try to institute a  
10 small grants program, but I just want to reiterate that  
11 that's something that is of interest to us at the policy  
12 level here, at the Commission.

13 A small grants, we call it a small grants program  
14 in our PIER program, which I think the grants are limited to  
15 like \$95,000. And it's been incredibly successful down  
16 through the years in helping provide just enough stimulus to  
17 get something started that has resulted in some really good  
18 projects.

19 And we've been talking about how to do the same  
20 thing inside the framework of AB 118 and we're talking to  
21 folks about how to, perhaps, structure such a program using,  
22 of course, the PIER Small Grants Program as a model. But  
23 the kind of work here is different than, to some degree,  
24 than has been done in PIER.

25 So, that's something we're still talking about

1 doing. However, it seems to me you don't create a category  
2 for it, you just might designate funds from several existing  
3 categories to add to a small pot of money. I don't know, I  
4 can't remember what the PIER program is, but it's only a  
5 couple million dollars a year, or some small number.

6 In any event, that's some of the thinking that has  
7 gone on for quite some time, that I think you'll see  
8 reflected, possibly, as we finalize this document. But we  
9 haven't even got this year's small grants thing up and  
10 running.

11 So, when you don't see something, it doesn't mean  
12 we're not interested in it. Some of them can be done  
13 without benefit of specific reference.

14 Others, there's just maybe a one-year hiatus  
15 because we haven't even got barely started in some  
16 categories. So, enough said.

17 MR. PEREZ: Thank you, Commissioner.

18 Okay, with that, we're going to open it to public  
19 testimony. And I have everyone's blue cards. If there's  
20 others out there, who have not submitted their card, please  
21 fill one out at the back dais and bring it up to us.

22 I'm going to begin with Shane Stevens-Romero. And  
23 just please come up to the table here, in the center, and  
24 identify yourself for the record. Or either place, whatever  
25 your preference is. Okay. Oh, you got a presentation?

1 Okay, I'll get someone to help with the presentation.

2 MR. STEVENS-ROMERO: While she's getting set up,  
3 my name is Shane Stevens-Romero, I'm a PhD candidate at UC  
4 Irvine, in the Environmental Engineering Program.

5 I want to thank Commissioner Boyd and the rest of  
6 the Committee for giving us a few minutes here.

7 We've developed an advanced -- a planning tool for  
8 the deployment of alternative transportation fuels. That  
9 tool is called STREET, which stands for the Spatially and  
10 Temporally Resolved Energy and Environment Tool.

11 I think Peter has it memorized. Right, Peter, the  
12 acronym?

13 And we're pleased to say that we're coming under a  
14 contract with the CEC, currently, to apply this tool for the  
15 planning of the broad array of transportation fuels that's  
16 being considered in the Investment Plan.

17 The considerations that we look at are greenhouse  
18 gas emissions, air quality, and also the need for near-term  
19 infrastructure to help the rollout of alternative  
20 transportation fuel technologies.

21 So, some recent results that we produced, that  
22 we're pretty excited about, are specifically related to  
23 hydrogen fueling stations in Southern California, and we  
24 felt it was important to share it with the Advisory  
25 Committee at this moment in time.

1           So, our analysis shows that a modest number of  
2 hydrogen stations will provide the coverage required to  
3 enable commercial volumes of fuel-cell electric vehicles in  
4 2015. And by modest numbers, that's 21 additional stations  
5 in the target cluster areas in Southern California, and then  
6 somewhere between five and ten additional stations to open  
7 up markets beyond those cluster areas in Southern  
8 California, and to provide connectivity to the typical  
9 destinations of Southern California drivers.

10           Given this sufficient, but limited station  
11 coverage, we think station through-put will allow the  
12 industry to become self-sustaining and California can phase  
13 out public funding by sometime in the 2017 timeframe.

14           So, I've started kind of with the main takeaways  
15 here, so let me just provide a little bit of background of  
16 how we got there.

17           We received data from automakers, showing where  
18 the early interest in fuel-cell vehicles is. So, the darker  
19 colors represent higher interest for early customers. So  
20 what we did is we defined our cluster areas here, which are  
21 shown by the red boundaries, and we focused on California,  
22 but with emphasis on these cluster areas.

23           So, this is Southern California and it's showing  
24 the existing and planned hydrogen stations, so this includes  
25 the recent awards by the California Energy Commission, there

1 are 17 of those.

2           And we looked at this as a coverage problem for  
3 the rollout years, as a coverage issue. So, what I'm going  
4 to show here is the driving coverage that's provided by  
5 these stations within two minutes, four minutes, and six  
6 minutes of driving time.

7           Now, with the additional 21, that our analysis  
8 suggests, in the cluster areas this is what the coverage  
9 would rollout to.

10           And then we said up to five in cities outside of  
11 those cluster areas to grow the market beyond that, and then  
12 up to another five of the connector stations to get to these  
13 typical driving destinations for Southern California  
14 drivers.

15           So, I'm going to take Santa Monica, West L.A. as  
16 an example of how we arrived at this conclusion. What we  
17 looked at is the driving time to a station within the area.  
18 And what we have right now with the existing and planned  
19 stations, five stations in Santa Monica, and that provides  
20 ten minutes of driving time. And what we want to do is  
21 decrease driving time.

22           The existing gasoline station network provides  
23 about four minutes of driving time. So that would be, for a  
24 full build-out scenario, we might need 18 or maybe something  
25 a little bit more than 18 hydrogen stations.

1           But for the rollout years what we see here is that  
2 the first couple of stations that you add give you a really  
3 big improvement in your driving time, so you reduce driving  
4 time a lot.

5           And we think that, you know, taking something in  
6 this peak year of around nine stations to provide six  
7 minutes of driving time is a good target for the 2015, where  
8 you're getting a lot of improvement for the public funds  
9 that are going in for the infrastructure, and you can enable  
10 the commercial rollout.

11           So, now what I'm just going to do is overlay a  
12 curve for fuel cell electric vehicles in operation. So,  
13 this curve here represents the commercial build out,  
14 reaching about 50,000 vehicles out here in 2017.

15           And you can see that there's a need to provide the  
16 coverage to enable this commercialization curve. So, what  
17 I've drawn here in this blue circle shows the build out that  
18 would be required to provide the consumer confidence and the  
19 market confidence to enable the tens of thousands of  
20 vehicles to come out in the commercialization year.

21           I'd be happy to answer questions, that's the  
22 conclusions of the slides. Thank you.

23           Is there a format for questioning? I saw her  
24 raise her hand.

25           VICE-CHAIRPERSON BOYD: The first hand up.

1 MR. STEVENS-ROMERO: Okay.

2 VICE-CHAIRPERSON BOYD: Shannon and then Jan.

3 MS. BAKER BRANSTETTER: Yeah, just a clarification  
4 question. When you say drive time is that how far it is  
5 from someone's residence to the station, or what do you mean  
6 by drive time?

7 MR. STEVENS-ROMERO: What it is, is it shows from  
8 a given facility how much of a span it has within two  
9 minutes of drive time.

10 So it would be similar to, for example, a fire  
11 authority might use this method to site a fire station, to  
12 say like, well, within two minutes we can reach all of these  
13 homes, right.

14 MS. BAKER BRANSTETTER: It's for homes and  
15 commercial?

16 MR. STEVENS-ROMERO: It's for anything, it's just  
17 looking at the roads and how far you can kind of get within  
18 two minutes, or four minutes, or six minutes of one hydrogen  
19 station, if you put it there.

20 MS. BAKER BRANSTETTER: But not necessarily  
21 people?

22 MR. STEVENS-ROMERO: Well, people would live in  
23 those areas, right, and it's based on the roads that people  
24 would use for traveling so --

25 MS. BAKER BRANSTETTER: But it didn't really look

1 at density, though?

2 MR. STEVENS-ROMERO: We did actually target  
3 density. And then as you saw, one of the earlier slides  
4 showed the early interest areas for customers that would be  
5 interested fuel cell vehicles. So, we targeted those areas  
6 and tried to make sure that coverage was over the early  
7 interest areas for fuel cell vehicle customers.

8 MS. BAKER BRANSTETTER: Great, thank you.

9 MR. STEVENS-ROMERO: Yeah.

10 MS. SHARPLESS: The red dots represent the  
11 electric? Are those electric charging?

12 MR. STEVENS-ROMERO: Oh, these are -- this here is  
13 a curve that -- and it seems to be cut off here, there might  
14 be an issue with the formatting. But this red curve  
15 represents the deployment numbers, and this is based on the  
16 California Fuel Cell Partnership survey for fuel cell  
17 electric vehicles.

18 So, starting around -- starting around the year  
19 2015 it's expected that the vehicles will start to be rolled  
20 out in the thousands of numbers, reaching around --

21 MS. SHARPLESS: So those are vehicles, not  
22 charging stations?

23 MR. STEVENS-ROMERO: Yeah, that's correct. These  
24 are vehicles here. These are -- what's that?

25 MALE VOICE: Where's the scale on the --

1 MR. STEVENS-ROMERO: The scale, I have it  
2 separately, I can show that to you. I overlaid this here  
3 without the numbers just to create less confusion. But it  
4 reaches -- out here reaches about 50,000 vehicles by the  
5 year 2017, yeah.

6 And again, this is based on California Fuel Cell  
7 Partnership survey numbers, so those are all public.

8 MS. TUTT: Would this -- would this sort of apply  
9 to any liquid or gaseous fuel? I mean, I don't think it  
10 could apply to electric charging, necessarily, but could you  
11 use the same -- could this be -- does this have to be  
12 hydrogen specific, or could it be natural gas, or ethanol,  
13 any liquid gaseous fuel would map out about the same, do you  
14 think?

15 MR. STEVENS-ROMERO: Yeah, we could -- we are  
16 doing similar analyses for other fuels. And as I mentioned,  
17 we're coming under contract with the California Energy  
18 Commission to apply similar methodologies to a broad array  
19 of fuels that are included in the Investment Plan.

20 VICE-CHAIRPERSON BOYD: Our interest in this  
21 project is for that very reason, that it seems like a model  
22 that would be applicable to multiple fuels. We've been  
23 aware of this for some time, we got quite interested in it.  
24 And as indicated, we are contracting with the University to  
25 help us analyze this very question for all the fuels.

1           And we've been briefed fairly extensively on this,  
2 including myself last Thursday, I guess. So, you know, this  
3 shows a lot of promise for us and helping us, the collective  
4 us here, with what it is we're trying to figure out in terms  
5 of the balance.

6           MS. SHARPLESS: I'm still slightly confused. When  
7 you put the two up together, is there a relationship between  
8 the increase and the number of fuels -- electric fuel cells  
9 and the show of hydrogen fueling stations? Is there -- are  
10 those two separate things or are they somehow linked,  
11 connected?

12           MR. STEVENS-ROMERO: Well, the fueling stations,  
13 which I'm showing here as the blue dots, are needed to  
14 provide fuel for the vehicles which would be rolled out in  
15 this timeframe here.

16           And so, what I'm showing here is that as you  
17 increase the number of hydrogen fueling stations you provide  
18 better coverage for that community. In other words, more  
19 people can reach a fueling station conveniently.

20           MS. SHARPLESS: But there is a set of assumptions  
21 about range, isn't there, on these cars? You're talking  
22 about distance from point A to getting fuel, but how does  
23 that relate to the range of the vehicle?

24           MR. STEVENS-ROMERO: This -- we're looking at this  
25 in terms of providing a convenient infrastructure for an

1 area. I mean, the range of fuel cell vehicles has been  
2 demonstrated from around between 250 miles of driving range  
3 to over 400 miles of driving range, depending on the  
4 vehicle. So, it's comparable to a gasoline car. And so  
5 what we try to do here is try to mimic an infrastructure  
6 that could start moving towards what is provided by the  
7 gasoline station infrastructure, but realizing that we won't  
8 reach that for some time.

9 MS. SHARPLESS: Is there an internal combustion  
10 engine that makes 400 miles to --

11 MS. SHARPLESS: No, this is a fuel cell vehicle so  
12 it's --

13 MS. SHARPLESS: I'm just being facetious.

14 MR. STEVENS-ROMERO: Oh, that's great.

15 MR. NORBECK: There's a hybrid electric/gasoline  
16 powered one. No, I get -- I have a hybrid gasoline and I'm  
17 getting almost 400 miles per tank.

18 MS. SHARPLESS: No, the point I was making was the  
19 convenience of the fueling station to range. That was the  
20 point I was trying to make.

21 MR. SHEARS: Yeah, and just to clarify, and this  
22 goes to Daniel's eloquent expression, this goes to  
23 availability and not capacity. Right?

24 MR. STEVENS-ROMERO: Yeah, that's correct.

25 MR. SHEARS: So this is -- if the station -- if

1 the vehicles were deployed, you know, in the high interest  
2 areas and you were deploy vehicle fueling stations to  
3 support those targeted deployments of the vehicles, how  
4 many -- you know, how far away would it be to be available.  
5 But if you had a lot of vehicles, this number of stations  
6 might not -- you know, if they were in heavy use, you might  
7 not have enough fueling capacity in those stations to be  
8 able to conveniently fuel all the cars, unless they had like  
9 very large in-house capacities.

10 MS. SHARPLESS: All I know is that through-put's  
11 important.

12 MR. PEREZ: Thank you.

13 MR. STEVENS-ROMERO: Thank you.

14 MR. PEREZ: Okay. One of the things I wanted to  
15 point out is we do have quite a few speakers here, including  
16 those that are online that would like to speak today. So,  
17 if you hear comments made by a previous speaker that you  
18 support, rather than reciting the reasons for that  
19 particular position or whatnot, you can simply make  
20 reference that, yeah, I support what I heard from speaker A,  
21 B, or C, because we do have a lot of speakers. I want to  
22 make sure that we get everybody's input today.

23 So, the next person I have is -- looks like it's  
24 James Chen, from Tesla Motors. Not in yet? Okay.

25 How about Jim Williams, Navistar? Jim, okay.

1           MR. WILLIAMS: Good afternoon, ladies and  
2 gentlemen. It's certainly great to be here and I'd like to  
3 certainly thank the Chair, Mr. Boyd, for allowing me to make  
4 a few comments, and also the rest of the Committee.

5           I would also like to thank the staff in that they  
6 allowed International, or Navistar, who I represent, to  
7 spend some time together in advance of this meeting to get  
8 our feedback and our feelings as to how they could help the  
9 industry, the medium and heavy truck industry. So, I  
10 appreciate that a lot and thank you, staff.

11           My name is Jim Williams. I'm Director of Sales  
12 and Distribution of New Products for Navistar, or many times  
13 known as International Truck and Engine Corporation.

14           We are the largest builder of Class 6 through 8  
15 medium/heavy trucks and buses, in North America. So, we do  
16 build one or two trucks as we get downstream.

17           This project is extremely important to us and I'd  
18 like to explain why.

19           But first of all I'd like to introduce, if I  
20 could, the members that are with me today. So, there are  
21 four of us that are speaking here, three besides myself. We  
22 have Mel Agassi, who is a Director of Government Affairs,  
23 Scott Sutarik, who is the Vocational Sales Associate for the  
24 West Coast and covers half of the United States, working  
25 with customers in our dealer network.

1           And Alan Nielson, who is a special guest, he is  
2 the Western Regional Sales Manager for Emission Solutions,  
3 Incorporated. They are a partner with us on building and  
4 providing us a 7.6 liter CNG engine for our product line.  
5 So, he's right over there with the smiling face, okay.

6           So, that's the group that I'm representing today.

7           Where is International at? We have been asked by  
8 the Energy Commission and others, especially customers, for  
9 quite some time. And with our concern about meeting 2010  
10 diesel emissions and being clean diesel leaders in the  
11 industry, we had an awful lot of time and energy that we  
12 spent on that.

13           However, we now have launched our first product  
14 with natural gas power. It's our WorkStar 73, 7400 models.  
15 We are building them today at our Garland, Texas assembly  
16 plant, and it's like the vehicle in the top right-hand  
17 corner. Happen to be 35 units that are being run, now, by  
18 the City of Dallas in their refuse and recycling industry.

19           The second platform that we will be bringing this  
20 in is a very high volume platform. In fact, we have about a  
21 40 percent market share in this class of vehicle, is the  
22 DuraStar product, and we expect to be in production in June,  
23 with natural gas, across that entire product line.

24           We are working on the IC school bus products,  
25 bottom right, which is the yellow bus that hauls a lot of

1 our children.

2 All of these engines are 2010 and now 2011  
3 certified. And, again, it's with our partner ESI, Emission  
4 Solution, Incorporated, out of McKinney, Texas, that are  
5 providing us a 7.6 liter Phoenix engine. That engine  
6 happens to be a derivative of our high volume DT 466 engine  
7 platform that we built for the last 30 years. So, it's very  
8 familiar to us and our dealer network, so it makes a very  
9 nice fit.

10 The other thing that I think is important is that  
11 both the ARB and this group have supported our -- one of my  
12 past launches here, about three years ago, of hybrid  
13 electric. And that has moved down the road, we've gotten  
14 some deployment funds in HVIP, and that's been very, very  
15 important to our company. And I just want to thank you for  
16 that.

17 So, as you support these new technologies, this  
18 becomes more and more successful as far as us, as the  
19 manufacturer, is concerned.

20 We also have a new E-Star, which is a pure  
21 electric vehicle, Class 3, that we're in the process of  
22 launching as we speak. So, frankly, we have spent a lot of  
23 time, energy and money in putting new platforms on the  
24 street to provide what you are looking for in California and  
25 others, of course, throughout the rest of the United States.

1 But, frankly, you people are leading. There's no question  
2 in my mind at all, as I look at 50 states, you're very, very  
3 much in the lead.

4           There were some comments that were made earlier on  
5 leveraging your money in these programs to the private  
6 sector. And I can tell you that to put the kind of products  
7 on the street that we're talking about here, they don't come  
8 free. There's an awful lot of money, time, and energy,  
9 engineering work, development work, validation efforts that  
10 go into that.

11           So, believe me, in supporting what you're trying  
12 to do, there's a lot of private money that has actually been  
13 put into these products, a substantial amount of private  
14 money. So, hopefully, you're spending your dollars well  
15 because they are supporting, certainly, with a lot of other  
16 dollars, certainly from Navistar.

17           We are very much in favor and support a lot of  
18 what's in what you're proposing today. Certainly, vehicle  
19 deployment we believe is critical at this point in time.

20           And Mr. Boyd talked about the need to try and kick  
21 start these technologies to get the volume up where we do  
22 need help and support for a business case for our customers,  
23 say, yes, makes sense.

24           And then to be able to back off of that, as the  
25 volume comes up, the costs come down, and now you have the

1 product launch and you go on to the next technology. That's  
2 what this is doing for us and it is very, very important at  
3 this point in time to be able to do that.

4           It does support a business case. And when we go  
5 out to a customer, Coca-Cola, Pepsi-Cola, whoever that we  
6 are trying to sell, the first thing they do is they start  
7 working the numbers. And they look at it and say, all  
8 right, if I invest in this high cost technology, how long  
9 does it take me to pay back and get neutral. All right,  
10 that's the first thing they look at.

11           If you have a three-year payback, that's magic.  
12 Three to five years is kind of iffy. But that's really  
13 critical because the funds that you're looking at in this  
14 technology for deployment will get us in that three- to  
15 four-year area of payback to customers, where I can go into  
16 Ryder, or other people which you supported, Coca-Cola, and  
17 be able to successfully put a package together and put clean  
18 vehicles on the street that will reduce emissions  
19 immediately in your State.

20           What will it do for California? I took a quick  
21 grab at this. With the funds that we think that we'll have  
22 available to us for deployment, I'm looking at selling \$25  
23 million in new CNG products in the State. That's a  
24 personal, internal targeted goal, but I think that's  
25 attainable. So, there will be a lot of vehicles that will

1 go on the street.

2           It certainly will reduce emissions. It will be a  
3 hundred utilization of alternative fuel because the engine  
4 that we have is a hundred percent CNG.

5           Beyond that there's some other impacts, I don't  
6 know that you consider. One of them, it strongly supports  
7 29 California Navistar International dealerships.

8           The one thing, that as you launch new products  
9 like this, if you take one of those new products and have  
10 never talked to the dealer about it, never have trained his  
11 people, which I'll get to in a minute, never have got the  
12 tools and equipment, it will come in there and you'll have a  
13 very unhappy customer as the guy will look at him and say  
14 what the heck is this?

15           So, it is part of the life cycle of launching a  
16 new product that's extremely important to us and, frankly,  
17 your legislation does address many of these elements.

18           So it does keep dealerships viable, it will be  
19 incremental volume and sales for them. It supports high-  
20 paying jobs in California because those dealership jobs are  
21 very good, they're high skill in many cases.

22           It also supports California's component suppliers.  
23 You've talked a little bit about manufacturing, in fact a  
24 lot about manufacturing and how you can pull this through.  
25 Well, 50 percent of the cost of a CNG vehicle down our

1 assembly line, at this point in time, is the fuel system,  
2 it's the tanks that go on it. Half of the cost are the  
3 tanks. They happen to be built by Agility Fuel Systems, out  
4 of Southern California. So we are bringing production,  
5 manufacturing, and business to Southern California with  
6 this.

7           Also, every truck that we produce -- not every  
8 one, but the majority of them have to have bodies put on  
9 them, so we have body manufacturers and outfitters, whether  
10 it's a dump truck, or a van, or whatever, it supports that  
11 in your State, also.

12           So, these are all plus dollars that we hope to be  
13 able to bring to California with the funds that you're  
14 spending.

15           The next major element that's critical to us, and  
16 there's been quite a bit talked about, sales training -- or  
17 excuse me, not sales training, training support, in this  
18 legislation.

19           These are new technologies and new skills for our  
20 dealer network. I mentioned there were 29 of them. Service  
21 technician training is critical to the success of this. And  
22 this is all new, they're used to working on diesel engines,  
23 they're not used to working on gas engines, like CNG.

24           Parts employees, they've never seen these parts  
25 before, you have to train them.

1            Supporting documentation creation, parts  
2 cataloguing, technical service manuals, training  
3 curriculums, web, hands-on types of training.

4            What we would envision would be to utilize  
5 California-based training creators and community college  
6 training support. Leveraging, again, the dollars in this  
7 funding to be able to give business and jobs in California.  
8 It does support skilled California jobs and community  
9 colleges. So, again, we're very positive on what we see  
10 here and what it might be able to do as we work together to  
11 be able to launch this into the market place.

12           There's some discussions on infrastructure  
13 improvements, and I certainly understand that it's important  
14 to have fueling stations to allow customers, that we're now  
15 bringing into the State with new CNG platforms, to be able  
16 to find places to fuel them. And I know there's work that's  
17 been done it and we certainly need to have that as a base,  
18 or you can't sell the vehicle in the first place, if there's  
19 no place to fill it.

20           But beyond that there are 29 dealer facilities in  
21 the State of California that we need to upgrade to be able  
22 to work on CNG.

23           I don't know if people are aware or not, but you  
24 cannot bring a CNG vehicle inside an enclosed building, one  
25 of our dealerships, today, to work on it. You can't do it,

1 you have to work on it outside.

2 In Minnesota, that doesn't work well at all. But  
3 there are certain things in a dealership that has to happen  
4 to be able to allow them to work on this product which, to  
5 me, is infrastructure, certainly of 29 dealer locations, to  
6 make this work. Things such as explosion proof lighting.  
7 All right, they have to change inside the building so it's  
8 safe for them to be able to work on it.

9 Some of them are high volume air transfer systems.  
10 If there's a leak, they can get the air out in a hurry. So,  
11 these are dealership requirements that will cost money for  
12 them to be able to work on the products that you want to run  
13 in your State, and to be able to work on them for our  
14 customers.

15 Certainly, fueling stations of their own, we have  
16 the third largest leasing organization in the International  
17 Dealer Network in North America. Everybody heard of Penske  
18 and Ryder, the third one is ID Lease. It's an international  
19 leasing company, so they own thousands and thousands of  
20 vehicles, themselves, and could potentially run CNG  
21 products, themselves.

22 And, certainly, special tools and equipment to  
23 work on this new product.

24 So, that infrastructure we think is important for  
25 us, also. We really need to have parts in the bins to be

1 able to service this and be able to support customers as we  
2 get downstream so they're happy with the new products that  
3 we bring in.

4           So, bottom line, Navistar and ESI, our partner,  
5 support what you're doing here, it supports the deployment  
6 of clean, natural gas vehicles. It supports the expansion  
7 and breadth of clean vehicle technologies and platforms, all  
8 brand-new to us. It supports training requirements for  
9 optimum customer support. And it supports dealership  
10 infrastructure requirements to safely work on new, natural  
11 gas-powered units.

12           So, there are elements here that we hope to be  
13 able to work with you on, as I've just outlined here, and it  
14 will truly make a very successful launch. And I'd like to  
15 get that \$25 million of vehicles running in your State that  
16 are ultra clean.

17           So, if there's any questions, I'll take them now,  
18 but that's the end of my comments.

19           MR. PEREZ: Thank you, Jim.

20           Okay, next speaker David Tulauskas. Hopefully, I  
21 didn't corrupt that name.

22           MR. NORBECK: Pat, are these presentations going  
23 to be given to the Board? Pat?

24           MR. PEREZ: Yes, we'll make them available on the  
25 website.

1           MR. TULAUSKAS: Thank you. And I'd like to thank  
2 the Commissioner and the staff here for this opportunity and  
3 echo, I think the sentiment here, that it was a very robust  
4 Investment Plan. And I think the good news is we're all  
5 glad to be here to have this debate. It's better to have  
6 this money and this debate than not have it at all.

7           It's very important and we mention that all the  
8 time when General Motors is at the Legislature, or with the  
9 Administration, so we've got your back Commissioner Boyd,  
10 and we'll continue to do so.

11           And we take a -- General Motors takes a portfolio  
12 approach at advanced technologies, advanced propulsion  
13 systems. There's no silver bullet that's going to solve our  
14 energy security and greenhouse gas emission problems.

15           But for the sake of these comments here, I'll  
16 focus them on, really, electric vehicle infrastructure. I  
17 support the UC Irvine comments and Justin's comments, you  
18 know, from the California Fuel Cell Partnership, on the need  
19 to have a more robust refueling infrastructure out there and  
20 in a shorter period of time.

21           So, let me focus my comments on electric vehicle  
22 infrastructure.

23           You know, our desire is to have electric vehicles  
24 become mainstream vehicles. And the number one purchase  
25 consideration to get a mainstream consumer is where are they

1 going to charge this?

2           You know, I don't think we have to necessarily  
3 worry about early adopters, but to move EVs, plug-in hybrid  
4 electric vehicles into mainstream, they're really just  
5 concerned about one refueling point, or recharging point.  
6 And, you know, that's going to be their home or the  
7 workplace.

8           Department of Transportation data shows that  
9 vehicles are parked either at the home or workplace nearly  
10 90 percent of the time, I think over 90 percent of the time.

11           And I just want to comment that it looks like the  
12 allocation of funding in this initial plan is about 50  
13 percent for public or commercial infrastructure, and that  
14 doesn't really -- you know, is consistent with where  
15 vehicles are parked.

16           And so I guess I'd just like to, you know, ask the  
17 Commission and the staff to consider where these vehicles  
18 are going to be parked the majority of the time and see how  
19 we can align funding in those areas, and I believe that's  
20 going to help make mainstream consumers more quickly adopt  
21 this technology.

22           Public infrastructure is important, we need it,  
23 but it needs to be modest until we have enough vehicles on  
24 the road that we can generate models that tell us where  
25 these vehicles are going to be parked and for how long to

1 help us allocate those funds to public charging stations, so  
2 that they're highly utilized.

3 My fear and I think fear of others is you put in a  
4 recharging station and it's seen as being empty for the most  
5 part of the time, and we just need to avoid that at the  
6 early stage of this rollout.

7 VICE-CHAIRPERSON BOYD: Okay, if I might comment,  
8 interrupt you and comment. I mean, we're anxious to have  
9 all the advice we can get in this subject area. We've  
10 wrestled with, for a few years now, the question of where  
11 does most charging take place, coupled with, you know,  
12 what's our electricity distribution system set up to  
13 provide?

14 The studies that we've seen, that have been done  
15 predominantly in Europe, have all have basically shown that  
16 most charging tends to take place at home, which made us  
17 feel good because our initial assumptions are the  
18 electricity grid of California is quite capable of handling  
19 a significant infusion of electric vehicles if we do off-  
20 peak charging. Which means, basically, charging at home.

21 We have a lot of pressure, political and  
22 otherwise, to provide public charging infrastructure just  
23 because people need to see it out there. Although, most  
24 data shows that it's not that highly utilized.

25 And then the workplace, we're quite aware that's

1 where most cars spend a good part of their life and that  
2 tends to encourage, therefore, the idea of workplace  
3 charging, which means daytime charging, which means on-peak,  
4 which gives concerns to utility folks.

5 Now, all these kinds of discussions have been  
6 taking place for some time, do take place within the context  
7 of the collaborative that's been mentioned here several  
8 times before.

9 So, we're aware of all these issues, what we don't  
10 have, yet, is enough answers to know which way to jump, and  
11 there's an awful lot of people with opinions on which way we  
12 should jump and we have to kind of balance that.

13 I'm just responding to the point you raised as an  
14 issue, other kinds of issues that we are presently dealing  
15 with. But any additional data you bring to the table or any  
16 other ideas would be more than welcome.

17 MR. TULAUSKAS: Yeah, General Motors would be  
18 happy to provide comments on the entire plan and the other  
19 energy pathways.

20 VICE-CHAIRPERSON BOYD: And you sit there through  
21 the collaborative meetings and you know this.

22 MR. TULAUSKAS: Understand. All right. Thank  
23 you.

24 MR. PEREZ: All right, thank you.

25 Okay, it looks like James Chen has arrived and

1 feel free to come forward.

2 MR. CHEN: Thank you very much. First, apologize  
3 for being a little late. I was told you wouldn't be having  
4 comment period until about 3:30, so I was planning to be  
5 here at that time.

6 VICE-CHAIRPERSON BOYD: No apology necessary, we  
7 just got a head of ourselves for a change.

8 MR. CHEN: Well, again, I appreciate the  
9 opportunity. My name is James Chen, I'm the Director of  
10 Public Policy and Associate General Counsel for Tesla  
11 Motors.

12 I appreciate the opportunity to provide these  
13 comments directly. We have filed comments to the docket,  
14 with a more extensive view of our position on the budgeting  
15 and on these matters, and the importance of supporting  
16 alternative fuel vehicle technology.

17 So, I plan to just summarize some of my comments  
18 and hit some of the highlights of what is more extensively  
19 filed in the docket.

20 Tesla Motors is proud to have the opportunity to  
21 be able to speak to this panel. We are the innovative  
22 leader in EV technology. We're the only manufacturer to  
23 currently engage in serial production of an all-electric,  
24 highway-capable vehicle with over 240 miles of range.

25 We started out back in 2003 as a California-born

1 company. We have our roots in California. We were able to  
2 introduce the Roadster in 2008, the vehicle I just referred  
3 to. We have gone through three iterations of that vehicle,  
4 now, our technology keeps improving.

5 Our Roadster was essentially our proof of concept  
6 for the power train. It was the, if I can use an analogy,  
7 the \$3,000 cell phone of the 1980s, the brick that many of  
8 you may have seen in the movie with Michael Douglas, from  
9 Wall Street.

10 That was essentially the proof of concept that EV  
11 power trains were possible. They were not only possible,  
12 but they were viable.

13 We are moving on forward, we are not resting on  
14 our laurels. My mid-next year we will have our next vehicle  
15 out, the Model S sedan. The Model S is a premium vehicle,  
16 all electric, it will seat five adults and two children. It  
17 will have a range of up to 300 miles on a single charge.

18 Importantly, the Model S is the optimization of a  
19 vehicle around the electric power train. We started with  
20 the Roadster, we're now moving down.

21 To go back, again, to the cell phone analogy, as  
22 our technology improves, as we look at putting more power  
23 into the pack and reducing costs, we are moving down that  
24 price curve. To the point, now, where the Model S is that  
25 next step at half the cost, and a significantly larger

1 amount of volume.

2           The Model S will be produced in the Fremont  
3 facility, the former NUMMI facility. Many of you know that  
4 this was recently acquired by Tesla, after the joint venture  
5 between GM and Toyota was closed because of the GM  
6 bankruptcy.

7           At that facility NUMMI was able to produce up to  
8 450,000 vehicles. We are starting out with our Model S  
9 production at 20,000 vehicles. You may wonder what we're  
10 doing with all that space? Well, we intend to make  
11 California the leader in EV technology and EV-produced  
12 vehicles.

13           The Model S, as I said, will come out in  
14 quantities of about 20,000 vehicles. The design is  
15 basically a, if you can, a skateboard type platform that  
16 allows us to put different top hat designs on the vehicle.

17           Shortly after the Model S is up in full running  
18 production we are going to introduce a crossover vehicle.  
19 Elon Musk, our CEO, recently announced that this will follow  
20 shortly after Model S production is up.

21           By as early as 2015, we're already working on our  
22 third generation vehicle, we've called it the Gen 3. It  
23 will be that vehicle that's a sport coupe, seats five, class  
24 leading performance, 300 miles of range, at the \$30,000 or  
25 thereabouts price point.

1           So, we basically moved down that price curve and  
2 the Gen 3 is planned for volumes of anywhere from 100 to 200  
3 thousand vehicles per year.

4           And again, we will be building these vehicles at  
5 the Fremont facility.

6           So, with the Fremont facility, with the  
7 technology, as we continue to move down that price point  
8 what are we missing? Well, we're missing the workers.  
9 We're going to need folks to help us build those vehicles.  
10 And this year, alone, with the Model S alpha already in  
11 production, that is basically our concept vehicles that are  
12 doing environmental testing, on-road testing, and we're  
13 moving onto the next stage, our beta phase testing. That  
14 will come out later this year. And that will basically be  
15 the vehicles that are crash tested and then, from there,  
16 we'll go to production.

17           So, from now until the end of the year we will be  
18 hiring anywhere from 200 to 300 workers to help us with that  
19 production build. By this time next year we plan to have  
20 five to six hundred workers working on producing the first  
21 production Model S's to roll off the line.

22           Once we get up to full production capacity of only  
23 20,000 vehicles, we expect that we will have an additional  
24 600 hires, again all in the Fremont facility.

25           From there it will just -- it will ramp up even

1 further.

2 By the time we have full production running, with  
3 the Model S, the variants, including the Crossover, and the  
4 Gen 3 vehicle the factory will be fully utilized and we  
5 could have as many as 5,000 or more workers at that  
6 facility.

7 This would be equal to or in excess of the number  
8 of workers that were laid off when NUMMI shut down the  
9 facility.

10 Currently, Tesla plans to expand between \$1.75 and  
11 \$2.2 million to train the initial 600 hires planned for the  
12 Model S production. Such training will significantly  
13 enhance worker skills and knowledge.

14 We are looking at not just the cutting edge  
15 technology in terms of the EV power train, which is a story  
16 unto itself, but also because the vehicle will be the first  
17 aluminum intensive vehicle produced in North America.

18 Currently, the only manufacturers that are  
19 producing all-aluminum vehicles are Audi and Jaguar. Tesla  
20 is bringing that, not to the United States, we're bringing  
21 it to California.

22 Tesla does not continue to rest on its laurels.  
23 We're continuing our aggressive R&D developments to increase  
24 the energy density of the EV power packs and reduce overall  
25 costs, the two hurdles that have been cited, oftentimes, as

1 the barrier to EV introduction.

2 We are already achieving more energy in our  
3 battery packs than any other manufacturers at costs that  
4 will allow the sale of the Model S vehicle at less than  
5 \$50,000 a vehicle. That's after the \$7,500 federal tax  
6 credit.

7 We believe that shifting transportation sector to  
8 EVs is an important step in reducing overall greenhouse  
9 emissions in California, in the United States, reducing our  
10 dependent on foreign oil and ensuring national security,  
11 bolstering the domestic economy and reducing -- excuse me,  
12 domestic economy and reducing the trade deficit.

13 That said, I do want to note that I do not want  
14 folks or this panel to be fooled into thinking that EVs no  
15 longer need support. We are still very much a fledgling  
16 technology in a very early and immature market.

17 We have been fortunate in that, basically, with  
18 our proof of concept and the technology we've demonstrated,  
19 we've had a number of exciting -- excited and eager early  
20 adopters.

21 As we move forward into the mass market, we're  
22 going to need to ensure that EVs do continue to be  
23 supported.

24 We believe that EV technology is the most  
25 promising alternative energy out there and provides

1 immediate benefits to California and the California  
2 consumers on a faster track than any other alternative  
3 technology out there.

4           And we also believe that EVs can be a real success  
5 story in the State with the Fremont facility reopening and  
6 with Tesla bringing in a number of jobs into the State.  
7 Thank you very much.

8           VICE-CHAIRPERSON BOYD: Thank you. Yes, Bonnie?

9           MS. HOLMES-GEN: Thank you for your very  
10 encouraging testimony, I really appreciate hearing the  
11 statistics on the Model S, and the third Gen vehicle, and  
12 the increase in production you're expecting.

13           I'm just wondering, you said that EVs still need  
14 support and I wonder if you could just -- did you have any  
15 specific suggestions in terms of areas for this Committee to  
16 be focused on?

17           MR. CHEN: Actually, I happen to have a few ideas.  
18 One of the first things I mentioned was that we are looking  
19 at training costs, training needs. I cited the specific  
20 figures in a ball park range. Now only is it EVs, but it's  
21 the fact that we're using an aluminum-intensive process.

22           This is some of the most sophisticated automotive  
23 technology that exists in the world. Certainly, the workers  
24 in the Fremont area, in California, are well trained.  
25 They're trained in traditional internal combustion engines,

1 they're trained in traditional steel stamping. So, there  
2 will be an up-training needed, higher skills.

3 We have already started hiring experts throughout  
4 California, throughout the United States, frankly,  
5 throughout the world, where we can find them.

6 For example, on aluminum, we are looking at the  
7 best aluminum engineers out there, bringing them into  
8 California to help us with our processes, to help learn more  
9 about the aluminum engineering and, frankly, to be able to  
10 train the workers we plan to hire in the area.

11 The other area that I mentioned is R&D. We're  
12 still aggressively pursuing R&D. It's a matter of  
13 increasing the power to the pack and decreasing costs.

14 Tesla certainly has had success in that area. One  
15 thing that we'd like to point to is that if we were to put  
16 the technology in the Model S, that we plan for the battery  
17 pack for the Model S, into the Roadster now, the Roadster  
18 wouldn't be a 245, it would be at a range of 330 miles.

19 So, we continue to make strides, but additional  
20 help in getting that sped up, in helping support that R&D  
21 certainly would be helpful.

22 VICE-CHAIRPERSON BOYD: Any other questions,  
23 comments?

24 One quick comment, earlier today and maybe you and  
25 Mr. MacMahon's organization know each other, but before you

1 arrived, earlier this morning, in talking about our  
2 workforce development and training investments, and what  
3 have you, somebody had a comment or a suggestion that we --  
4 we, the Energy Commission, try to influence the expenditure  
5 of our funds, if they're going in any way towards helping  
6 Tesla, to also try to influence your hiring of the former  
7 NUMMI employees.

8           So, I'm just generally going to ask, do you think  
9 the laid-off NUMMI employees represent the largest  
10 percentage of the labor base that you're liable to rehire,  
11 or because of these unique aluminum skills and what have you  
12 does that pose a problem?

13           MR. CHEN: I won't speak -- we're not specifically  
14 going out and saying, well, you were at NUMMI, let's hire  
15 you. Tesla's philosophy has always been let's hire the most  
16 qualified and the best available workers that we can.  
17 That's essentially what we're doing.

18           We recognize that this type of skill set, the  
19 skill set for working with the aluminum, the skill set for  
20 working with EVs is very new. So, we think there's a lot of  
21 up-training involved.

22           Yes, we have actually had a number of former NUMMI  
23 facility personnel come and apply for jobs. We certainly  
24 welcome that.

25           So, I would say we're not looking at whether they

1 were former NUMMI workers or not, we're looking at what  
2 their qualifications are and we're hiring the best qualified  
3 out there.

4           And if there's training, up-training required,  
5 which we certainly expect, we'll provide that.

6           VICE-CHAIRPERSON BOYD: Is there -- it just dawned  
7 on me we've had -- over many years, including the present  
8 day, we've had a lot of aircraft facilities stop production  
9 in Southern California and those people have some experience  
10 with aluminum. Do you see any indication of people  
11 relocating from Southern California to work in your facility  
12 or is it too early to really tell?

13           MR. CHEN: I think it's a couple of things.  
14 Number one, I think it's too early to tell. Number two, I  
15 think that I'm not the right person to ask that question to.  
16 That's certainly something I can find out and bring back to  
17 this panel, but I wouldn't want to hazard a guess and lead  
18 you down the wrong path.

19           I will tell you this, that I am aware that the  
20 aerospace industry does have a significant number of folks  
21 that are familiar with and experts in aluminum forming,  
22 aluminum casting and working with this unique metal.

23           Certainly, we would love to take advantage of that  
24 to the extent possible.

25           MR. MC KINNEY: I would also add a comment that

1 ETP staff and CEC staff have begun the process of meeting  
2 with Tesla representatives to identify specific numbers of  
3 training in the timeline. And I think the goal is to move  
4 quickly ahead to try and have a project before our panel  
5 with this year's allocation, and approved before the end of  
6 May would probably be a realistic timeline.

7 We had a long-term relationship with NUMMI that  
8 involved many projects, over many years. When model  
9 upgrades occurred, training typically followed with that.  
10 So, we would see, also, a long-term relationship as Tesla  
11 grows, using both allocations of AB 118 and CORE ETP program  
12 dollars.

13 MR. PEREZ: Great. Thank you for coming.

14 MR. CHEN: Thank you.

15 MR. PEREZ: Okay, next speaker, James Halloran.

16 MR. HALLORAN: Good afternoon, Commissioner Boyd  
17 and Advisory Board members. My name is Jim Halloran, I'm  
18 with a small construction equipment manufacturer, named  
19 Caterpillar, we're headquartered in Peoria, Illinois. We  
20 make heavy-duty construction equipment, as well as diesel  
21 and natural gas engines. We also have a natural gas turbine  
22 company, named Solar Turbines, down in San Diego.

23 When you combine Solar Turbines with our diesel --  
24 I'm sorry, with our dealer network, we employ about 10,000  
25 employees or so in the State.

1           Real simply and real briefly, the heavy and medium  
2 duty section of the plan for 2011, it mentions heavy duty  
3 vehicles and it doesn't mention non-road, which was also  
4 included in the fiscal 2010 plan.

5           My question or comment is very simply we'd like to  
6 see that non-road -- I think it's inherent in there. We  
7 have talked to staff about this, I think it's just a minor  
8 adjustment to make. But we just wanted to make sure that  
9 non-road vehicles are covered in the current plan, as they  
10 were historically. It's as simple as that.

11           I don't know if there's any questions.

12           VICE-CHAIRPERSON BOYD: Easy to fix, thank you.

13           MR. HALLORAN: Thank you, sir, already.

14           MR. PEREZ: Thank you. Okay, the next speaker,  
15 Mary Hvistendahl, I believe. Is that correct?

16           VICE-CHAIRPERSON BOYD: It sounds like it's closer  
17 than many people get.

18           MS. HVISTENDAHL: Good afternoon. My name's Mary  
19 Hvistendahl. I'd like to thank Commissioner Boyd, the  
20 Committee members and the staff for this opportunity. I was  
21 just made aware of this opportunity on Friday, so I missed  
22 the opportunity to have a nice slide show for you, but that  
23 won't happen again.

24           I'm here representing Pacific Gas & Electric  
25 Company. I'm the manager of a proposed Vehicle Technology

1 Research Center that the utility is pursuing at this time.  
2 And, as you know, I represent a rather large, California-  
3 based fleet of more than 1,200 vehicles. That represents  
4 passenger cars, up to Class 8 vehicles, and including off-  
5 road vehicles, as the gentleman from Caterpillar mentioned.

6 We are committed to petroleum reduction and air  
7 quality goals in the State of California. And we've  
8 demonstrated that over the years through various innovations  
9 within our own fleet, as well as a recently accepted, in the  
10 fall of 2010, alternative AB 32 compliance schedule with the  
11 ARB, where we will be hybridizing many of our bucket trucks  
12 and other aerial lift vehicles over the coming years to meet  
13 our emissions reduction and petroleum reduction goals early.

14 We have also done extensive curriculum development  
15 with community colleges and other agencies for hybrid  
16 vehicle mechanics and training classes of that sort.

17 And what I'd like to comment on is that making  
18 wise and informed investment decisions in vehicle  
19 technologies is critical to PG&E, as well as many other  
20 large fleets in California. And we currently find that  
21 there's a significant information and solution gap in the  
22 medium and heavy duty vehicle markets.

23 And we also find that one solution does not fit  
24 all in a very diverse fleet, such as ours.

25 So, we're proposing a collaborative research

1 center, funded by a combination of private, federal and  
2 state dollars.

3           And we believe that it's really very critical that  
4 we explore near-term technology solutions that are tailored  
5 to idling fleets, such as ours, and there are many others.  
6 You might think of emergency response fleets, for example.

7           Validating the technology marketing claims in  
8 practice is a critical gap that we see, currently. So,  
9 PG&E, as well as other fleets, have explored very new  
10 technology deployments in the past and we have had mixed  
11 results. So, we intend to collect more data and develop a  
12 more systematic and engineering-based approach to finding  
13 the right vehicle solutions.

14           We'd also like to validate the environmental  
15 benefits that are being claimed by many of the solutions  
16 that are out on the market or coming to the market in the  
17 near term.

18           And we'd like to advance the regulations that we  
19 see at the state and the federal level such that they allow  
20 flexibility in delivering the environmental air quality and  
21 petroleum reduction goals.

22           We're finding that the working of the current  
23 investment prospectus is really laudable, but it's not very  
24 clear if it's supportive of research centers, such as this,  
25 or hybrid vehicle technologies, which may provide a near to

1 medium term technology bridge, if you will, for fleets such  
2 as ours.

3           And so, we'd like to encourage the Advisory  
4 Committee, the staff, and the Commission to consider broadly  
5 thinking about the funding groups so that you don't overlook  
6 these types of investment opportunities that can have real  
7 near-term and far-reaching impacts into your petroleum  
8 reduction and air quality improvement goals.

9           And we look forward to filing formal comments and  
10 also an application for this funding cycle. So, that's all  
11 I had. Thanks.

12           MR. PEREZ: Okay. John Van Bogart.

13           MR. SHEARS: Sorry, I just wanted to ask --

14           MR. PEREZ: Oh, a question. Mary, if you could  
15 return?

16           MR. SHEARS: So, I just want to clarify, so you're  
17 talking about medium duty or light duty and medium duty?

18           MS. HVISTENDAHL: More medium/heavy duty and  
19 heavy/heavy duty.

20           MR. SHEARS: Okay, even up to -- okay, so Class 4  
21 through Class 8?

22           MS. HVISTENDAHL: Correct, as well as off-road  
23 eventually, as well.

24           MR. SHEARS: Okay, great. Thanks.

25           MR. PEREZ: Okay, I'll call John back later.

1 Michael Hursh?

2 MR. HURSH: Thank you. I'm Michael Hursh, I'm the  
3 Deputy Director for Maintenance from Santa Clara Valley  
4 Transportation Authority.

5 I'm specifically here to talk about slide 59,  
6 which we saw at 10:36 this morning, or chapter four, which  
7 is the workforce development.

8 We did submit a memorandum to the docket. It  
9 perhaps arrived too late, so I'm passing it around the table  
10 now, I think I have just enough copies.

11 I want to talk to you -- first, I want to thank  
12 Commissioner Board and the entire CEC staff for getting it  
13 right. When I look at this document, what a difficult  
14 challenge you have and try to sort this out.

15 And while someone mentioned debate today, I see  
16 largely consensus. Certainly, there's areas to fine tune.

17 I want to specifically thank Mike Trujillo, who I  
18 understand has moved on, and Darcy Chapman, who've helped us  
19 come to you, successfully, seeking workforce development  
20 funds.

21 I can assure you that we drug them through the mud  
22 and they drug us through the mud as we tried to explain the  
23 workforce training requirements for public transit.

24 The main message I want to carry to you all today  
25 is that public transit is a solution today to reduce

1 greenhouse gas emissions. If the citizens in California  
2 would switch to public transit just one day a week, they  
3 could reduce their greenhouse gas or global carbon footprint  
4 anywhere from 10 to 20 percent.

5 We're not asking for people to abandon their  
6 automobiles and go strictly on public transit but, again, if  
7 you can use it occasionally, it's a solution today.

8 In the past we've concentrated on the technologies  
9 of our transit vehicles. But I will tell you that in  
10 Sacramento today, I checked with Sacramento RT, and there  
11 are also members of Sacramento RT in the staff today,  
12 110,000 people took Sacramento RT today, 130,000 people in  
13 San Jose took public transit.

14 Over 1.8 million people in the Bay Area took  
15 public transit this morning. Can you imagine if those  
16 automobiles were on the road instead of taking our buses and  
17 light rail trains?

18 A light rail vehicle connected to sustainable,  
19 such as hydroelectricity, is truly a zero emission vehicle,  
20 it's available today and it's been here for 50 years.

21 The number one issue -- in difficult economic  
22 times, the number one issue facing my department, I have 680  
23 employees and a \$121 million budget, is an aging workforce,  
24 finding qualified employees to do the work, the mechanics,  
25 the technicians, the engineers that it takes to put out the

1 450 revenue vehicles that VTA -- and VTA's a fairly small  
2 transit agency compared to the MUNIs, San Francisco MUNIs,  
3 BARTs, and L.A. Metros.

4           You've recognized that in this plan. I would  
5 comment that it's the starting point for workforce  
6 development. We're excited to be working with the  
7 California Labor Federation and ETP to maximize these  
8 dollars.

9           I can tell you that we have people that tonight  
10 will be cleaning buses, they're looking at an entire career  
11 of mopping buses, cleaning buses, cleaning windows. Using  
12 these funds and our community college system, these folks,  
13 we will train them to be mechanics and technicians working  
14 on the highly computerized systems, and the buses, trains,  
15 signaling systems that are in use today.

16           Folks that have been working nights and weekends  
17 will have professional level career green jobs that they can  
18 retire from and take care of their family, and that's  
19 because of the dollars that are in this plan.

20           It's a good start. We would encourage you to  
21 continue to work with the Labor Federation and employ  
22 development. Even in these tight economic times I still  
23 have vacancies, I still can't find qualified positions,  
24 qualified people to fill these highly skilled jobs.

25           We'll use these employment development funds to

1 train the folks that we have, to hire folks off the street.  
2 It will improve the unemployment rate in this State. It  
3 will provide career jobs and it will provide people with an  
4 opportunity to have a future in our State.

5           Lastly, on the manufacturing, nearly 25 percent of  
6 our fleet will be hybrid buses made in Hayward, California,  
7 Gillag.

8           We are taking people out of their single-driver  
9 occupant vehicle and putting them in our buses, and it's the  
10 number one thing you can do to reduce greenhouse gas  
11 emissions today. Thank you.

12           Unless there's any questions, that concludes my  
13 comments. Again, we've submitted a memo to the docket,  
14 formally.

15           MR. PEREZ: Thank you, Michael.

16           Okay, and I believe John Van Bogart just returned,  
17 if you could come forward?

18           MR. VAN BOGART: Good afternoon. Thank you,  
19 Chairman Boyd and members of the Advisory Committee.

20           I wanted to give you a brief update today on  
21 what's been happening with propane vehicles and  
22 infrastructure in the last 12 to 18 months.

23           We received a grant from the ARRA funding,  
24 actually we received three grants and this is just one grant  
25 we'll talk about today.

1           Propane and the ARRA funding, for the Clean Cities  
2 funding, collectively received about \$43 million. So, that  
3 has really given our industry a launch into some of the  
4 things we'll talk about here.

5           It's 184 stations, public access stations built  
6 throughout the United States. These are the key market  
7 cities. Three of those cities here will be in California,  
8 along with 31 stations that are already existing, 13 here in  
9 California, there's going to be 31 upgrades.

10           And three to four what we're calling clean fuel  
11 service centers that will probably be put up at General  
12 Motors and Freightliner dealerships.

13           There's also going to be some service training for  
14 technicians. This will be an accredited course on both  
15 propane, CNG, E85, biodiesel and some of the other  
16 alternative fuels.

17           When the program rolls out this is what it's going  
18 to look like, this is a map. This is really phase two.  
19 Phase one happened in Texas and California. Originally, the  
20 Energy Commission funded stations here in California.

21           So, we're trying to cluster together the large  
22 metropolitan areas. The next phase we'll start to bring in  
23 links and making corridors here for these public access  
24 stations.

25           Our partners here, in California, Delta Liquid

1 Energy and Expo Propane. In other regions of the country  
2 we've partnered with Farrell Gas and AmeriGas, two of the  
3 largest marketers throughout the nation.

4 The training centers will put out training for  
5 most of the alternative fuels. This program is still being  
6 developed by the Texas State Technical College, there will  
7 be accredited classes that can go out through mainly junior  
8 colleges, but also at dealerships. We can come in and train  
9 them. And the cool thing about it is we'll come in and do  
10 all the training and certification for free, as part of the  
11 program.

12 One of the other elements to this program is  
13 because we've been so closely tied to Clean Cities over the  
14 years we incorporated \$10,000 for each one of those key  
15 market cities for Clean Cities Coalitions to do fleet and  
16 market outreach with their different fleets in their  
17 coalition.

18 Updates on our presentations, as we give these  
19 presentations throughout the country each coalition has to  
20 do four updates. We'll be on Facebook and, also, some of  
21 the presentations have this one put up as well.

22 What's available in propane vehicles? Just a few  
23 years ago there was only one or two. That's changed a lot.  
24 There are quite a few vehicles, and we'll go through some of  
25 those.

1           General Motors has made the announcement that  
2 they're not going to be only making propane-powered  
3 vehicles, but also CNG vehicles as factory OEM direct, with  
4 warranty.

5           We've had the Blue Bird bus with the last several  
6 years, with a GM 8.1 liter engines. We now have the Collins  
7 school bus, which is the smaller bus, the A style bus with  
8 the GM 6 liter engine.

9           The Thomas bus is going to be coming out and I  
10 don't know if that will out this year, but it will be model  
11 year 2012. That's going to have the new GM 8 liter engine.  
12 GM discontinued the 8.1 liter, it is now coming to the  
13 market with a new 8 liter engine. It's got a bigger bore,  
14 longer stroke, more horsepower, higher torque. It's going  
15 to be sold as a loose engine, so this engine cannot only go  
16 into vehicles that GM would produce, but also bus  
17 manufacturers and chassis manufacturers.

18           The Work Horse step van chassis is available,  
19 going to be available with both the 8 liter and the 6 liter  
20 engine.

21           And, of course, the Freightliner chassis, this is  
22 one of the more exciting developments, Freightliner has  
23 agreed to put this new GM 8 liter engine in their medium and  
24 medium/heavy duty trucks up to 35,000 GVW.

25           And, of course, Rauch has got a full line of

1 pickup trucks and vans that they've brought on the market.  
2 Impco, one of the leading fuel system manufacturers for both  
3 CNG and propane, they are currently working on dedicated  
4 end-by fuel, California certified or CARB certified fuel  
5 systems. So that's an exciting development, they're one of  
6 the big ones in the world.

7           This is a product you could order today, the 6  
8 liter and the 8 liter. This is our school bus, this has  
9 been an extremely successful program for us.

10           LAUSD, down in Los Angeles, between their  
11 contractors and themselves operate nearly 400 of these  
12 buses. This is a program that was heavily supported by the  
13 Energy Commission in efforts here, in California. This did  
14 have the 8 liter engine in it. We have enough engines to  
15 get through, we think, 2012 model year production and then  
16 new engines will be coming in those, as well.

17           On the left side here, these are currently  
18 available, this is going to be the next phase. This will be  
19 a GM product, this is not going to be a Clean Fuel USA up-  
20 fit, this will be factory direct GM product, and so we're  
21 going by their time clock, now, on those.

22           Again, these products on the left are currently  
23 available and then the pickup trucks and the vans will  
24 certainly follow.

25           Isuzu signed a contract with GM for the 6 liter in

1 that product. This is an extremely popular fleet delivery  
2 vehicle that -- a lot of these vehicles are real nomadic in  
3 nature, so they're not hub and spoke, don't go back to the  
4 same location, so vehicle range is very important to them.  
5 Propane offers that to them, so we believe this is going to  
6 be a pretty good product.

7 This is the Freightliner product. The S2 chassis,  
8 up to 33,500, which will also be the Thomas school bus.

9 This is some economics here on propane. This is  
10 based on some basic fuel prices that has the federal tax  
11 credit in there. These are how much it costs you to drive  
12 that vehicle per mile on gasoline, diesel and propane.

13 So when a fleet looks, someone had just mentioned  
14 earlier, I believe from Navistar, that's the first thing  
15 they ask what's it going to cost me and what's my return on  
16 investment?

17 So, the return on investment, because the  
18 increment cost of the vehicle's pretty low and the  
19 infrastructure is very low, compared to other alternative  
20 fuels, in a lot of cases marketers will put it in for that  
21 gas load. So, this gives you some economics of return on  
22 investment pretty quick with propane.

23 This is another exciting product. The 8 liter  
24 engine we hooked up with Capacity of Texas for a terminal  
25 tractor. This is a product -- a project that's fully funded

1 and we hope is going to hit the street the same time that  
2 the Freightliner chassis hits the street. But this will  
3 probably be in the first quarter of 2012.

4 One of the neat things about this product is they  
5 already have a plug-in electric hybrid on this product, but  
6 they don't have an over-the-road certified engine. So we're  
7 coupling our new 6 liter engine with this product.

8 These are -- we're currently looking at this in  
9 R&D, PERC looks like they're going to come forward with some  
10 funding, there's been some talks, there's some private  
11 industry money.

12 Also, another development, Hybrid 60 now has the  
13 EPA patented technology for hydraulic hybrids. My partner  
14 and I, Steve Richardson, wrote a grant for them for the  
15 vehicle technology grant that was just turned in about two  
16 weeks ago. Their partners are Freightliner, UPS, U-Haul, a  
17 lot of the same customers that we have, so in that project  
18 we're going to put probably -- we don't know if it's going  
19 to be the 6 liter or 8 liter, but we're going to combine an  
20 alternative fuel with the hydraulic hybrid technology,  
21 pretty exciting stuff for us.

22 Why propane? These are some of the obvious  
23 things. Still, today, propane is the most widely available  
24 and least expensive alternative fuel on the market today,  
25 especially here because we're domestically -- in the last

1 couple of years we've been a net exporter of propane because  
2 we've had a lot of it here.

3 Kind of skips through some of these, but one of  
4 the more exciting things that's happening is DME, dimethyl  
5 ether, and I think there will be a presentation on that  
6 earlier. This really gives propane a biopath to market,  
7 either through a compression ignited engine, or the current  
8 engines that we have as a blend of propane and DME mixed  
9 together, it can go right through our fuel system. So we  
10 believe at low blends, five, ten percent, we hope we can get  
11 up to 15.

12 This is something of the things that we're working  
13 on right now with dimethyl ether at Clean Fuel USA. We're  
14 going to try and get up to a 15 percent blend with propane.

15 As an example, I think in California here we burn,  
16 what, 620 million gallons of propane. If we could get ten  
17 percent DME, that's only 62 million gallons, that really  
18 helps us out, especially RFS2, things of that nature, so  
19 it's really got some legs with this fuel.

20 Some of the things on the infrastructure, we know  
21 that the fuel reacts a lot like propane, so it's stored the  
22 same as propane, the delivery system for engine systems,  
23 vehicles, dispensers, things of that nature. So, we're  
24 going through the process, now, of certifying the different  
25 components within our industry, that we know that fuel's

1 going to have to transfer through so we make sure that we're  
2 compliant with those.

3           And this is my contact information. And down  
4 below, Steve Richardson, he is our project director for the  
5 Clean Start Program and that is his contact information if  
6 you have any questions. Thank you.

7           MR. PEREZ: The next speaker, James --

8           VICE-CHAIRPERSON BOYD: Excuse me. Jon, could I  
9 ask you a quick question? Jon? Do you have any worries  
10 about the long-term supply of propane, LPG?

11           MR. VAN BOGART: No. Leslie may be able to answer  
12 that. But there was a report that was put out, I believe by  
13 the World Propane Gas Association, and the concerns are much  
14 on the other side. They're worried about can we make more  
15 widgets to use our product.

16           Several things are happening in the industry,  
17 energy efficiency, the Energy Star program, things of that  
18 nature. A lot of the appliances throughout the country are  
19 more efficient and so they're using less propane and people  
20 are becoming more cognizant of the fact of energy cost  
21 savings.

22           So, as the infrastructure starts to build out from  
23 metropolitan areas and natural gas pipelines start to go in  
24 because you have enough population for that fuel.

25           In this economy the outlying areas, the rural

1 areas maybe aren't as developing as fast, so those --  
2 there's a lot of things combining. The production of  
3 propane has steadily increased.

4 I mean just here, in the United -- yeah, in the  
5 United States, we've been a net exporter. Normally,  
6 historically, I think we've imported about ten percent,  
7 mainly from Canada.

8 But, no, I don't believe we have those kind of  
9 near-term fears about the fuel, it's actually looking pretty  
10 good.

11 VICE-CHAIRPERSON BOYD: Thank you.

12 MR. PEREZ: Okay, thank you. The next speaker,  
13 James Robbins.

14 MR. ROBBINS: Commissioner Boyd and members of the  
15 Advisory Committee, thanks for the opportunity to speak  
16 today. I run a company called Business Cluster Development  
17 and we set up technology commercialization centers, and  
18 innovation centers, centers of excellence for various  
19 technology sectors around the U.S. But I do most of my work  
20 here, in California.

21 As some of you may know, for about 15 years I ran  
22 the San Jose Environmental Business Cluster. It was the  
23 largest clean tech -- commercialization technology center in  
24 the United States. We were under contract for four years to  
25 the Commission to help commercialize technology, so I've

1 done a lot of work with the California Energy Commission in  
2 the past.

3           And I'm associated with a program you'll hear more  
4 about later today, from another speaker, that is focused on  
5 clean transportation technology commercialization in the Bay  
6 Area, in Silicon Valley.

7           And I'd like to speak to one part of your draft  
8 today, on page 119 you have a section called "Innovative  
9 Technologies and Advanced Fuels."

10           And in that section you mention various kinds of  
11 projects that could be funded, and they include early market  
12 demonstrations and centers of excellence. And in this  
13 section it doesn't set out specific funding. It mentions  
14 that you have \$8 million of funds for this current year that  
15 haven't been allocated, and then doesn't recommend funding  
16 in the new plan.

17           And I'd like to just suggest that you think  
18 carefully about this approach. Number one, I'd like to  
19 recommend that you do allocate the money for centers of  
20 excellence that you have talked about in the past.

21           I was here in December of 2009, in this room, when  
22 the Commission talked about being a few months away from  
23 putting a public announcement out to set up centers of  
24 excellence for heavy duty vehicles.

25           I'd like to strongly encourage you to consider

1 actually doing that.

2 VICE-CHAIRPERSON BOYD: Me, too.

3 MR. ROBBINS: Good. I will say, in case you're  
4 not aware, that a number of communities, including the Bay  
5 Area, did rely on that representation and started to  
6 organize themselves to be able to present to you  
7 consideration for funding for centers of excellence.

8 The particular group that I'm involved with  
9 includes Lawrence Berkeley National Lab, it includes the  
10 Electronic Transportation Development Center, a consortium  
11 of over a hundred private companies.

12 The City of San Jose has spent \$12 million to  
13 build a technology commercialization center, open to the  
14 public and to private companies. It's under construction,  
15 now, and it's got dedicated space for doing clean technology  
16 demonstration work for in the transportation area. It's got  
17 space for workforce training and for internships. So there  
18 are -- and I'm sure it's representative of probably other  
19 groups in the State.

20 So, you've got organizations that feel as if this  
21 concept of a center of excellence is important. And I would  
22 just say, doing the work that I did with the Commission for  
23 a four-year period, that one of the things we found is we  
24 brought your PIER technologists together in a center of  
25 excellence type setting, where they worked together, where

1 funders and other people could meet with them, where they  
2 could collaborate on products. And it greatly increased the  
3 commercialization rate for those technologies, and you  
4 documented that with independent consultants.

5           And our feeling was that this concept that you  
6 have, that's referenced in your draft plan, and was in the  
7 plan for the current year is a vital one to the kind of  
8 progress that we need to make in clean transportation.

9           And, for example, just in Silicon Valley we've  
10 been doing that for years in other sectors. And the  
11 technology exists in this State, and in Silicon Valley, in  
12 particular, to try and develop as a group, to have a place  
13 where multiple projects can be developed.

14           A place, if you have a center of excellence for  
15 example, one simple thing you can do is use the space that  
16 you have as a match for grants over and over again, multiple  
17 grants, multiple parties, all presenting projects here, to  
18 the Commission.

19           So, I'd like to encourage you to consider, number  
20 one, doing the funding that you have available in your  
21 current year but, just as importantly, thinking about  
22 whether you might need to have some funding in the next year  
23 if you are going to move ahead, so that you could continue  
24 to support these centers.

25           And then the last thing I'd like to mention is

1 that I think there's an opportunity here that's being missed  
2 with respect to the kind of funding that's being done at the  
3 federal level.

4           So, I'm involved with a number of programs that  
5 are sending up, really, what the federal government now  
6 calls centers of excellence are regional innovation  
7 clusters. And the amount of money that's being spent by  
8 DOE, by the Small Business Administration, by the Economic  
9 Development Administration, that the grants go everywhere  
10 from several million dollars to -- I worked on one that was  
11 \$130 million.

12           And what you find on these programs that the  
13 current federal administration is funding is that the  
14 centers for excellence need to be identified in advance of  
15 proposing for funding from the federal government. So, the  
16 federal government doesn't want to fund you so that you can  
17 try and become a center of excellence, they want to fund you  
18 because you are one and you want to expand the operations.

19           That takes some leadership from the State, in my  
20 opinion. So, if the California Energy Commission were to  
21 identify one or two centers of excellence in clean  
22 transportation, it would put you in a position to compete  
23 with other states for federal funding that's being offered  
24 on a regular basis.

25           For example, in the Small Business Administration

1 and the Department of Commerce, they are providing funding  
2 that's not -- it's not specific to clean tech, it's for  
3 people to identify the areas that they want to specialize in  
4 and you get the federal funding to support it.

5           So, you have not only DOE funding opportunities,  
6 but you have funding opportunities from other agencies of  
7 the federal government, plus a large amount of green and  
8 clean tech workforce training funding that's available.

9           And if you have centers, one or two within the  
10 State that are focused on this, that have the training sites  
11 built, and up, and operating then you're able to go after  
12 the funding, you have facility cash matches, you're able to  
13 leverage your money.

14           So, I would just like to encourage you to  
15 seriously consider following through on last year's plan and  
16 funding one or two centers of excellence, and thinking about  
17 whether or not you might need money in your new plan to  
18 continue to support that.

19           I think there's a real opportunity to do the kind  
20 of work that's necessary.

21           And if you do as I do, if you study how innovation  
22 occurs and how technologies get commercialized, you quickly  
23 find that having centers like this, whether you think of  
24 them in the largest context, like a Silicon Valley, or you  
25 think of them in smaller contexts like facilities that are

1 organized in this way, this is where the technology really  
2 reaches the market and it makes it easy for investors to  
3 have a place to visit and see where the work is being done.

4 So your insight in proposing to fund this was very  
5 encouraging to many of us that work in this field. I hope  
6 you'll consider following through and also including money  
7 for it in your current draft.

8 Question?

9 MR. SHEARS: So, this is involved with San Jose  
10 Redevelopment Agency?

11 MR. ROBBINS: No, it is not, I'm pleased to say.

12 MR. SHEARS: Wow.

13 MR. ROBBINS: The city -- this is not in a  
14 redevelopment zone. And I didn't come here to just do a  
15 pitch for the City of San Jose, I was using it as an  
16 example. But since you asked the question, this \$12 million  
17 that they've come up with, it's all outside of Redevelopment  
18 Agency funding.

19 MR. SHEARS: Okay, that's where I was going.

20 MR. ROBBINS: The money has already been  
21 committed, the construction of the building is underway.  
22 Nobody's asking, in that organization, for you to help fund  
23 their building or fit it up. But it isn't Redevelopment  
24 Agency Funding, it's done through Environmental Services and  
25 the Office of Economic Development.

1 MR. SHEARS: Okay.

2 MR. ROBBINS: It's city-owned land and a city  
3 building.

4 MR. SHEARS: Yeah, I was just checking because I'm  
5 reading here the San Jose City website says "San Jose  
6 Redevelopment Agency has retained Synergy EV,  
7 Incorporated" --

8 MR. ROBBINS: Yeah, not one penny of Redevelopment  
9 Agency money in that project.

10 MR. SHEARS: Okay. Thank you.

11 MR. PEREZ: Thank you, James.

12 Okay, next speaker Chuck White, from Waste  
13 Management.

14 MR. WHITE: Thank you, Chairman Boyd and members  
15 of the Advisory Group, Chuck White, with Waste Management.

16 I don't have a whole lot of comments, just a  
17 couple. But before I get to those, I really want to  
18 express, as many others have, I think the very excellent  
19 work that has gone into the preparation of this report. I  
20 think you have covered all the bases.

21 And we may want to ask for a little bit of  
22 tweaking. We will be submitting comments by the comment  
23 deadline.

24 We really appreciate the focus, in large part, on  
25 waste-based fuels. It's mentioned throughout the report,

1 it's emphasized. We think that the waste-based fuels, from  
2 our perspective, provides a tremendous opportunity for  
3 developing alternative fuels in the future.

4           With respect to natural gas I was actually  
5 planning on coming to suggest that maybe we ought to focus a  
6 little bit more on funding of the fueling infrastructure,  
7 than the individual vehicles. Although I heard Tim  
8 Carmichael, the head of our California Natural Gas Vehicle  
9 Coalition say exactly the opposite. So, clearly, Tim and  
10 myself have to do a little talking between now and then.

11           But when Waste Management goes to transition from  
12 a diesel fleet to a natural gas fleet, the single largest  
13 cost is that fueling infrastructure to impose, frequently,  
14 over a million dollars just for the fueling infrastructure,  
15 alone. So, we would like to make sure that there is funding  
16 preserved.

17           Waste Management is interested in converting our  
18 diesel fleet to a natural gas fleet as quickly as possible,  
19 but it's really going to be a function of available funding,  
20 and the more funding that's available for both vehicles and  
21 fueling infrastructure is going to be important.

22           One other area has to do with the various kinds of  
23 biofuels. You certainly have identified biomethane  
24 production facilities, you've identified diesel substitutes.  
25 And last year there was some discussion around the issue of

1 gasoline substitutes and throughout the report you do talk  
2 about gasoline substitutes as something that's a high  
3 priority. But there really isn't a funding category for  
4 gasoline substitutes, at least in the final summary table,  
5 other than ethanol.

6           And there was some discussion last year, over last  
7 year's Investment Plan, that why was the focus exclusively  
8 on ethanol as a gasoline substitute and why couldn't that be  
9 broadened to other kinds of gasoline substitutes.

10           If you look at your summary table, you have diesel  
11 substitutes and you have advanced diesel substitute  
12 production plants. And why couldn't you say the same thing  
13 right above, instead of ethanol gasoline substitutes, an  
14 advanced gasoline substitute production plants.

15           Not to poke an eye on my friends in the ethanol  
16 production community, but we would like to be able to see  
17 what other kind of opportunities to produce biogasoline from  
18 wastes.

19           One technology that Waste Management has invested  
20 in is the so-called terrabond technology. They were an  
21 applicant last year around. We didn't quite make the  
22 funding cutoff for the project that had been submitted, but  
23 it was the next one down, just below the cutoff. We'd like  
24 to be able to see if funding could be submitted the next  
25 round.

1           But it's not clear from the table how a gasoline  
2 substitute -- and by the way, the terrabond process is an  
3 organic salt that is produced from waste materials,  
4 municipal solid waste, or agricultural waste, even possibly  
5 forest waste. But mostly agricultural waste and municipal  
6 solid waste, and it produces a organic salt that can be  
7 substituted into the refining process to displace fossil  
8 sources of petroleum.

9           So, we think it should be available and other  
10 kinds of gasoline substitutes, along with ethanol, ought to  
11 be considered for funding as this plan goes forward.

12           So, we will be submitting comments on these,  
13 probably have a couple others by the time we really digest  
14 the full report. But we really appreciate it, I think you  
15 really are on the right track, it's an excellent report,  
16 it's a good starting point and we look forward to further  
17 discussions with you. Thank you.

18           VICE-CHAIRPERSON BOYD: Thank you.

19           MR. PEREZ: Okay. Next speaker, Joshua  
20 Mermelstein, from Hyundai. Is Joshua here or is he online?  
21 I believe he's online. Let's see if he's still on. I'm not  
22 sure he's still with us. Let's see, we're checking.

23           MR. MC KINNEY: Joshua, are you there?

24           MR. PEREZ: Okay. We'll go on to the next  
25 speaker. How about Linda Collins? Linda Collins, are you

1 online?

2 MS. COLLINS: Yes. Can you hear me?

3 MR. PEREZ: Yes, we can. Please proceed.

4 MS. COLLINS: Thank you. I'm Linda Collins, I'm  
5 the Executive Director of the Career Ladders Project for  
6 California Community Colleges, and we work statewide to  
7 foster educational and career advancement opportunities for  
8 Californians.

9 We look through research, policy initiatives, but  
10 also direct support to community colleges and their  
11 workforce partners.

12 And we operate under the auspices of the  
13 Foundation for California Community Colleges, a nonprofit  
14 auxiliary to the Community College system.

15 I just want to focus on a couple of things. I  
16 really want to commend the Commission staff for the  
17 recommendation to continue to invest in workforce  
18 development and training as a critical element of the  
19 Investment Plan.

20 Addressing the skills gaps and needs, articulated  
21 by employers, as you've already heard today, is clearly  
22 critical if we're going to develop the clean transportation  
23 energy market.

24 But we were especially pleased to see reference in  
25 the plan to identify programs that could help develop career

1 ladders for new entrants into the industry. We believe  
2 attention to new entrants, as well as continuing training  
3 and pathways to advancement for those already working in the  
4 industry is critical if we're going to build a healthy, and  
5 a green economy, and a system that works into the future.

6 I'd like to let you know just about one large-  
7 scale initiative that's currently being funded by the  
8 Community College System, the Career Advancement Academy  
9 Demonstration project, which I think is especially relevant  
10 for the work going forward.

11 These are designed to establish pipelines to  
12 careers and additional higher education opportunities for  
13 under-employed young adults from low income and historically  
14 under-served communities.

15 They address foundational skills in reading,  
16 writing and math, while simultaneously enrolling students in  
17 career technical training programs leading to high-skill  
18 careers.

19 They all build on partnerships between local  
20 community colleges, employers, labor, workforce boards and  
21 community-based organizations.

22 This is a large-scale project now spanning career  
23 pathways in some 13 sectors, but including energy and  
24 transportation. They've been up and running for about three  
25 years, now, and have spread to some 30 community colleges

1 across the State.

2 I just want to say these kinds of programs really  
3 do show promising results and 90 percent of the students  
4 who've enrolled in the CAAs completed their coursework, and  
5 75 percent of them with a C or better.

6 And given that, these students really face  
7 multiple barriers to both secondary education and training,  
8 and these results are actually very, very encouraging.

9 They enroll diverse Californians, 55 percent are  
10 Latino, 18 percent African American, eight percent Asian  
11 American. And while all age groups are served, 78 percent  
12 are between 17 and 34 years of age, a critical age group, as  
13 employers have already mentioned the aging of the workforce.

14 At colleges, such as Skyline in San Bruno, and  
15 Contra Costa in San Pablo, we're leveraging the CAAs to help  
16 under-prepared job seekers to prepare for careers as  
17 automotive technicians, with exposure to hybrid electric  
18 vehicles.

19 At those same colleges basic and advanced hybrid  
20 electric vehicle training will be provided to master  
21 mechanics throughout the Bay Area in fall of 2011. And  
22 we're working in partnership with the Automotive Service  
23 Council of California and the membership of over 1,000  
24 independent repair shops on strategies to help small and  
25 mid-sized businesses meet their hiring needs, as well as to

1 upgrade hybrid electric vehicle diagnosis and repair skills  
2 of current employees.

3           And the work with Long Beach City College is  
4 focused on transit training as the sweep purchases of  
5 electric heavy equipment continue to expand.

6           Our colleague from VTA has already eloquently  
7 testified as to the importance of these kinds of projects,  
8 also, to the local transit authorities.

9           Both San Jose City College and Los Angeles Valley  
10 College have been providing bus operator and mechanic  
11 training opportunities, providing successful placement of  
12 new employees and upgraded skills for existing employees,  
13 many of them earning college credit for the very first time  
14 and gaining preparation for successful retention and  
15 promotion.

16           These are just a few of the many examples, I  
17 think, of the State investments already being made by the  
18 system, and programs that you can build upon and leverage as  
19 you move forward with your workforce development efforts.

20           In order to help the State reach its goals in  
21 clean energy, the Career Ladders Projects stands as a  
22 partner with the community colleges to meet the needs of  
23 employers and to work with you to create workforce  
24 opportunities for new entrants, as well as existing  
25 employees.

1           We want to help prepare all Californians for new  
2 and emerging technologies and for skilled employment at  
3 family-sustaining wages.

4           I really thank you for your time and  
5 consideration, and for your attention to workforce  
6 development and opportunity in California.

7           We'll be submitting this, also, in written form,  
8 so you can have that, as well. Thanks for your time.

9           MR. PEREZ: Okay. Thank you, Linda.

10           And I believe we now have Joshua back online.  
11 Joshua, are you there? Joshua? Did you lose him? I know  
12 he was back online for a minute. Okay. Joshua, are you  
13 there? I guess we lost him again.

14           Okay. How about Michael Eaves, are you here  
15 today? Michael? Okay.

16           MR. EAVES: Good morning, or good afternoon,  
17 Commissioner and panel. I'm Mike Eaves, with the Clean  
18 Energy in Seal Beach, California. We're the largest  
19 provider of CNG and LNG in North America and we've got more  
20 than 230 stations nationwide, several LNG plants and  
21 probably deploying about a hundred, two hundred million  
22 dollars a year in station infrastructure capital for the  
23 market place.

24           I'd like to comment, commend the staff on the good  
25 work that they have done on the report.

1 I came here, specifically, to talk about just one  
2 item and that is the balance between medium and heavy duty  
3 vehicle incentives and the infrastructure. There's been a  
4 major bump-up in the infrastructure dollars to a proposal of  
5 \$8 million for this year.

6 We and our customers, we're talking to literally  
7 hundreds and hundreds of fleet customers, they're more  
8 interested in the vehicle incentive dollars than they are in  
9 the infrastructure dollars because there are people, like  
10 ourselves, out there in the world that are deploying station  
11 capital to build fueling infrastructure.

12 This position, Tim Carmichael talked about it just  
13 briefly this morning, we'll be submitting more extensive  
14 comments. But this position of vehicle incentives versus  
15 infrastructure is totally consistent with what we've been  
16 promoting in Congress for the last two and a half years,  
17 with the Natural Gas Act.

18 There is a current new version, with the new  
19 Congress, there's a new version of the Nat Gas Act being  
20 developed.

21 The version for 2010 we were -- from a national  
22 perspective, we were seeking \$7 billion in vehicle  
23 incentives for medium and heavy duty vehicles and only about  
24 a little over \$150 million in tax credit incentives for  
25 infrastructure.

1           So, the realities are that the infrastructure,  
2 it's a good business to deploy one and a half million  
3 dollars of infrastructure as long as the fuel volumes are  
4 300,000 gallons a year or greater, it's a good proposition  
5 for us on capital. And it gives a customer more than a  
6 dollar of savings, actually, probably more like \$2 right  
7 now, the way prices are running up.

8           So, we feel that -- we feel that the vehicle  
9 incentive dollars are more important than the infrastructure  
10 dollars.

11           We had a conversation with Jim McKinney last  
12 Friday, talking about this issue and he says what would you  
13 like to do? I says, I'd like to take about \$6 million out  
14 of the infrastructure and put it back into incentives. And  
15 he says, well, you're already getting a pretty healthy dose  
16 of funding.

17           And we appreciate that. And to put money where  
18 our mouth is, I think it would be better if you took the \$6  
19 million and put \$3 million of that back into vehicle  
20 incentives and deployed \$3 million somewhere else.

21           Natural gas infrastructure for medium and heavy  
22 duty vehicles is not like hydrogen or electric vehicle  
23 charging. There's a ready market out there, if we can  
24 overcome the first cost of the vehicles to customers.

25           And we're talking about the medium and heavy duty

1 market, you're talking about deploying vehicles that have  
2 fuel uses of anywhere from 10,000 gallons a year upwards of  
3 20 to 25 thousand gallons a year. So, infrastructure  
4 dollars are not as important as buying down that first cost  
5 differential.

6           So, we'll be submitting other comments. I know  
7 there are folks, like Chuck White, that would like to see  
8 infrastructure dollars, I know there are school districts  
9 out there that like to see infrastructure dollars. I know  
10 there's a program to upgrade infrastructure, the stuff that  
11 was built 10, 15, 20 years ago and make it more compatible  
12 with today. And we think that those programs, you know,  
13 some money should be spent on that, but we don't think -- we  
14 think that the vehicle purchase incentives are much more  
15 valuable to make the market go.

16           And the reason they are is because those fleet  
17 customers dictate to us where exactly they would like their  
18 fueling infrastructure. And we collaborate with other  
19 fleets to make sure that we get as much synergies between  
20 fleets as we can.

21           Anyway, I appreciate the good work of staff and,  
22 like I say, we'll be submitting further comments. Thank  
23 you.

24           MR. PEREZ: Okay. Thank you, Mr. Eaves.

25           And just a reminder to everybody listening in and

1 here in the room, today, to help staff, your written  
2 comments, please submit them no later than March 25<sup>th</sup>, as  
3 explained in the workshop notice. And the instructions on  
4 where to send those are also included there, so it would be  
5 very helpful to us to get all the comments by the 25<sup>th</sup>.

6 Also, just to kind of let you know, in terms of  
7 the other request-to-speak forms, I have another 15 speakers  
8 that have signed up. So, we'll try to get through to all of  
9 them. I would imagine some of you have probably left.

10 So, we were not able to reconnect with Joshua --  
11 or have we? We have?

12 VICE-CHAIRPERSON BOYD: The third time's the  
13 charm.

14 MR. PEREZ: The third time. Okay, Joshua, are you  
15 online?

16 MR. MERMELSTEIN: Yes, I am. Can you hear me  
17 okay?

18 MR. PEREZ: Yes, we can. Please proceed.

19 MR. MERMELSTEIN: All right. Sorry about the  
20 technical difficulty.

21 Well, good afternoon. I'd like to thank, first,  
22 the CEC staff for the hard work as with the recent  
23 Investment Plan and help in regards to development of  
24 hydrogen infrastructure here, in California, over the last  
25 few years.

1 I'd like to take the opportunity to present  
2 Hyundai's views on the hydrogen infrastructure funding  
3 announced in the 2011-2012 Investment Plan.

4 First, to give you a quick background on  
5 activities globally with other governments and key fuel cell  
6 market deployment areas. On January 31<sup>st</sup> Hyundai signed MOUs  
7 with the Nordic countries of Sweden, Denmark, Norway and  
8 Iceland to collaborate on fuel cell vehicle deployment and  
9 the hydrogen infrastructure to support deployment, a project  
10 with a budget of around \$25 million.

11 Two weeks ago we signed another MOU with the Clean  
12 Energy Partnership, NSCE Member Now, GMPH, to participate in  
13 the \$1.4 billion dollar -- or billion euro program put  
14 together by the German federal government covering years  
15 2007 to 2016. This all is part of our global activities to  
16 prepare a commercialization of fuel cell vehicles.

17 We have made the investment of fuel cell electric  
18 vehicle technology to provide a zero emission vehicle  
19 product that meets customer expectations of range and  
20 performance of today's internal combustion engine vehicles  
21 and are on target to meet our 2015 cost targets for  
22 commercial sales.

23 Infrastructure readiness by 2015 is crucial to our  
24 ability to deploy vehicles in the California and U.S.  
25 market. However, the lack of funding for hydrogen

1 infrastructure in the State of California and shortfalls in  
2 the network coverage predicted in 2015 makes it difficult to  
3 meet commercialization targets in the State. Infrastructure  
4 must be established to support successful rollout,  
5 especially during the initial commercialization phase. And  
6 availability will be critical to the success of  
7 commercialization of fuel cell vehicles.

8           This is mentioned in the 2011-2012 Investment Plan  
9 as one of the primary barriers to the penetration of fuel  
10 cell vehicle technology into the market place in the State  
11 of California.

12           And with that I thank you, and that's all the  
13 comments I have.

14           MR. PEREZ: Okay, thank you, Joshua.

15           MR. MERMELSTEIN: Sure.

16           MR. PEREZ: And for the next speaker I certainly  
17 owe an apology to, to Audrey Taylor, from NorTech. I see  
18 that there was a request to speak before 2:00 p.m., and I do  
19 appreciate your patience to stick around until 3:30 to  
20 deliver your comments. So, sorry about that.

21           MS. TAYLOR: Thank you. I have -- I'm also  
22 chairing the Health Workforce Council and we have a call at  
23 four o'clock, so I need to do that.

24           MR. PEREZ: Oh, okay.

25           MS. TAYLOR: I'm Audrey Taylor, and Chairman and

1 Commissioner, thank you very much.

2 I have an economic development consulting firm,  
3 but I also sit on the California Workforce Board, as one of  
4 the Board members, the Governor's Green Collar Jobs Council,  
5 and I also Chair the Health Workforce Council.

6 But I'm here representing NorTech, which is an 11-  
7 county joint powers agreement in Northern California. So,  
8 just think of Sacramento north, above Sacramento all the way  
9 to the Oregon border. It's the size of seven other states  
10 in the U.S.

11 And I just want to thank the committee and the  
12 Commission, also. We have received AB 118 funds in  
13 different methods. The first one was through the, and you  
14 heard it before today, the RICOG, the Regional Clusters of  
15 Opportunity, which we initiated about almost a year ago, and  
16 started down that path.

17 And the outcomes of that were to do employer  
18 engagements, and we did employer engagements and identified  
19 sectors.

20 And the goals out of that was clean energy, clean  
21 transportation and, of course, jobs. You know, how do we  
22 get jobs?

23 But one of our sectors, of course, is the  
24 alternative fuel and vehicles sector, where we brought  
25 people together, and those sector members include Roush,

1 Ferrellgas, Transfer Flow, who is an upfitter and very well  
2 known throughout the U.S., but is up in our local, the  
3 municipalities, the Air Quality Board. And today I  
4 recognize that I probably should have the Lung Association  
5 on that team, also.

6 And again, they have identified some goals and  
7 that goals is to accelerate and deploy clean energy and  
8 clean transportation throughout Northern California.

9 From that we recognized that Roush had received  
10 their CARB approvals for upfitting vehicles to propane. And  
11 as we look at Northern California we decided that, you know,  
12 Northern California is a great area for a demonstration  
13 project to really implement and showcase propane as an auto  
14 bus. We're very used to it. We're probably not early  
15 adopters because we use propane throughout Northern  
16 California.

17 From that we have applied for AB 118 under the  
18 training side to, like everybody else has talked about, the  
19 workforce development, how do you train dislocated workers,  
20 and existing workers, incumbent workers and also your  
21 municipal staff to these new technologies?

22 And we will be receiving those funds and for our  
23 area that means 136 new jobs, you know, which is a lot for  
24 Northern California in these rural areas.

25 So, we're here today because we think that

1 propane, as an auto gas, is very viable and we want to  
2 demonstrate that in Northern California.

3           Northern California often is kind of overlooked  
4 because we don't have big populations, like L.A., and San  
5 Diego, and the Silicon Valley, but we cover a lot of the  
6 area. So, our goals are to green the major corridors with  
7 alternative fuel centers and starting that with the propane.  
8 But those centers would be able to also house other types of  
9 fuel vehicles. And that we look at the I-5 corridor, or the  
10 Highway 99 corridor, where we have lots of transportation  
11 going through. Maybe not stopping, which we'd like to have  
12 them do, but going through that area.

13           We want to encourage our municipalities. Again,  
14 we have 11 counties who are going through the process in  
15 their general plans of adopting strategies of how they will,  
16 you know, either upgrade their fleets or do something to  
17 reduce their greenhouse gas emissions. Many of them are  
18 just now starting in on their climate action plans and this  
19 is the opportunity for us to work with them to talk about  
20 the alternatives in this type of process.

21           So the incentives that you talked about in your  
22 program to help, you know, really drive the market and help  
23 them to get on this path would be exciting, because they  
24 usually lag behind the rest of the State.

25           The workforce training, again, this has been

1 mentioned many times and I probably don't need to repeat it,  
2 but it's very helpful, particularly for our dislocated  
3 workers and the retiring workers that we have training going  
4 on in these new technologies. And not only in the  
5 alternative fuels, but the vehicles, and the propane, and  
6 the hybrid all along those areas.

7           We're looking, through our partnership, we have  
8 just started an innovation lab, which was mentioned, with  
9 our university, to help those companies that are in the  
10 North State to look at new technologies around alternative  
11 fuels and technology.

12           And biomass is huge in Northern California because  
13 of all of our forests and I was very interested to hear how  
14 we might start rethinking out we use our biomass to fuels.

15           Again, we've had a lot of job losses in that area  
16 and this would be an area to really start that.

17           So, we really appreciate, from the Commission, the  
18 things that you have done. It's put us on a path to really  
19 take a look at this, not only just from a company stand  
20 point, but really from a North State community stand point  
21 of what we can do to reduce our greenhouse gas emissions  
22 while we're helping to create the economy and create jobs  
23 for our area.

24           So, thank you very much.

25           MR. PEREZ: Wow. Thank you so much for your

1 patience. Do you have far to go to get to your next --

2 MS. TAYLOR: I'm just going to get on the cell  
3 phone.

4 MR. PEREZ: Okay. So, I was thinking if our --

5 MS. TAYLOR: So, if there's questions, I'd --

6 MR. PEREZ: -- if our good friends from Tesla are  
7 here and they have a Roadster, perhaps they could get you  
8 there quickly.

9 MS. TAYLOR: They could pop me up there, yeah.

10 (Laughter.)

11 MS. TAYLOR: Well, I would like -- I would like  
12 Garland, Texas to do their next manufacturing plant in  
13 California and I can help you with that.

14 MR. PEREZ: Okay.

15 MS. TAYLOR: Is there a question? I saw somebody  
16 turn something up.

17 MR. PEREZ: Yeah, we're going to go to you next.

18 MS. TAYLOR: Okay. Thank you very much.

19 MR. PEREZ: Okay. Thanks again.

20 Okay. With that I want to turn it back over to  
21 one of our close partners, Andy Panson, who is representing  
22 Tom Cackette for some comments.

23 MR. PANSON: Yes, I've been keeping Tom's seat  
24 warm. He apologizes, he got called away and he was hoping  
25 to get back, but it looks like whatever called him away is

1 not going to allow that to happen.

2           So, he asked me to make some remarks on his  
3 behalf, and I'll try and keep them brief because of the  
4 later hour.

5           First of all we want to thank and acknowledge the  
6 good and hard work that the staff has done to put the plan  
7 together.

8           I work on putting together ARB's plans, so I can  
9 speak firsthand from I know how much work it takes and  
10 you've really done a great job.

11           I have to make one comment, though, and I know  
12 Commissioner Boyd would likely be upset if ARB didn't say  
13 something about hydrogen.

14           So, you've heard from other people --

15           VICE-CHAIRPERSON BOYD: Yeah, surprise.

16           MR. PANSON: This is a chuckle there, Jim.

17           And you've heard from the Fuel Cell Partnership  
18 and from some of the manufacturers that they see a gap in  
19 the funding for hydrogen fuel stations. ARB concurs with  
20 that assessment. We're going to follow up with more  
21 detailed comments.

22           Using the same data that you're using, you know,  
23 the rollout surveys and the analysis of existing stations,  
24 when we run those numbers we still see a funding need. And  
25 I think part of it gets to whether, you know, the issue of

1 availability for particular vehicles, rather than just  
2 regional -- you know, total regional through-put.

3           But as I said, we'll follow up with some detailed  
4 comments and I think at that point it would be good to have  
5 the two staffs get together and make sure we actually  
6 understand each others' analysis.

7           But when we look at the numbers we see a need for  
8 about on the order of \$10 million in additional funding.  
9 That includes, in addition to the funding that you're about  
10 to roll out. And, like I said, we'll follow up with some  
11 detailed support for that.

12           And I just want to say, kind of hand out one thing  
13 quickly, and it's easy to ask for money, I think everyone  
14 does that, but it's a little harder to maybe identify and  
15 help you figure out where that money might come from.

16           So, we did a sort of a course analysis and --  
17 yeah, these are to pass around.

18           This isn't meant to be a final analysis, but just  
19 one way that you might look at where you might come up with  
20 an additional \$10 million.

21           And what we did is we looked at last year's  
22 funding plan and the allocations in the plan, the percent  
23 allocations, and this year's funding plan. And, actually,  
24 for the most part, the numbers tracked very closely in terms  
25 of the percent of funding that was going to each of the

1 categories.

2           We kind of looked for where there was a big change  
3 and whether we understood that change or not. And, of  
4 course, there was a big decline in the hydrogen funding.  
5 There was a big -- there was a large increase in the  
6 workforce training funding. We actually understood that  
7 because since you didn't really make a significant  
8 investment last year in workforce training, we were  
9 expecting a bump up in that funding.

10           But the only other category -- and most of the  
11 other categories tracked very closely from plan to plan.  
12 The only other one that showed a big change was the natural  
13 gas and biomethane, and that went from 20 to 28 percent,  
14 whereas the hydrogen funding went from 12 to 3 percent. And  
15 if you just normalized those allocations, used the same  
16 percent allocations that you used last year, that would sort  
17 of be one way to get us to the level of hydrogen funding  
18 that we think is appropriate.

19           I don't mean for this to be a final analysis, but  
20 kind of that methodology or that thought process where you  
21 looked at what was in last year's plan, where are the big  
22 changes? Do you understand or sort of have a rationale for  
23 those changes and, if not, that might be a way to sort of,  
24 you know, re-normalize those figures.

25           But this is something that we'd love to work with

1 you on.

2 MR. PEREZ: Great. Thank you, Andy, I'm sure  
3 staff will look forward to meeting with your staff on this  
4 soon.

5 VICE-CHAIRPERSON BOYD: Mike Eaves volunteered  
6 three million, I don't know where we get the rest of it.

7 MR. PANSON: Great.

8 VICE-CHAIRPERSON BOYD: Thanks, Andy. Thanks for  
9 all your good work. You're here a lot in our public  
10 hearings, and we appreciate the ARB and your participation.

11 MR. PANSON: Yeah, and we really appreciate the  
12 good collaborative working relationship we have. I think I  
13 talk to Aleecia at least once, if not twice or three times a  
14 week. And I think that back and forth and us always being  
15 in touch really benefits both of our programs.

16 MR. PEREZ: Okay. Thanks again, Andy.

17 Okay. The next speaker, Daniel Moscaritolo. I'm  
18 sure I corrupted your name. Remediation Earth,  
19 Incorporated.

20 MR. MOSCARITOLO: Thank you, Commissioner Boyd and  
21 this esteemed Advisory Panel for letting me speak today.  
22 I'm Danny Moscaritolo, President and CEO of Remediation  
23 Earth.

24 I'm going to be talking about diesel substitutes  
25 and some other interesting developments with some technology

1 that I think will be interesting.

2 The company, the members in the company have a lot  
3 of experience in technology, 20 plus years each member. And  
4 our basis is basically proven commercial thermal conversion  
5 technologies.

6 And one of the important things everybody asks is  
7 that it does meet all the current emission limits for all  
8 these various countries.

9 Our goal is to remediate the wastes. We believe  
10 that taking waste materials and turning it into fuel is the  
11 way.

12 We'll be talking about pyrolysis one, where we  
13 convert these waste materials directly to synthetic fuels,  
14 electricity and carbon black.

15 Pyrolysis two is a bit of a misnomer, it's really  
16 anaerobic gasification, but there's a pre-section of  
17 pyrolysis. And with this technology you can take green  
18 biomass and go directly to green diesel and agrichar.

19 There's also a secondary technology that will  
20 allow us to go directly to green hydrogen.

21 We see bio-SNG and the green hydrogen as a very,  
22 very important future.

23 This is some of the technology we've done for many  
24 years in very high-end systems throughout the refineries,  
25 gas plants, skid-bonded, and intelligent and remote

1 monitoring and remote viewing.

2           Why is Remediation Earth focusing on producing  
3 fuels from renewable waste? Quite simply, when I did this  
4 graph, I looked at this graph and I saw something  
5 interesting, that most things are coming down pretty quickly,  
6 except natural gas. The one thing I see is the renewables  
7 that are really the future.

8           And while wind and solar PV and other things are  
9 in there, the waste is one of the large components, and  
10 that's why we're zeroing in on it.

11           We wanted to clear up some misconceptions. There  
12 are people out there who say they like pyrolysis, they  
13 don't. I want to first of all say pyrolysis is not  
14 incineration or any way aligned with it. Incineration is  
15 basically combustion. They call it many things, now, I've  
16 been all over the world, different seminars, and here's some  
17 of the things they're being called now.

18           The lines are blurred but, very simply, if it's  
19 incineration they're using stoichiometric amount of oxygen  
20 in combustion.

21           Our technologies use little or no oxygen,  
22 therefore, there is no combustion.

23           Interesting fact is that this pyrolysis, if we're  
24 doing medical waste, is exempt from the federal emission  
25 requirements, if it's truly true pyrolysis, with no flame.

1           The method of treating it is really what's  
2 important. How do you treat the emissions? Mostly with  
3 incineration you've got one shot, on its way out the flue.  
4 Whereas with pyrolysis and gasification, and other thermal  
5 conversion technologies, you have multiple stages where you  
6 can take out the sulfur, take out this, take out that. So,  
7 that's why the emissions are so much lower in these  
8 technologies.

9           Now, people have said, well, we've heard of  
10 pyrolysis before. Yes, there's many other types, there's  
11 fast pyrolysis. And this is a slow, indirect pyrolysis. I  
12 bought this technology from Japan. It's around 18-year-old  
13 technology, it's commercial, so it's been around a while.

14           Here's how it's split up. You got pyrolysis one,  
15 where you're taking these wastes and turning it directly  
16 into synthetic diesel.

17           On the other side, which we refer to as pyrolysis  
18 two, we're making not only the green hydrogen, the green  
19 electricity and the green diesel.

20           People are beginning to see, now, that making  
21 power from MSW is not the answer. Just a very, very simple  
22 math one can see that the profitability revenue from making  
23 power is very poor. The smarter way and the way we are  
24 doing it is to take away the plastics or other materials,  
25 separate it from the MSW, and then turn it into fuel.

1           As an example, our partner owns several MRFs,  
2 Burbank Recycling and Inland Empire IEE, in San Bernardino.  
3 And we will be taking the curbside residual material, which  
4 normally has to be landfilled, it cannot be recycled, and we  
5 will get 160 gallons per ton. And at the price these days,  
6 what's really more like \$3, if I'm being conservative, and  
7 you take the carbon black and you're looking at a factor of  
8 around four and a half or more compared to taking  
9 gasification and turning it into electrical power.

10           Now, we don't use large units. As I say up here,  
11 large units are problematic. And the reason is, is every  
12 year you've got to do your maintenance and when you take  
13 these systems down, you've got a big system down, your  
14 production is down.

15           My whole career, we've always done smaller, mobile  
16 systems, or modular. So, therefore, as an example, if I  
17 want to do 200 tons per day, it's better using four 50s, you  
18 take one down, you still have 75 percent of your production  
19 capabilities.

20           This is an actual picture of one of the systems in  
21 Japan, and this is exactly what our system will be looking  
22 like in our new building, in San Bernardino, that's coming  
23 up.

24           Here's some picture delineating the differences  
25 between the fuels. On the left is what you've heard about,

1 the shortcomings of pyrolysis. This is fast pyrolysis.  
2 Typically, five to ten seconds is the dwell time the  
3 material has before it's volatilized, and we don't do it  
4 that way. We have a rotating kiln, it takes around 30  
5 minutes from the time the material comes in until it's at  
6 the end. And during that period of time it makes a very,  
7 very high quality fuel.

8           Here's an example of the type of feedstocks that  
9 you can use and actually what you make. Tires, mixed  
10 plastics, one of my favorites, medical waste, e-waste, and  
11 municipal solid waste.

12           And I say mixed plastics is one of my favorite  
13 because it's a very, very high through-put or output of  
14 fuel. Medical waste is the most profitable because when you  
15 look at all these wastes from a business stand point, the  
16 highest tipping fee generates the highest revenues overall  
17 for a company.

18           This shows some third-party independent emission  
19 testing that was actually done using plastics in our  
20 pyrolysis one. And the units might not be correct here for  
21 this, but they're very, very low, much lower than  
22 incineration.

23           There's many potential uses of these wastes and  
24 we're focusing primarily on MSW, specifically taking out the  
25 plastic, the un-recyclable plastics and also some medical

1 waste.

2           Typical medical waste facilities, the majority of  
3 them, the far majority, and I've visited most of them, use  
4 autoclaves. And they do something very interesting, when  
5 they're all done these plastics all go into a tractor-  
6 trailer and they go to a disposal site.

7           My brother runs one large plant in the United  
8 States, so I got to go there and visit it. And I can tell  
9 you these facilities, you can't recycle that plastic, it  
10 goes directly in landfills. And the average plant does  
11 about 35,000 tons a day.

12           Suffice it to say that California did 107 and a  
13 half million pounds in 2009 that was waste treated, and the  
14 vast majority of it went to landfills.

15           What we're talking about doing is that this place  
16 right here, this little blue truck, if you can imagine  
17 cutting right here, instead of going to autoclave, all that  
18 waste goes directly into this unit and out comes a whole  
19 bunch of diesel fuel and it does not go to the landfill.

20           The pyrolysis two we talked about, again, rotary  
21 kiln, with steam/CO2 reforming. I'm happy to say that the  
22 actual technology, itself, is the only technology that is  
23 one hundred percent combustion free. What I'm talking about  
24 is using the front end is pyrolysis, but it goes through a  
25 steam CO2 reformer. It then uses fuel cells, the syngas to

1 make power, and we then take a pressure swing absorber to  
2 make this ultra, ultra pure hydrogen. And so, it is  
3 renewable and it is green.

4 To give you an idea, the average plant, that's a  
5 small plant of 20 tons per day, averaging 106 kilograms per  
6 ton, will do something around the order of around 2,150  
7 kilograms per day.

8 I was going through the leaflets here and I  
9 noticed something interesting on some of the money you've  
10 given out to filling stations, and I believe there was six  
11 of them for -- I know Lindy got two and I forgot the other  
12 guy's -- anyway, when I added up their requirements, they  
13 came to be about 1,650 kilograms per day. So just to let  
14 you know, our smallest plant, doing 2,150 kilograms per day,  
15 will take care of a lot of the needs going forward for all  
16 these stations everybody is building.

17 We have very, very fine patented technology for  
18 taking these gases and making power. It's very difficult in  
19 California to be able to sell these here. We have 17 in the  
20 State right now, some of them down in SCAQMD territory.

21 The unique thing is that they can start with less  
22 than 500 BTU caloric value in the gas. And not only can you  
23 use natural gas, but you can use gas from landfills, biogas  
24 from anaerobic digesters and a host of other sources.

25 CHP is the coming word, especially these type of

1 engines. As you know, there's a lot of losses when it comes  
2 to sending power far distances. The answer is, if you can  
3 to use these combined heat and power units, and not only cut  
4 down your distribution losses, but use that heat. And,  
5 actually, you can use that heat to make cooling. With  
6 adsorptive chillers you can chill entire buildings or  
7 campuses.

8           This is our facility in San Bernardino, near the  
9 airport. This is our partner, his MRF, material recovery  
10 facility. He has a permit to do 900 tons a day.

11           Here's our new building right next door. And  
12 right now this building is full of one-ton bales of residual  
13 plastic, so that when the system is ready we already have a  
14 source to go.

15           Project statistics, we will add three more 27 and  
16 a half ton pyrolysis systems, we call it project two, three  
17 and four, in the months after project one becomes  
18 operational.

19           We already have tentative funding for the first  
20 unit. It will generate annual revenues of seven and a half  
21 million per year, growing to 31 million per year when all  
22 four systems are operating.

23           Each system will generate 24 full time jobs, about  
24 double that during the construction period.

25           We need \$5 million in funding to produce these

1 waste-to-fuel plants. To build the first one out of ten  
2 facilities we have the majority of the funding, but we still  
3 need about \$5 million.

4 Again, we want to maximize California, we want to  
5 be the first to bring innovative technology here, first,  
6 especially when it comes to making green hydrogen.

7 As everybody's aware, the laws now say 33 percent  
8 should be green hydrogen. I don't think there's very many  
9 sources in the State, so we want to be one of them.

10 If you have any questions, you can contact myself  
11 or Peter, our Chief Operating Officer.

12 MR. PEREZ: Okay. Thank you, Daniel.

13 VICE-CHAIRPERSON BOYD: Daniel, you want to repeat  
14 your last name so Pat will have help in the future?

15 MR. MOSCARITOLO: Yeah, Moscaritolo.

16 VICE-CHAIRPERSON BOYD: Thank you.

17 MR. PEREZ: Slower?

18 (Laughter)

19 MR. PEREZ: Okay, next speaker, Rosario Barada,  
20 Daimler. If you're on the phone, please proceed. Hello,  
21 Rosario, are you on the phone? Okay.

22 Trying to make a connection with her right now.  
23 Okay, sorry. So, Mr. Barado, are you there?

24 Let's see here, I don't see a second one here.

25 Okay, is Mr. Barado is your phone on muted?

1           VICE-CHAIRPERSON BOYD: Or is it unmuted? He  
2 needs to unmute. Apparently, we have a connection with you,  
3 but we cannot hear you.

4           VICE-CHAIRPERSON BOYD: German time.

5           MR. PEREZ: German time? Is it tomorrow morning  
6 there? I'm not sure. Are you there?

7           Okay, we'll -- you have him here? Can you put it  
8 on speakerphone and put it next to this? They can't speak,  
9 okay. That may work.

10          VICE-CHAIRPERSON BOYD: Is there phone perhaps  
11 muted or something?

12          MALE SPEAKER: Why don't I put you and Dr.  
13 Mohrdieck on the phone. So, here you go, you're live.

14          Rosario? Try again, louder, please?

15          MR. PEREZ: I don't think that's going to work.

16          If he can hear us, we would accept any written  
17 comments.

18          MALE SPEAKER: Say that again? Okay, thank you.  
19 They're going to try the other number.

20          MR. PEREZ: The other number, okay. Okay, we'll  
21 return to Mr. Barada.

22          Okay. Next, it looks like this is a joint team.  
23 I cannot read the first name, but it looks like McCullough  
24 and Robin Purdy. Chris, okay. Outside, okay. We'll go  
25 ahead and move on to Stevin Ellis, who's also online.

1           Stevin, are you there?

2           MR. ELLIS: Yes, I am.

3           MR. PEREZ: Okay. Please proceed.

4           MR. ELLIS: Great. First of all, thanks,  
5 Commissioner Boyd, board members, and Advisory Committee and  
6 staff.

7           My premise today, on behalf of American Honda,  
8 with our North American headquarters, which is based in  
9 Torrance, California, and my comments are narrowly focused  
10 on the issues for hydrogen stations and vehicles.

11           We continue to put lots of emphasis towards these  
12 goals with the introduction of additional hybrid electric  
13 vehicles. And recently, at the L.A. Auto Show, we left FDD  
14 a better vehicle coming out soon.

15           We appreciate the hard work that's evident in this  
16 morning's report and as one of the OEM participant that  
17 helped to develop the Vehicle Deployment Study, we're glad  
18 it appears to offer great value to CEC.

19           Also, the process of OEM support letters has  
20 improved and we encourage the State to heed the priorities  
21 that we identified in these letters as much as possible.

22           Purely on behalf of our customers we're also  
23 grateful to the State of California for the past hydrogen  
24 station awards and subsequent stations that are now  
25 developing as a result of that.

1           Regarding the differences of interpreting OEM  
2 vehicle volume reporting, I think the comments that both  
3 Bill Elrick and Justin Ward have already alerted you to will  
4 lead to further dialogue and study. But I'd add that using  
5 maps, alone, hence looking only at the needed kilograms of  
6 hydrogen and comparing it to the available volumes lead you  
7 to an improper conclusion.

8           So, doing the math is important, but there are  
9 many other factors to consider, like proper station  
10 placement, the station capacity, the number of dispensers at  
11 each station, and even the number of bell hoses at each  
12 dispenser are several examples. We tend to take that for  
13 granted with the years we've had to see development of  
14 gasoline stations.

15           Down to the cluster station versus destination  
16 stations is now becoming even more important.

17           And we're happy to meet directly with Commissioner  
18 Boyd, any board members or staff for further clarification.

19           With regard to the reports this morning, and the  
20 volume slippage, and market development indicators, I'd like  
21 to put a few things into perspective. In late 2007 we  
22 announced our XTX Clarity market and volume plans. We  
23 announced a dealer network and customer involvement process.

24           We began in 2008 but, really, primarily due to  
25 lack of stations have delivered less than planned. And I'll

1 be specific, we launched three resale consumer-focused  
2 market areas in Southern California, two of which were  
3 served by a single hydrogen station identified as a primary  
4 station for that customer's daily use. Essentially, our  
5 customers are, today, 100 percent dependent on a single  
6 primary station.

7           And, of course, there's exceptions for the travel  
8 outside the daily commute area, or where they live, and the  
9 additional stations in the market do support that.

10           But after two and a half years we are anxious to  
11 see the third market station in the South Bay, which is the  
12 Torrance area, along with several others to become  
13 operational.

14           Each of these primary stations that our customers  
15 are using today, as mentioned it was single-hose, single-  
16 dispenser operation with a limited capacity, which is  
17 already being exceeded. So, any single customer that  
18 arrives to refill must wait sometimes up to five minutes for  
19 another to finish, if there's someone already there  
20 refueling.

21           And we don't receive too many calls about that,  
22 but you can see the risk it causes.

23           So, what's really more critical is redundancy,  
24 which we don't have the luxury of at this time, so this puts  
25 every one of our customers at risk for not getting fuel if

1 there's just any single problem with a single station.

2 So, we're anxious to see the previously funded  
3 stations come online in 2011 and 2012, and that will allow  
4 our vehicle deployments to increase.

5 So, we look forward to further dialogue and coming  
6 up with the right process as we go forward. Thank you very  
7 much.

8 MR. PEREZ: Okay. Thank you, Stevin.

9 Let me return to Chris and Robin Purdy. Okay,  
10 they're not here.

11 Okay, what about -- is this Daimler? Rosario, are  
12 you there? No.

13 Okay. Let's move on to John McNamara.

14 MR. MC NAMARA: Good afternoon, Commissioner and  
15 staff, and Advisory Committee, thank you for allowing us to  
16 make comments.

17 My name's John McNamara, with Environment Strategy  
18 Consultants and we currently operate three biomethane  
19 facilities in Southern California, at plants that utilize  
20 waste from food processing at Miller Brewing, Sunkist, and  
21 at Ventura Foods and we've been doing that for over six  
22 years.

23 And we have a new project that is located at the  
24 Inland Empire Utility Agency that's already been funded by  
25 the California Energy Commission to anaerobically digest cow

1 manure. And we've taken over the plant, in partnership with  
2 them, to reform it into a food waste biomethane facility.  
3 We're hoping to start later this year.

4 We've actually applied for additional funding from  
5 CEC to help us accomplish that.

6 And in addition to making biomethane out of  
7 municipal solid waste, primarily food waste, we're going to  
8 be making CNG for the solid waste companies that bring the  
9 waste to us.

10 And so I just wanted to introduce our project and  
11 also state our support for the pre-landfill biomethane  
12 production. That's the purpose of our facility is to  
13 provide a place for solid waste companies to bring solid  
14 waste, that would otherwise go to a landfill, instead coming  
15 to our facility and being processed, made into biomethane  
16 and other usable products.

17 And then we want to demonstrate -- and they're  
18 very excited about taking that biomethane and making it into  
19 fuel for their trucks, and we would actually fuel it there.  
20 So, just thank you for the opportunity and good job on the  
21 report. Thank you.

22 VICE-CHAIRPERSON BOYD: A quick question, if I  
23 might? The facility you're converting, you're converting  
24 from manure digestion to food waste or are you going to co-  
25 digest?

1           MR. MC NAMARA: Good question. Primarily food  
2 waste. We probably will still utilize some dairy manure in  
3 the process because of some of the permits for this  
4 facility. This is a facility that's been built, permitted,  
5 and operated in the past, so it's an existing site and some  
6 of the permits require use of dairy manure. So, we'll  
7 probably still use some from some local farms which are  
8 across the street.

9           VICE-CHAIRPERSON BOYD: So, you're using it  
10 because you have to, not because you necessarily want to?

11           MR. MC NAMARA: Well, it doesn't provide the most  
12 biomethane compared to other sources but --

13           VICE-CHAIRPERSON BOYD: So, food waste, standing  
14 alone, would be better than even a co-digestion then, I take  
15 it?

16           MR. MC NAMARA: Well, primarily we'll be using  
17 food waste because of the -- you know, the biomethane will  
18 be greater.

19           MR. EMMETT: Can I just ask a quick, follow-on  
20 question as well? I'm just curious, what are the scale, how  
21 big are these facilities in terms of output? And have you  
22 thought about other end uses, beyond biomethane, such as  
23 hydrogen, which was talked about earlier today?

24           MR. MC NAMARA: No, haven't explored hydrogen.  
25 The facilities that we operate currently are all located at

1 food processing facilities and they're primarily waste  
2 water, so we measure them by waste water. So, Miller  
3 Brewing, for instance, is a million gallons a day. We make  
4 about one megawatt of electricity from the biomethane, just  
5 using ICE engines that they use there at the facility, so  
6 it's a co-generation plant.

7           The other facilities are about 500,000 gallons a  
8 day of waste water treated and so that's the scale of those  
9 projects. But they're different than the one we're talking  
10 to you about today, which is going to be a solid waste  
11 facility. We have a solid waste facility permit. It's  
12 going to be food waste from commercial sources, like  
13 restaurants, food processing centers, the grocery stores,  
14 things like that.

15           MR. PEREZ: Thank you, John.

16           MR. MC NAMARA: All right. Thank you.

17           MR. PEREZ: The next speaker, Larry Osgood.

18           MR. OSGOOD: Good afternoon, this is Larry, can  
19 you hear me?

20           MR. PEREZ: Yes, we can.

21           MR. OSGOOD: Well, super, it worked.

22           MR. PEREZ: You're not in Germany, that's why.

23           MR. OSGOOD: I see my slides are up, excellent.

24 Thank you.

25           Well, good afternoon to both the Commissioner, and

1 the Committee and staff, and also the guests that are  
2 working on this important item. I've had a chance to --

3 MR. PEREZ: Larry, can you speak up a little bit?

4 MR. OSGOOD: Yes, I will. Is this any better?

5 MR. PEREZ: That is better, thank you.

6 MR. OSGOOD: All right. Super, I'll try and speak  
7 loudly, right in the phone.

8 I've had a chance to work on alternative fuels for  
9 35 years, now, starting in California, including some early  
10 work with the California Energy Commission. And if this was  
11 easy, we would have done it already. It's not, but we're  
12 making progress and I commend you on the work that you're  
13 doing to really try and move some of the innovative stuff  
14 forward that you are.

15 Today I'm going to talk with you about an  
16 extension of propane into the biopropane arena, specifically  
17 with a compound called DME. It's historically been used as  
18 an aerosol propellant. It's normally made from ethanol, but  
19 the primary feedstock being natural gas, it can also be made  
20 from coal or biomass. It has the benefit of burning like  
21 natural gas or propane, as a gas, but it also handles like  
22 LPG, propane or butane, and can be stored and transported  
23 easily in a high-energy density state as a liquid.

24 It's ideal for an emerging alternative fuel  
25 market. We can use DME both as a blend stock in traditional

1 propane uses, such as we use ethanol in gasoline today, we  
2 blend DME into propane and we can use it for burner  
3 applications, we can also use it in forklifts and vehicles.

4 DME is also an outstanding, 100 percent or neat  
5 alternative fuel as a direct replacement to diesel fuel in  
6 transportation and power generation applications.

7 So, one of the first questions that pops into my  
8 mind is why are we hearing or discussing a potential new  
9 alternative fuel today when you folks, and others, have been  
10 at alternative fuels for years. Certainly, if this was a  
11 viable alternative fuel, wouldn't we have been working with  
12 it earlier?

13 And the answer is the rest of the world has been  
14 working with DME for years and years. There are some  
15 reasons, I'll explain quickly, why we haven't looked at it  
16 in the United States, yet.

17 But DME is one of the top alternative, top four  
18 alternative fuels in the world and probably one of the  
19 fastest growing alternative fuels in the world.

20 Push the button one more time and I think it will  
21 bring up the third molecule. Thank you.

22 You can see the similarity of the molecules here.  
23 DME is really one of the simple oxygenated hydrocarbon  
24 compounds. In the lower right we have a propane molecule  
25 and DME, at the top, is really just replacing a oxygen atom

1 in place of the middle carbon and the hydrogen group in  
2 order to still produce a fuel that has good storage, energy  
3 density, and combustion characteristics.

4           It's actually identical to ethanol in terms of  
5 atomic makeup, has the same number of atoms in it as an  
6 ethanol molecule, but one of the benefits is the oxygen  
7 molecules in the middle, in between the two carbons. And  
8 that has some benefits in many applications, especially in  
9 keeping carbonaceous or particulate smoke type emissions at  
10 a much lower level from DME.

11           So, it's basically a fuel that acts just like LPG  
12 or propane. Next slide, please.

13           It has good health aspects, it doesn't have  
14 toxicity issues. You have probably all used DME in some  
15 application. Many of you may use it every day as an aerosol  
16 propellant and one of the most popular areas is in  
17 hairspray. It handles just like LPG. There are plants in  
18 Los Angeles, today, that store and distribute DME for  
19 aerosol propellant use.

20           And it also is very good for the environment. It  
21 has good environmental emissions aspects, but it can also be  
22 produced from renewable, biomass-based feedstocks.

23           Over on the right you see, both, some of the  
24 products and you also see a commercial DME plant in Japan.

25           Next slide, please. So, here's where the DME work

1 has been going on and where it hasn't been going on so far.  
2 DME is used around the world in the green boxes, in plants  
3 that are commercially producing DME today. This is not an  
4 experimental product or a product where we're hoping to get  
5 the technology together in order to make the product, these  
6 are commercial DME plants today.

7           With the largest user being China, at a little  
8 over 2 billion gallons of DME produced and used as fuel last  
9 year, predominantly from coal.

10           The North American market has not been a leader  
11 and the real reason for that is you see there's no plants in  
12 North America at this time. That's because North America's  
13 the largest producer of LPG, propane and butane in the  
14 world. And as such, we're able to make our chemicals, and  
15 fuel, all of our needs currently for propane type fuels from  
16 our indigenous and imported production of traditional fuels,  
17 especially natural gas.

18           And when we get enough LPG for all of our needs  
19 here, for both chemicals, and burner, and vehicle uses  
20 there's no reason, yet, for us to be looking at producing  
21 DME in the United States as a supplement to LPG, or for  
22 chemicals unless or until we introduce the bio-aspect of  
23 producing the DME from a bio-based feedstock.

24           And that's exactly what we're talking about doing  
25 here is utilizing the propane we're using currently,

1 increasing the amount of propane we're using currently.  
2 You've heard a couple of presenters mention that we're a net  
3 exporter of propane at this point, we exported 1.7 billion  
4 gallons of propane last year because we didn't have uses for  
5 it here, in the United States. And most of that propane  
6 went to Europe and was used in vehicles, where they operate  
7 about three times the percent -- I'm sorry, about ten times  
8 the percentage basis of their vehicle fleet on LPG that we  
9 do here, in the United States.

10           Next year -- this year, in 2011, we'll approach 2  
11 billion gallons of propane that we will export, unless we  
12 develop more markets for it here, just like you folks are  
13 doing with your vehicle programs in California.

14           So, that's the background and why we're looking at  
15 DME, now, as a long-term extender and a volume increaser for  
16 the propane market.

17           There was a question earlier about the supply of  
18 propane. The U.S. supply of propane is increasing, the  
19 world supply of propane is increasing, and we have DME from  
20 conventional and bio-resources to extend that propane and  
21 use significant additional quantities of propane in vehicle  
22 applications.

23           The next slide, please. DME can also be used  
24 directly as a diesel fuel. The tank on the vehicle, that  
25 would normally be a diesel tank, is replaced with a propane

1 tank. It's pumped to the engine and the actual, physical  
2 size, quantity of fuel that the diesel injectors can inject  
3 into the engine is increased. Propane has -- or I'm sorry,  
4 DME has a higher cetane rating than conventional diesel  
5 fuel, between 55 and 60. It has equal or better fuel  
6 efficiency than conventional diesel fuel.

7           And it's being featured in a test fleet of  
8 vehicles. This particular vehicle, on this page, is an  
9 Asian vehicle. We also have a test fleet of Volvo vehicles,  
10 a corporate test fleet, that's operating on DME today.

11           It's substantially cleaner than conventional  
12 diesel. And one of the important points is it greatly  
13 simplifies the after treatment that has to be accomplished  
14 with a diesel engine in order to make it meet low emissions  
15 output.

16           Also, if we use the green model, we get about a 95  
17 percent reduction in greenhouse gas emissions when we use  
18 DME in a truck, compared to using conventional diesel fuel,  
19 if that DME is produced from biomass.

20           Next slide, please. There is a growing level of  
21 support for looking and utilizing DME as a biopropane  
22 extender. NYSERDA has been doing some work in this area,  
23 recently, including a Penn State project, with participation  
24 from Volvo, as well.

25           There have been some early discussions with

1 CalSTART about using a -- conducting a vehicle demonstration  
2 with DME blends, perhaps in the Los Angeles Basin area,  
3 where we would take some existing vehicles and forklifts  
4 that are operating on conventional propane and operate them  
5 on a cleaner, greener, DME blend.

6 Other people are working on DME, including the  
7 Propane Education and Research Council.

8 Next slide, please. Really resulting in the  
9 driving interest for DME, not only air quality and climate  
10 change concerns, but also looking at a substantial reduction  
11 of greenhouse gas emissions.

12 Looking at private sector interests to utilize  
13 bio-produced DME in existing propane to present a further  
14 environmental -- environmentally friendly, and green image  
15 and, also, a sustainable fuel image to propane that,  
16 frankly, we haven't had before. We think that's one of the  
17 reasons that some of the interest in propane as a larger-  
18 scale, alternative fuel have been muted because of the  
19 concerns, just like the question earlier, how much propane  
20 do we really have, where will it come from and is it a  
21 sustainable fuel into the future?

22 So, this certainly could provide a substantial  
23 market expansion for us in the propane vehicle area, but it  
24 also ties in with revitalizing rural interests. And, also,  
25 forestry applications, where we could take forest products

1 and produce a good quality renewable fuel that's usable in  
2 the current infrastructure for both vehicles and other  
3 energy applications in both California and the rest of the  
4 country.

5           Next slide, please. So, the propane opportunity,  
6 we certainly have available substantial quantities of good,  
7 current propane today, that's an affordable alternative fuel  
8 with good emissions and CO2 benefits over traditional fuels  
9 but, again, utilizing DME to get additional appeal for  
10 propane, recognizing it as a sustainable fuel into the  
11 future.

12           The blending opportunity could certainly be used  
13 in existing programs and new programs that are coming into  
14 play in vehicle demonstrations in California. It certainly  
15 would be a viable option to significantly reduce CO2  
16 emissions in California, and the infrastructure is already  
17 in place for distributing DME as a renewable fuel.

18           The next slide. The pathways in order to make  
19 that happen, DME meets the requirements of an advanced  
20 biofuels under the RFS2 program from EPA. There are already  
21 discussions underway with EPA to finalize the work and  
22 assign the RFS2 RIN that would be needed in order for DME to  
23 get full credit under the RFS2 program.

24           Ironically, DME was already included in the AB 118  
25 program as an approved alternative fuel, so we have some

1 good groundwork and foresight, actually, that was done there  
2 for that inclusion. And we've got key people in the  
3 industry that are moving to support the deployment of DME  
4 and enhance the overall propane vehicle fuel programs in  
5 California.

6 Current vehicles are on the road commercially in  
7 China and Sweden, and DME vehicle development activities are  
8 ongoing in Japan and Germany. We would actually tie into  
9 some of those programs and even look to -- discussions are  
10 underway to bring one of the Volvo demonstration trucks over  
11 here, to the United States, and even get it to California as  
12 a demonstration vehicle.

13 I guess in the end you need several big pieces to  
14 make this whole alternative program work. And DME, as a  
15 fuel in conjunction with propane, comes together to provide  
16 an opportunity to be one of the big chunks, one of the big  
17 pieces that can make a difference in the overall alternative  
18 fuel and renewable fuel programs in California and in the  
19 rest of the country.

20 The next slide. Thanks. So, what needs to happen  
21 in order to make that happen? So, that should be the WPGA.  
22 And the propane industry are working with CEC to develop new  
23 programs for DME initiation, look at vehicle demonstration  
24 programs in California with blends, and also source and NEAP  
25 DME vehicle for California demonstration.

1           The work is ongoing with EPA, under the RFS2  
2 program. And, basically, obtain the kind of funding that is  
3 needed to expand those programs with both additional  
4 industry and government participating. Recognizing that  
5 we're talking about fairly affordable fuel, affordable  
6 vehicles, affordable refueling infrastructure that all comes  
7 together to mean that the dollar invested in propane and DME  
8 programs really gives us a substantial penetration in both  
9 number of vehicles and gallons of fuel because of the  
10 affordability across the board for all the pieces that you  
11 need in order for a vehicle or a fleet to successfully  
12 operate on an alternative or renewable fuel.

13           And, lastly, to consider possible opportunities  
14 for the first U.S. bio-DME production plant in California.  
15 There have been some significant problems, recently, in the  
16 production of cellulosic ethanol and the path that is used  
17 to produce cellulosic ethanol. The path that is used to  
18 produce cellulosic DME is a synthesis gas process that is  
19 established in those commercial plants, through methanol and  
20 on to DME.

21           I'm sure the gentleman that gave the presentation  
22 a little bit ago could go into much greater detail on the  
23 actual chemistry of that process, but it is a commercially  
24 proven process and it would be a good direction for us to  
25 look for a production plant in California to actually

1 produce bio-DME.

2           So, with that, I'll go ahead and close. If there  
3 are any questions -- and we have the presentation that will  
4 be given to staff and would welcome any other questions.

5 So, as a result of that, I'm at the end of my five minutes.

6           VICE-CHAIRPERSON BOYD: Thank you. This is Jim  
7 Boyd. I don't want to protract the discussion, now, some of  
8 us have been aware of DME for literally decades, but it's  
9 never quite made it.

10           I'd be interested or we'd be interested in any and  
11 all data you have about the economics, and the multiple  
12 pathways in order to ascertain whether there's a -- there's  
13 something here that we would like to pursue.

14           I think DME is in our plan list of fuels we'd be  
15 interested in as a favor to then Air Board Chairman Dr.  
16 Sawyer, who probably educated me about DME 20 years ago, or  
17 longer.

18           But this is the first time it's cropped up in  
19 quite a long time and I guess we'd be interested in learning  
20 more about it.

21           MR. OSGOOD: Well, super. Commissioner Boyd,  
22 we'll look forward to that and be planning some follow-up  
23 meetings with staff to provide and review the kind of papers  
24 that are already available on a worldwide basis from the  
25 experience that's being gained using DME transportation --

1 as a transportation fuel around the world, and look at how  
2 that would compare to utilizing DME in California, as well.

3 VICE-CHAIRPERSON BOYD: Thank you. John?

4 MR. SHEARS: Yeah, and this is John Shears, one of  
5 the Advisory Committee members.

6 So, my understanding is that as part of some of  
7 the demonstration projects you're collecting emissions  
8 performance data that you'll be able to share with the  
9 Energy Commission and the Air Resources Board?

10 MR. OSGOOD: Absolutely. Emissions testing side  
11 by side with gasoline, DME, and DME/propane blend -- or I'm  
12 sorry, propane and DME/propane blend vehicles.

13 There will probably also be some current testing  
14 here, in the U.S. under programs that we're proposing for  
15 later this summer.

16 MR. SHEARS: Okay. And so you're -- in that  
17 emissions data is everything from, you know, the engine  
18 performance, so tail-out emissions, and including EVAP, and  
19 everything, which is something, obviously, the Air Resources  
20 Board is very interested in. Or not only just -- not just  
21 tailpipe, but also the other associated emissions with the  
22 fueling and the vehicle.

23 MR. OSGOOD: Absolutely. The fuel system remains  
24 virtually sealed and so there's really no impact on  
25 evaporative emissions from a DME blend versus a regular

1 propane blend.

2           And on catalyst vehicles, the tailpipe-out  
3 emissions are almost identical. Pre-CAT, there can be some  
4 difference in the makeup of the engine-out hydrocarbon, or  
5 VOC emission. But after the catalyst we're really looking  
6 at a very similar performance to a regular propane vehicle  
7 in blends in the neighborhood of ten percent. Some areas in  
8 the world are using blends as high as 20 percent in  
9 vehicles.

10           MR. SHEARS: Okay, thank you.

11           MR. PEREZ: Okay. Thank you, Larry.

12           MR. OSGOOD: Thank you very much.

13           MR. PEREZ: Okay. We'll now go on to James  
14 Provenzano.

15           MR. PROVENZANO: Commissioner Boyd, members of the  
16 Advisory Committee, and staff, CEC staff, I'm James  
17 Provenzano, I'm President of Clean Air Now.

18           And Clean Air Now has been fighting for clean  
19 air -- has been fighting for clean air since 1969. We  
20 actually made up one of the -- we were one of the original  
21 groups that made up the Coalition for Clean Air, with the  
22 American Lung Association, back in the early seventies. And  
23 Dr. Norbeck and Commissioner Boyd knew one of our founding  
24 members, Dr. Zweig.

25           And they know that we are very strong advocates

1 for the advancement of hydrogen energy technologies and see  
2 them as necessary in order for us to meet criteria air  
3 quality standards, to protect public health, protect the  
4 environment, and to achieve our greenhouse gas emissions  
5 reduction target of 80 percent of 1990 levels by 2050.

6           The bottom line for us here, today, is that the  
7 CEC's funding level for hydrogen and fuel cell technologies  
8 is woefully inadequate.

9           Given the CEC's own statements about the benefits  
10 of hydrogen and fuel cell technologies and the goals set out  
11 by AB 118 legislation, the dollars being proposed by CEC  
12 staff plainly does just not make sense to us.

13           The proposed funding of \$3 million in the 2011-  
14 2012 Investment Plan is not commensurate with the advantages  
15 hydrogen energy affords society.

16           If we are looking for reducing carbon-based  
17 emissions, you can't do any better than the carbonless fuel,  
18 hydrogen.

19           We ask that you provide the necessary funding  
20 levels, which the California Fuel Cell Partnership and the  
21 automakers that you've heard today, and the Air Resources  
22 Board are requesting.

23           Now, so I don't want to duplicate what's been said  
24 already today, I'm going to go through just a couple of  
25 things.

1           The first Investment Plan stated all the wonderful  
2 things that hydrogen and fuel cells could do to meet many of  
3 the -- many of CEC's own goals. And that in the later  
4 Investment Plans we noticed that those advantages seem to be  
5 downplayed or even inaccurately contradicted.

6           And, for instance, well, I can go through  
7 examples, but just to go through the money, if my math is  
8 correct there has been -- in the three Investment Plans that  
9 have been put forth there's a total of \$56 million for  
10 infrastructure development.

11           And another thing I want to point out is that the  
12 hydrogen energy and fuel cell technology sector is not  
13 asking for technology development, it is not asking for  
14 plant and equipment, just asking for infrastructure  
15 development. That is far less than what the other  
16 technologies are receiving.

17           And there was a total of \$56 million that was  
18 allocated and only \$23 million has been -- has been spent or  
19 is in the process of being spent, and we'd like to know why  
20 that is.

21           You have the opportunity to be the standard, to be  
22 the leaders, to do what is right and to set us on the right  
23 track towards clean air and energy independence just by  
24 spending so little money on hydrogen stations. And why  
25 wouldn't you do that? We have the opportunity to make a

1 real difference here.

2           Again, the funding level is not commensurate even  
3 with CEC's own statements regarding hydrogen and fuel cell  
4 technologies that you actually see in the Investment Plans.

5           And I'm also a proud early adopter, I'm a lessee  
6 of a Honda Clarity. I also was part of Project Driveway and  
7 I drove the GM Equinox for approximately four months. And  
8 these vehicles are ready for prime time. They are beautiful  
9 vehicles. And I'm used to driving very nice vehicles and  
10 these vehicles are the nicest vehicles that I've ever  
11 driven.

12           And the comments made about destination --  
13 destination stations and connector stations I think are  
14 critical. For the comfort of an early adopter, even an  
15 early adopter, those stations are extremely helpful in just  
16 knowing that you can get in your car and not be restricted,  
17 not worry about range, not have range anxiety. I'm getting  
18 about -- with the Honda, about 200 and -- on the highway, I  
19 can get over 260 miles range with the Honda, and that's with  
20 less than 4 kilograms of hydrogen.

21           So, a station like in Santa Barbara would be nice,  
22 just a connector station getting you up to San Francisco  
23 would be nice.

24           And I think General Motors' original plan, that  
25 they published in 2008, I believe, with Shell, that showed

1 that 40 stations in a cluster area would make it comfortable  
2 for people to get into these vehicles which are due to come  
3 out.

4 And we are going to, like it was stated earlier,  
5 that Japan, Germany, Norway, China, these countries have  
6 strong hydrogen and fuel cell programs for a reason. They  
7 work.

8 And for us not to be leaders, we're losing --  
9 we're losing our competitive advantage.

10 And the President has, in his State of the Union  
11 Address, wants to be competitive. And, unfortunately, his  
12 administration is making a grave mistake. And we can go  
13 into the reasons for that, but I won't.

14 And we should not do the same in California, we  
15 know better. And it would be a shame to let this  
16 opportunity slip by and to let this technology wither on the  
17 vine in California.

18 This technology can do so much for us, public  
19 health, environment, energy independence, job growth. It's  
20 a shame that we're not putting more money into it.

21 So, I ask that you look at the budget, find the  
22 additional \$10 million and continue on funding hydrogen  
23 infrastructure development.

24 And the last thing I want to point out is that we  
25 were just back in Washington and the DOE's hydrogen program

1 had reported back and all the targets set by the DOE  
2 hydrogen program over the last 15 years have been met or  
3 exceeded. Fuel cells and quantity have gotten down to \$53 a  
4 kilowatt, that's fuel cell system cost. And hydrogen fuel  
5 costs, targets set below \$3 a kilogram have been met.

6 And I just want -- right now, NASA pays a buck a  
7 gallon for -- a buck a pound for hydrogen, liquid hydrogen,  
8 that's about \$2.20 a kilogram, that's about \$2.20 a gallon  
9 of gasoline equivalent.

10 So right now, in the car that I'm driving, I'm out  
11 competing my gasoline car that I replaced on a cost-per-mile  
12 basis. So, these cars are cost competitive and they -- I  
13 think there's a game changer that the autos aren't telling  
14 us and they're going to come out in three to seven -- three  
15 to five years, and they're going to be cost competitive with  
16 other technologies, and let's have the infrastructure in  
17 place for that.

18 I think that's all I want to say. I just am  
19 passionate about this and I want to be proud of California.  
20 I think we can do it. And when you experience -- when you  
21 experience the technology and you are driving around without  
22 pollution, and when the end-game is renewably-generated  
23 hydrogen, using a fuel cell, that is -- that is the gold  
24 standard for drive train technology. So, let's just help  
25 the autos, like they're asking for, let's help them with

1 such little money to let them get there. Thank you.

2 MR. PEREZ: Thank you, James.

3 The next speaker, Robert Garzee.

4 MR. GARZEE: Good afternoon. I'm Bob Garzee and  
5 I'm the founder of the Electronic Transportation Development  
6 Center of Silicon Valley.

7 Commissioner Boyd, I appreciate you inviting us  
8 here and appreciate the chance to reciprocate. We hosted  
9 you in Silicon Valley for a board meeting and a workshop a  
10 while back at IBM, at the IBM National Lab. And we like  
11 them very much because they're one of our members of our  
12 ETDC.

13 And we announced the Protera all-electric bus at  
14 that time, which is now running in Pomona. They are also  
15 one of our members.

16 Jim Robbins and I are here just to urge you to  
17 implement your previously discussed center of excellence  
18 funding for 2010 and '11 and, hopefully, to extend that  
19 again into the next series.

20 I'm going to cut my time down to about three  
21 minutes, because it's running late here. But I just want to  
22 express how important it is to take advantage of Silicon  
23 Valley innovation. Our transportation center, which is  
24 seven years old, was partially EDA funded as a Silicon  
25 Valley Innovation Center for green fleet -- green fleet

1 transportation.

2           We work with the City of San Jose, and I second  
3 what Jim said, is that's the tenth largest city in America  
4 and they are behind making a center of excellence happen.

5           We are aligned with Breathe California, which is  
6 the point that was made by American Lung, it is important to  
7 consider the health aspects and the things we'll talk about  
8 really consider zero emission.

9           We're also aligned with the Silicon Valley Clean  
10 Cities Coalition, which is Department of Energy. And we  
11 have done many, many things with them over the last seven  
12 years.

13           We are also fuel-neutral, but we believe that  
14 private sector, Silicon Valley companies have unique  
15 innovative technology to make green transportation  
16 practical, affordable, and now.

17           Working with the Economic Development Agency, the  
18 City of San Jose is building a green transportation  
19 facility, that Jim talked to you about. That is going to be  
20 used for transportation innovation and to house our center,  
21 ETDC.

22           Now, upon hearing about the CEC potential center  
23 of excellence funding last year, we formed the ETDC faculty,  
24 and that was 32 experts and organizations in green  
25 transportation that covers the spectrum.

1           We think that in addition to having a dedicated  
2 building, we needed to have a workforce development center,  
3 and we put a group together and we've now taught 800 people  
4 about the vehicle industry and why they need to get ready  
5 for it.

6           We also brought in the former fleet manager of the  
7 City of San Jose, who had 2,600 vehicles under his belt, so  
8 we could provide the reality of vehicles. We're not  
9 interested in putting vehicles together that can be used for  
10 a photo shot with the mayor, we're interested in putting  
11 vehicles together that work, and run, and do the job, and  
12 that's the watch dog approach that he gives us.

13           We also put together the former transportation  
14 manager for the City of San Jose as our policy director, so  
15 that he could take his experience in the past and apply  
16 that.

17           We took the Economic Development Agency of the  
18 City of San Jose so that we could seriously address  
19 California manufacturing. When it came time to bring in  
20 companies, we wanted somebody that would step up to finding  
21 them locations.

22           We brought in the Environmental Services Agency of  
23 the City to look at solar garaged infusion with  
24 transportation. In other words, using solar to provide some  
25 of that fuel.

1           Now, Charles Smith is there and he has come to see  
2 what we've done, he's visited us. And we appreciated that.  
3 And we added 14 green transportation start-ups last year,  
4 and that included Protera Bus, because they are one of our  
5 members, and it included Clean Energy.

6           We also went out and found \$200 million in private  
7 financing to finance green projects, because we think that  
8 you should use that kind of funding to leverage what you  
9 have in the way of grants, and it can be used for matching  
10 funds.

11           We've reached out to the Clean Tech Open, which is  
12 a major development of Clean Tech products and has a group  
13 called Transportation to bring in angel investors, because  
14 we believe that that is another source to make this all  
15 happen.

16           And our battery center focus has been put in place  
17 to reach out and be sure we can improve battery technology  
18 and lower the cost, and Lawrence Berkeley Labs is going to,  
19 hopefully, be working with us on that kind of project.

20           As Charles witnessed, we have added solar fueling  
21 of EVs into our group because, as an example, if you take a  
22 medium and heavy duty vehicle, called an electric school  
23 bus, you can take its oil-based fuel and replace it with a  
24 solar grid-tied garage, housing a 75 kilowatt capacity to  
25 fuel that bus. We call that zero emissions squared and our

1 slogan is "Shine Baby Shine" because that solar can create  
2 the fuel that we need.

3           So, as you can see, we believe that Silicon Valley  
4 is an innovative place and we would like to be sure that we  
5 could go for putting in a center of excellence.

6           Thank you very much.

7           MR. PEREZ: Thank you, Robert.

8           MR. GARZEE: Any questions? Thank you.

9           MR. PEREZ: Okay. Next speaker, Edward Hanon --  
10 Heydorn, sorry, Air Products.

11           MR. HEYDORN: Thank you and good afternoon. I'm  
12 Ed Heydorn, I'm a business development manager at Air  
13 Products, the world's largest merchant supplier of hydrogen  
14 and a leader with unique experience in the hydrogen fueling  
15 industry.

16           I'd first like to thank Commission Boyd, the  
17 Energy Commission and its staff, and this panel for the work  
18 they've done on the prior Investment Plans, which led to the  
19 selection last fall, by the Commission, of a proposal by Air  
20 Products for eight hydrogen refueling stations in Southern  
21 California.

22           Over the past several years recent developments  
23 and recent deployments in a variety of fuel cell systems has  
24 increased the number of fueling events per year by an order  
25 of magnitude to now close to a half-million.

1           Air Products, alone, is responsible for about two-  
2 thirds of those events.

3           Much of this growth has occurred in adjunct  
4 applications with the intent of developing schemes with the  
5 end-game of transportation in mind.

6           These learnings provide a forum to develop a  
7 robust and successful supply chain, from production through  
8 distribution, to dispensing, which can now be applied to  
9 further enable the transportation market.

10           Delivery of hydrogen to large-scale customers is  
11 already available at pricing amenable to the light duty  
12 vehicle customers mentioned earlier.

13           And Air Products already has developed fueling  
14 products to meet the needs of fueling stations in the 1,000  
15 to 2,000 kilogram per day range and higher. And these  
16 stations would serve hundreds of cars per day.

17           However, for the value proposition, for the  
18 transportation market to succeed, we cannot start with the  
19 end-game now as it will not support a reasonable business  
20 case in a practical period of time.

21           Therefore, we need a transition strategy which  
22 will grow with the demand. Managing the supply chain  
23 through customer needs and overall market demand cycle is  
24 very common in the industrial gas industry. Here, it's just  
25 on a different scale and, therefore, requires a new

1 approach.

2           The challenge that we've been undertaking is to  
3 develop a small, cost-effective station that could be added  
4 onto any gasoline four-court without displacing existing  
5 fueling dispensing capability, and take advantage of  
6 existing hydrogen production sources.

7           This approach would result in the lowest overall  
8 investment during the transition from demonstration to pre-  
9 commercial fuel cell vehicles and would minimize idle  
10 assets, which was raised as an issue before.

11           Green field opportunities for fuel production and  
12 dispensing would come in later years with a more developed  
13 demand pattern.

14           Air Products has developed technologies that will  
15 deliver hydrogen at a price competitive with gasoline today  
16 by moving towards duplicating the gasoline model, deliver,  
17 store and dispense.

18           The break through is a high-pressure composite,  
19 DOT-approved trailer, carrying as much as three to four  
20 times the capacity compared with existing means of delivery.

21           The key development for this work was funded by  
22 Air Products with a company based in California.

23           Delivery at the highest possible pressure over the  
24 road aims to eliminate higher cost and larger footprint  
25 equipment at the point of use, resulting in capital

1 infrastructure costs of less than \$1 million on an existing  
2 station four-court.

3           The support from the Energy Commission provides  
4 early market pricing of less than \$10 per kilogram at small  
5 station sizes, of 100 kilograms per day, and it covers the  
6 large capital component of under-utilized assets during the  
7 period of early load demand.

8           The design of the DOT-approved trailers is also  
9 scalable to minimize investment during the transition. You  
10 don't have to build the full-scale trailer at the start. So  
11 that any location that's amenable to larger trailers could  
12 be grown in capacity by adding larger trailers into the mix.  
13 Smaller stations would have just more frequent deliveries to  
14 serve those markets.

15           By utilizing this technology, we estimate that the  
16 fueling station becomes self-sufficient financially at  
17 through-puts as low as 200 to 300 kilograms a day. This is  
18 competitive today with gasoline used in an internal  
19 combustion engine on a cost-per-mile basis, as Jim  
20 mentioned.

21           And as part of our initial program, Air Products  
22 will install six of the eight stations at existing branded  
23 retail gasoline stations, which will begin to build a  
24 network of hydrogen fueling infrastructure in Southern  
25 California.

1           We've previously familiarized ourselves with the  
2 excellent work that was cited today by the folks at UC  
3 Irvine, and we concur that there is a finite number of  
4 stations for any alternative fuel that can seed an area for  
5 vehicle development before market forces and private  
6 investment will take over.

7           We believe that a comprehensive program can be  
8 implemented that limits the amount of Energy Commission  
9 funding for the capital investment during the seeding  
10 period, and meets the needs of automakers to have low-cost,  
11 expandable, reliable fueling available at places where  
12 customers currently fuel, and provide destination locations  
13 that take full advantage of the range available in the  
14 newest generation of fuel cell vehicles.

15           Air Products believes the \$40 million funding  
16 level in the first Investment Plan, released in April 2009,  
17 would be sufficient capital to get us to a self-sustaining  
18 infrastructure in Southern California.

19           Now, a total of \$13.3 million has been targeted  
20 for Southern California from the initial awards from last  
21 year, and there's an additional \$10.2 million targeted for  
22 the 2011 funding.

23           So, with an additional \$16.5 million over the next  
24 two years, a total of 20 additional stations, using Air  
25 Products' latest technology, can be installed.

1           And we believe that this will get us to a point  
2 where private investment will take over.

3           Air Products would be willing to work with the  
4 Commission and the key stakeholders on an optimum rollout  
5 strategy to pick locations, and timing for stations, and use  
6 an analysis tool, such as the software being developed at UC  
7 Irvine, to assist with station siting.

8           Air Products believes that with continued and  
9 targeted funding through the AB 118 hydrogen fueling can be  
10 made readily available, at the lowest possible cost to  
11 stakeholders, and can confirm the value proposition for fuel  
12 cell vehicles to meet customer requirements for  
13 transportation, while providing domestically available fuel  
14 that can move the transportation sector toward significant  
15 reductions in greenhouse gas emissions.

16           We hope that California will continue to lead this  
17 nation in alternative fueling with hydrogen, as countries  
18 such as Japan, Korea, Germany, and others are dedicating  
19 significant funding in this area.

20           Air Products again thanks the Commission and this  
21 panel for their work and support, and I appreciate your  
22 attention. Thank you.

23           MR. PEREZ: Thank you, Edward.

24           Okay. The next speaker, Paul Staples. I believe  
25 he may be listening in. Is he on the phone?

1 MR. STAPLES: I'm here.

2 MR. PEREZ: Okay.

3 MR. STAPLES: I'm here.

4 MR. PEREZ: Okay. Thank you for your patience,  
5 Paul, please proceed.

6 MR. STAPLES: Well, thank you for taking the --  
7 for giving me the opportunity to speak to you here.

8 I will say that you guys work really hard, you  
9 really do. I mean, especially with the 20 percent cut, so I  
10 have to commend you on your work. But I have to say that  
11 there is some real, real deficiencies in this next plan.

12 First of all I want to say that, you know, I'm a  
13 little bit concerned about the words "sustainability,  
14 green." It is used like pennies thrown out in a fountain,  
15 okay, and it's meaningless because none of it is. Because  
16 if you had sustainability as a requirement there, everyone  
17 of the dimes that you are spending would be going towards  
18 renewably generated hydrogen, every one of them.

19 Because it's the only sustainable option that  
20 exists, the only one that will sustain well into the future,  
21 indefinitely.

22 Okay. So, I wonder if how much of that is a  
23 factor, number one.

24 Number two, when we came -- when this legislation  
25 was written, the legislation allowed -- allocated \$40

1 million a year for hydrogen. There's a reason for that.  
2 People will sit there and complain and say, oh, that's more  
3 than any other. There's a reason for it because for the  
4 last 40 or 50 years we've spent billions on everything from  
5 ethanol to the electric -- battery electric vehicle drive,  
6 to no success, to no avail at all.

7           And hydrogen had very little funding up until just  
8 around ten years ago.

9           So, it's playing catch up. And just like James  
10 said, James Provenzano said, every milestone that has been  
11 set for hydrogen has been met or exceeded in the DOE  
12 program. There is no other program that has done that.  
13 None, not a one in all the years they've been operating and  
14 all the years they've been funding renewable energy  
15 projects, not a one. Okay, hydrogen's the only one.

16           Yet, this administration is getting messages from  
17 you, when you guys cut the hydrogen budget down to \$3  
18 million. From 40 million a year to 3 million, okay, you're  
19 killing hydrogen, and it sounds like it's personal and it's  
20 intentional, to me. I have to say, it looks very  
21 intentional, okay.

22           Because you have everybody -- every time that  
23 someone comes to fight to get the hydrogen funding in there,  
24 make sure that it's there, come together and support that,  
25 and then all of the sudden everybody's got their hands in

1 it. You're pilfering the fund drive, all right. You have  
2 to stick to the game plan. The game plan was the original  
3 \$40 million a year. That's what it needs, okay.

4           Otherwise, you're just trying to kill it, that's  
5 all you're doing. All right. And that will not get it, it  
6 will not get you sustainability, it will not get you any of  
7 your goals, it will not get the President's goal of reducing  
8 all of our oil from the Middle East by the year 2000 -- by  
9 the end of the decade. It won't happen. Okay. We'll  
10 continue to have these problems.

11           Now, there's been a few statements that have been  
12 made that are just a little bit off the wall. Okay. Like  
13 central generation of hydrogen should be the way we go.  
14 Okay. That we should spend our money on that. That's  
15 insane. The cost of central generated hydrogen by renewable  
16 sources is enormous because of the delivery factor, because  
17 of the cost of the infrastructure. Maybe in 20, maybe in 50  
18 years centrally generated hydrogen from renewable sources  
19 will be the way to go. But the only reason for doing  
20 centrally generated hydrogen is to feed the fossil fuel  
21 industry. That's it.

22           So, distributed generation is the only way that we  
23 can get this deployed in an economical manner that can meet  
24 the demand.

25           Now, the automobile companies have spent billions,

1 billions of dollars developing fuel cell electric vehicles.  
2 The government has spent hundreds of millions and we have  
3 spent tens of millions, okay, in this State alone, more than  
4 any other state. All right. It's going to be for naught if  
5 all those vehicles come out and nobody buys them, and the  
6 only reason they're not going to buy them is because of the  
7 infrastructure's not there, there's no fueling  
8 infrastructure. Everyone knows that. Okay. And that is  
9 the key to this whole thing.

10           They will sell because they are great cars, they  
11 are great -- they're very well engineered, very well  
12 designed and they will sell because they'll meet the range,  
13 and the fueling requirements, and the fueling paradigm that  
14 everybody has. You'll have the support of all the  
15 automobile manufacturers, of all the outlets with you. All  
16 the gasoline stations will take a hydrogen fueling station.  
17 They don't want the other stuff. There's no incentive,  
18 there's no reason for them.

19           Why should they want to put in battery chargers  
20 when they can only go maybe 15 or 20 customers a day at  
21 their fueling station? It doesn't make any sense. Okay.

22           So, this is the situation, okay, you fund the  
23 hydrogen based on the way the legislation was doing or you  
24 are violating the intent of the legislation. You're  
25 basically throwing it to the wind and saying we're going to

1 just take this money and carve it up any way we want, any  
2 way we can for our own pet projects, because that's what's  
3 going on here. It certainly looks like it to me, okay,  
4 especially when you consider the fact that the only thing  
5 that we are funding right now that is sustainable into the  
6 future, beyond anyone's vision, is hydrogen, and you're  
7 cutting it off at the knees. And this is wrong.

8           This is wrong because it had -- everything else  
9 had its opportunity, everything else had its chance and it  
10 couldn't make it. This is the only one that can and that  
11 has proven that it meets or exceeds every goal that has been  
12 set out for it from the very beginning.

13           Show me another option, show me another technology  
14 that has. All right.

15           Central generation doesn't make any sense.  
16 Fueling stations is necessary. Vehicle development at this  
17 time, hey, look, I know the auto companies are probably  
18 going to disagree with me on this but, really, if the  
19 vehicles sell, they will develop the vehicle, they will put  
20 more out there on the road. Okay.

21           So, we do not need the assist for vehicle programs  
22 as much as we need the infrastructure because the  
23 infrastructure's key with this. If there's no  
24 infrastructure, you've got no fricking -- no vehicles  
25 selling, period. All right. So these are -- that's the

1 key.

2           There is a bias for biofuels in this organization.  
3 I know, I've had many discussions with several people and  
4 there's a bias for it, and against hydrogen. And that needs  
5 to stop. You guys need to stop doing that, you need to stop  
6 picking winners. You are picking winners by doing this, you  
7 are not giving fair treatment to renewably generated  
8 hydrogen.

9           Now, distributed generation is the only way that  
10 this can be deployed. Significant changes are -- have been  
11 done to this legislation in staff, and not at the  
12 legislative level.

13           And, well, federal cuts that are being proposed  
14 right now are not going to stand, they will not stand unless  
15 you guys facilitate it by cutting funding. It sends a  
16 message and it's the wrong message, it's a bad message. And  
17 it's a message that we will regret, all of us.

18           MR. PEREZ: Okay. Thank you, Paul.

19           MR. STAPLES: And from that perspective I don't  
20 know what else to say other than -- oh, yeah, one last  
21 statement. If you believe Tesla's claims for the fueling of  
22 those vehicles and for the costs of those vehicles, I've got  
23 some -- I've got some land in Arizona, in the desert, I'd  
24 like to sell you, a swamp land.

25           Because the truth of the matter is the batteries,

1 alone, are going to cost \$30,000. So, he's looking at  
2 losing money for the first several years in order to get  
3 sales out there, with the hope that there will be enough  
4 sales, and there won't be. People are not going to buy a  
5 vehicle that takes hours to recharge.

6 If you have a vehicle that will not make the range  
7 of one clip in the lifetime of your vehicle, people will not  
8 buy it. That was proven.

9 Battery electric vehicles have been coming out  
10 every 20 years for the last hundred and something years and  
11 they've failed every time. Why is that?

12 MR. PEREZ: Okay. Thank you, Paul, this is  
13 helpful. And if you can send us written comments, we'll  
14 take those into consideration, too.

15 MR. STAPLES: Absolutely. I will get them into  
16 you before your deadline. Thank you for taking the time to  
17 listen.

18 MR. PEREZ: Appreciate your time, sir.

19 MR. STAPLES: Okay. Thank you. Bye-bye.

20 MR. PEREZ: Bye. Okay. Todd Murdoff.

21 MR. MURDOFF: Well, good afternoon. Thank you  
22 very much for being so patient and sticking around, and that  
23 I know that there's been a lot of information provided  
24 today, on a lot of different subjects.

25 But the one I'd like to talk to you about today is

1 hydrogen injection technologies by Go Go Green World.

2           This is a company that has the same vision that  
3 the California Energy Commission does. We're committed to  
4 decreasing emissions, decreasing dependency on foreign oil,  
5 as well as improving the quality of Californians for  
6 employment opportunities with high-tech jobs.

7           Hydrogen fueling can become a way of the future  
8 and we'd like to help the Commission be a part of that and  
9 make that a goal for everybody.

10           Our supplemental fuel system was designed just as  
11 I had said, to reduce emissions, which we've proven through  
12 our independent lab testing at CEE. We've shown emissions  
13 to be reduced as much as 80 percent.

14           We've increased the fuel economy on engines, as  
15 well, on all internal combustion engines, that I'll be  
16 showing here in a few minutes, as well.

17           Our generation series supplemental fuel system  
18 works in conjunction with the existing fuel on the vehicle,  
19 whether it be gas, propane, diesel, any type of biofuels,  
20 even DME at the end of the day.

21           If you can burn it in a combustion engine, we can  
22 help it burn more efficiently with that.

23           Our system has proven that we save fuel, reduce  
24 emissions, and all of this has been proven through our  
25 independent tests, as well as the beta tests that we have

1 put on a number of vehicles, ranging from passenger vehicles  
2 all the way up to Class 8 transportation.

3 The average on our Class 8 vehicles have shown  
4 between a 20 to 40 percent increase in their fuel economy.  
5 Some of those -- one gentleman has seen as much as a 44  
6 percent increase in his fuel mileage, depending on the type  
7 of trip that he's been on.

8 I'll be showing one slide here that shows that,  
9 from Tracy, California to Southern California, going up over  
10 the Grapevine, pulling a full 80,000-pound load, and he was  
11 able to improve from 5.5 miles a gallon to 7.91 miles a  
12 gallon, which is a 43.9 percent increase in fuel.

13 Hydrogen technologies by Go Go Green is the only  
14 company in the world that has been issued an executive order  
15 by CARB that is unlimited.

16 What do I mean by that? We're able to install our  
17 systems on one liter to 20 liter vehicles ranging from 1960  
18 to, currently, 2009. We're going to be going back to the  
19 lab for testing for 2010 and 2011 models here, shortly.

20 The whole idea is to be able to work to make this  
21 demonstration to the public, so then they will also be able  
22 to take advantage of it and see the viability of this  
23 system.

24 The demonstration that we would like to ask for  
25 the California Energy Commission's help on would be a public

1 or a private working with, possibly, a clean air district  
2 here, in the State of California, such as San Joaquin, or  
3 with a privately owned company, or multiples thereof, such  
4 as William Tank Lines in Stockton, California. All of which  
5 have both medium and heavy duty vehicles that the California  
6 Energy Commission is looking to reduce emissions and  
7 increase fuel economy of those vehicles on, and we could  
8 help that because the technology exists today.

9           These demonstrations would include emissions  
10 baselines being established on each vehicle after the  
11 vehicle has been selected. Fuel economy being established  
12 through lab testing, as well as collection of equipment --  
13 as well as collection for the equipments, ECM, the  
14 Electronic Monitoring System.

15           The installation of this supplemental fuel system,  
16 selected on medium and heavy duty equipment, to then be  
17 monitored through the system performance to establish and  
18 make sure that we truly are making the goals that are being  
19 set.

20           These protocols could be sent through ARB, the  
21 California Energy Commission, as well as other outside  
22 agencies to ensure that we are truly going to meet the goals  
23 that the California Energy Commission have set in place.

24           Another project that we would like to work on is  
25 enhancing or moving forward with certification verification

1 through our CARB EO number, D681, which was issued in  
2 November of 2010. Through our third-party lab certification  
3 or -- at this point we would then, through our third-party  
4 lab, follow the certification and verification protocols of  
5 ARB and then to be established to get our full certification  
6 verification and be an alternative to the particulate filter  
7 that is currently out there now, and for the consumer and  
8 that here in California.

9           We're working with companies, such as Bowers IT,  
10 in San Francisco, who have two systems installed. One is on  
11 an F-550, 30-plus passenger van. They're seeing a 29  
12 percent increase in their fuel economy.

13           We've also got a couple of independent -- a number  
14 of independent owners, two of them here, George and Ron, who  
15 have both seen as much as a 26 percent increase in their  
16 fuel economy. Ron has realized an overall of 20 percent,  
17 depending on terrain and conditions on the road, but Ron is  
18 also the gentleman that has seen as much as a 44 percent  
19 increase on individual legs while he's been driving.

20           This here is a picture of the Bowers bus, the F-  
21 550 that's been installed. And you can see right here on  
22 the grill where the system has been installed. So, once  
23 again, the generation of the hydrogen is being supplemented  
24 with the diesel engine to then make it burn -- help it burn  
25 cleaner and more efficiently.

1           This installation here is for a much larger type  
2 vehicle, anything that's 6 liters and above. This is a  
3 tandem system installed on the Bowers bus. They've been  
4 seeing as much as a 26 percent increase in the fuel economy,  
5 and this has got a Caterpillar 13 engine in it.

6           Intel is one of the companies that, with their  
7 brand of trucks and their independent operators, George Her,  
8 Ron and Randy have been running, and so these were a few of  
9 our beta test vehicles that we worked with.

10           Here's the typical installation. You can see  
11 right here that the generators are installed underneath the  
12 hood. It uses the existing electrical system, through the  
13 alternator and battery, to then generate electrolysis  
14 process of distilled water, with an electrolyte in it, to  
15 then produce the hydrogen and send that to the air intake  
16 and introduce it into the combustion chamber.

17           This here is a not very scientific way to do it  
18 and we're working to create a better way of collecting this  
19 data. But this is actually off of Ron's truck and we can  
20 see here, on January 18<sup>th</sup> of this year Ron was able to show  
21 that he had a miles per gallon of 7.91. This is the trip  
22 that I was talking about, from Tracy, California to Anaheim,  
23 California. And going up over the grapevine, down I-5, he  
24 was able to increase his fuel economy by 43.9 percent. This  
25 is an annual fuel savings for him of over \$23,000.

1           With the cost of the system, his payback on this  
2 is about six to seven months. And that's the other big  
3 thing is that this technology is here, today, and it is --  
4 it is a good investment for the consumer due their getting a  
5 return on that investment in a very short period of time.

6           The annual savings per vehicle for greenhouse gas  
7 reductions, our calculations show that it's 86,000 -- or 86  
8 metric tons.

9           Fuel savings per vehicle is an average of 5,200  
10 gallons. With over 2 million plus registered trucks in the  
11 United States, alone, greenhouse gas reduction would be  
12 projected at over 129 million metric tons annually.

13           So, with the help of the California Energy  
14 Commission on the hydrogen injection technologies, we'd like  
15 to ask for your support to then move forward with some of  
16 these projects in order to meet a number of different goals  
17 that you've got money allocated for.

18           Market program development of new advanced  
19 technologies, technical assistance and analysis through some  
20 of the UC schools, using their dynamometers to install these  
21 systems on additional medium to heavy duty vehicles, and  
22 ensure that we can back up the data with new data.

23           Measurement verification evaluations through CARB,  
24 certification verification, and as well as alternative  
25 products to then generate new jobs that are high-tech and

1 high-paying here, for Californians.

2 I'd like to thank you for this time and appreciate  
3 any questions that you may have.

4 MR. PEREZ: All right. Thank you, Todd.

5 Okay. Next speaker, by WebEx, is Matt Miyasato,  
6 from the South Coast Air Quality Management District. Matt,  
7 are you there?

8 MR. MIYASATO: Hello, can you hear me?

9 MR. PEREZ: Yes, we can.

10 MR. MIYASATO: Oh, great. Thanks. I appreciate  
11 the fortitude and patience of the staff and remaining  
12 members of the Advisory Committee.

13 I simply want to make some brief comments from the  
14 South Coast perspective, to once again offer our support,  
15 administrative and technical resources that we have in our  
16 region for administering some of these programs.

17 The CEC and we have a long history of working  
18 collaboratively together. We've been in discussions with  
19 your staff on how we might assist. You know, we really take  
20 to heart the concerns and lamentations of the staff earlier  
21 this morning about a lot of folks don't realize how  
22 difficult it is to actually give away money. We certainly  
23 appreciate that, we can commiserate with them and empathize.

24 But just as a matter of experience, the South  
25 Coast has ample resources and experience in giving grant

1 programs away, as well as funding advanced technology  
2 projects. And many of them have been collaboratively with  
3 the Energy Commission and so we look forward to working  
4 closely with you as we move forward.

5 I guess I'm just going to make two quick points  
6 here. One is that if there's an ability to work with the  
7 different air agencies, in particular the South Coast,  
8 because we have an extreme non-attainment problem, we look  
9 forward to working with the staff. There's a lot of areas  
10 where we see great overlap for air quality need, as well as  
11 petroleum displacement and greenhouse gas emission  
12 reductions, specifically in medium/heavy duty vehicle area,  
13 as well as alternative fuel infrastructure. And that spans,  
14 again, from natural gas, hydrogen and electricity.

15 But the final comment is that we really encourage  
16 the Energy Commission to maintain flexibility as you move  
17 forward with the plan. This is -- you know, you're looking  
18 at 2011-2012 commitments and you haven't yet seen the fruits  
19 of your hard work in 2010 and this year.

20 So, I would really encourage you to try to  
21 maintain some flexibility. Although you are carving out  
22 distributions in different areas, allow yourselves to go  
23 back, revisit these distributions and then make decisions,  
24 final decisions about funding and solicitations as you see  
25 progress develop.

1           So, with that we'd, again, offer our assistance in  
2 technical and administrative resources and hope to be  
3 working with you and your staff in the future. Thank you.

4           MR. PEREZ: Great. Thank you, Matt.

5           Also on WebEx John Melville. Are you there, John?  
6 He's off? Okay.

7           Okay, the next one, Bill Elrick.

8           MR. ELRICK: Thank you. Bill Elrick, with the  
9 California Fuel Cell Partnership, Technical Program  
10 Director.

11           Before I start, Daimler sent me a few words to say  
12 on their behalf. They were very disappointed they couldn't  
13 call in and talk directly, partly because they were calling  
14 in from their World Drive of the B Class Fuel Cell Vehicle.  
15 And it wasn't just Rosaria Barada, but -- who heads up the  
16 U.S. Fuel Cell Division, but Dr. Christian Mohrdieck who is  
17 from Germany, the -- I might get it completely wrong, but  
18 the Director of Advanced Technology Drive Trains.

19           So, they were very excited about it, to be doing  
20 that from the road and that might have been part of the  
21 technical difficulties, as well.

22           So, one of the things they said was they were very  
23 disheartened by the zeroing out of the light duty vehicles  
24 for hydrogen infrastructure in the draft, especially as the  
25 B Class is being deployed now, and they're looking for

1 customers in California.

2 But also, as they're both working on and talking  
3 internally about the next vehicle deployments and the  
4 commercialization efforts for the 2015 time period. And  
5 we've heard a little bit about that already.

6 Foremost -- let me get this right here. This is  
7 foremost about the infrastructure needs, identifying -- that  
8 have been identified and filling those needs, but also the  
9 message that the State of California is sending out to the  
10 world as far as being a leader and a world player in this or  
11 not.

12 Finally, as I said, Daimler is lining up customers  
13 for this B Class as the current stations open, and they're  
14 very excited about those stations that are coming online.  
15 But at the same time, as they look at this vehicle and the  
16 next vehicle in line, which hasn't been announced yet, but  
17 if California is not preparing for success in this 2015  
18 market place that they may have to look elsewhere to deploy  
19 those vehicles in other locations.

20 So then from the California Fuel Cell Partnership,  
21 I'll try to go through this quickly since we're late in the  
22 day. Around the world California's been broadly recognized  
23 as one of the key markets for introducing fuel cell  
24 vehicles, and a lot of that is because of the leadership,  
25 especially in infrastructure development, such as the recent

1 PON that was announced.

2 This has also been seen in California's leadership  
3 in the last few weeks, as it was lauded -- the State's  
4 position the last few weeks in two industry conferences, one  
5 in Washington, D.C. and another in Tokyo, Japan.

6 So, working together, the auto members have  
7 provided CEC and other public and private funders with  
8 detailed information about vehicle rollout plans. The goal  
9 has always been to provide fuel for the growing fleet and  
10 prepare the market for the first big jump in passenger  
11 vehicles from the thousands to the tens of thousands,  
12 starting in 2015.

13 Everyone agrees that the customers -- for  
14 customers to adopt an alternative fuel vehicle, that  
15 customer needs to see sufficient fueling points and an  
16 infrastructure network slightly before the vehicles become  
17 available.

18 CEC has done a good job of making that point clear  
19 for every alternative fuel.

20 For the past several years the automakers have  
21 provided detailed fuel cell vehicle deployment information.  
22 And, at the CEC's request, provided an even greater detail  
23 and fidelity in this past December survey.

24 This 2010 survey was agreed upon by the CEC, ARB  
25 and the automakers, and was designed to help all the

1 potential funders to better pinpoint where and when to fund  
2 stations.

3           The discrepancy, previously mentioned, appears to  
4 be, and we need to work with CEC closer on this, but appears  
5 to be CEC aggregating the survey results in a manner that  
6 then negates the fidelity of the survey and, therefore,  
7 mistakes sufficient regional fuel capacity with necessary  
8 local coverage.

9           Our analysis, supported by the automakers and  
10 other industry stakeholders, shows 11 areas with hydrogen  
11 supply shortfalls. The 10 million identified for PON in the  
12 second quarter of this year will significantly help those  
13 gaps, but they are not enough to eliminate them.

14           Without additional government support in these  
15 early years, that means these 11 communities may not be able  
16 to prepare themselves for this market commercialization and  
17 the automakers will not be able to deploy the vehicles as  
18 planned.

19           We look forward to continuing our work with CEC on  
20 this and encourage CEC to use the detailed information  
21 requested in its December Automakers' Survey.

22           We have always considered AB 118 funding as the  
23 necessary public support to build the foundation of a real  
24 commercial market that will be self-sustaining as vehicle  
25 commercialization accelerates.

1           Providing continued funding to fill the identified  
2 supply gaps will enable these near-term commercialization  
3 activities. This will allow California to remain a global  
4 technology leader at a time when the automakers are  
5 preparing to ramp up production and deciding where to roll  
6 out vehicles, allowing the State to remain the global  
7 leader, capture the greenhouse gas reductions, the job  
8 creation and the energy independence benefits fuel cell  
9 vehicles offer.

10           That concludes my statements, if there are any  
11 questions?

12           MR. PEREZ: Thank you, Bill. Appreciate that  
13 input.

14           Okay, Charles, do we have anybody else online that  
15 would like to speak?

16           VICE-CHAIRPERSON BOYD: Well, while Charles is  
17 looking and before we lose everybody, let me ask you a  
18 couple questions, staff.

19           Was it your intent to kill the hydrogen program by  
20 publishing this document?

21           MR. PEREZ: No, it wasn't.

22           VICE-CHAIRPERSON BOYD: Okay. I would say that,  
23 obviously, we need to sit down with folks and try to  
24 reconcile some of the different estimations that have been  
25 made.

1           But I do want to put a couple of things in the  
2 record for the sake of the audience that's left here, since  
3 I have a long history with this program, but I did not want  
4 to get engaged in a protracted discussion with one witness  
5 or person who testified.

6           I'm intimately familiar with the \$40 million-a-  
7 year figure. It's not a figure in legislation. It's a  
8 figure this agency put in the first Investment Plan. And at  
9 that time it was put in, it was stated to be probably a one-  
10 time investment, as well.

11           The world changed, things have been different and  
12 the money has, you know, been parsed out somewhat  
13 differently.

14           As I said, this is still our staff draft plan, we  
15 needed to take into account the testimony we heard today. I  
16 don't think there's any intention on this Commission's part  
17 to kill hydrogen. I do recognize the significance of  
18 messages. I'm amazed, but not amazing knowing human  
19 behavior as I do, that people would infer that we were  
20 intentionally trying to kill the program.

21           Therefore, obviously, this issue needs to be  
22 addressed and we'll get back to it. But I just wanted you  
23 to answer that question. I think I knew the answer. But it  
24 was put on the table and in the course of misleading  
25 testimony, I wanted to straighten that out.

1           Also, with regard to the fact the Legislature  
2 spoke and put the \$40 million in there. In fact, I've  
3 forgotten I wanted to make this point, we caught holy hell  
4 for putting the \$40 million in there from the Legislature.  
5 I mean, you know, they felt like taking the whole 118  
6 program away from us. I never heard so much blather about,  
7 you know, patronizing the Governor, his hydrogen highway, et  
8 cetera, et cetera. So, we had to work real hard to survive  
9 that initial investment.

10           And there was a lot of agreement, by a lot of  
11 folks, when the figure was revised later on, after the  
12 surveys, to a different number.

13           In any event, I just wanted the history books to  
14 be correct. Sorry for the interruption and for protracting  
15 the discussion, but I'm quite the historian, but also into  
16 the truth.

17           Charles, anybody there?

18           MR. SMITH: We sent an electronic request to those  
19 on WebEx to see if anyone had any final comments. So, if  
20 you do, please reply or use the raised hand function and we  
21 can selectively unmute, just so we don't have a --

22           VICE-CHAIRPERSON BOYD: We're only looking for new  
23 folks, not engaging in a dialogue with anybody.

24           MR. SMITH: Fair enough. Sure. We're going to  
25 unmute the phones now for anyone who had their hand up to

1 speak. I think we got a lot of background noise, but I  
2 don't hear any questions.

3 MR. PEREZ: Maybe just one last opportunity for  
4 anybody who has not had a chance to speak, that's here in  
5 the room?

6 MR. SMITH: Okay.

7 MR. PEREZ: Well, I'll turn it back over to you,  
8 Vice-Chairman.

9 VICE-CHAIRPERSON BOYD: Well, I just want to thank  
10 everybody, and particularly everybody's staying with us.  
11 This probably sets a record for the Advisory Committee. And  
12 we will -- you know, we will now -- I will now pour over all  
13 this with the staff. And also look forward to taking a look  
14 at the written comments.

15 And within the time table laid out, come out with  
16 the next edition of the Investment Plan.

17 And what might that be, Pat?

18 MR. PEREZ: Okay, if I may, just as a reminder, we  
19 will be taking all of the input we received today, including  
20 written comments that we receive through March 25<sup>th</sup>. And  
21 working with the Committee, led by Vice-Chair Boyd, and his  
22 Advisor, Tim Olson, to incorporate those comments, and  
23 adjust the plan accordingly, based on the input we received.

24 We're looking at, probably this will occur through  
25 the remainder of March and April, and then we are

1 tentatively shooting for early May to hold a follow-up  
2 workshop. Which means we would have a draft revised,  
3 probably Committee report, that would be issued ten days  
4 prior to that workshop, like this workshop here.

5 It would no longer be a staff report, but would be  
6 a Committee-led report that we would be providing assistance  
7 on.

8 And then we would probably release a Commission  
9 report in June, and then take this to a Business Meeting for  
10 consideration, a final approval sometime at the end of June  
11 to meet the new deadline that the Legislature has set for  
12 this report.

13 So, it's a very compressed and accelerated  
14 schedule, again. And then we immediately have to turn  
15 around and develop another Investment Plan in a matter of  
16 months. So, it is going to be a very challenging next six  
17 to nine months.

18 VICE-CHAIRPERSON BOYD: Yeah, we're in training in  
19 this one to do it even faster next time around.

20 MR. PEREZ: Yes. But we do appreciate all the  
21 input we've received today. This has been phenomenal in  
22 terms of the comments that we've received, and input from  
23 the Advisory group, for those that are still here, and  
24 particularly from the stakeholders and the public that  
25 engaged in this process.

