

BEFORE THE  
CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC)  
AND  
CALIFORNIA ENERGY COMMISSION (CEC)

COMPREHENSIVE ENERGY EFFICIENCY PROGRAM  
FOR EXISTING BUILDINGS (AB 758)

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Reported by:  
Tahsha Sanbrailo

California Energy Commission

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## APPEARANCES

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 Andrew McAllister, Energy Efficiency Lead  
 Deputy Director of the Energy Efficiency and

CEC

Dave Ashuckian, Deputy Director of  
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 Christine Collopy, Program Manager, AB 758 Program

CPUC:

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 Simon Baker, Manager, Efficiency Office  
 Bill Pennington, Senior Advisor and Program Advisor

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 Michael Murray, Lucid  
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Matt Golden, Efficiency.Org  
Brian Maloney, Resource Solutions Group  
Howard Choy, Los Angeles County  
Jane Elias, Sonoma County Energy Independence Program  
Annie Henderson, Renewable Funding  
Valerie Winn, Pacific Gas & Electric Company  
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## INDEX

	<b>PAGE</b>
Welcome, Introduction and Housekeeping Dave Ashuckian, Energy Commission	5
Opening Comments	
Chair Weisenmiller (CEC)	10
Commissioner McAllister (CEC)	12
Simon Baker (CPUC)	18
Jeanne Clinton (Governor's Office)	24
Overview of Draft 758 Action Plan	
Dave Ashuckian (CEC)	26
Christine Collopy (CEC)	28
Targeted Segment 1: No Regrets Data Reporting and Management	
Christine Awtrey (CEC)	45
Carmen Best (CPUC)	53
Targeted Segment 2: No Regrets Foundational Marketing, Education and Outreach Resources	
Paula David (CEC)	93
Targeted Segment 3: No Regrets Foundational Workforce Resources	
Chris Graillat (CEC)	122
Targeted Segment 4: Voluntary Pathway Encourage Development of Innovative Financing Mechanisms for Energy Efficiency Upgrades	
Lea Haro (for Adrian Ownby) (CEC)	150
Jean Lamming (CPUC)	154
General Question and Discussion Segment	
Dave Ashuckian (CEC)	195
Closing Remarks and Wrap-Up	
Dave Ashuckian (CEC)	213
Adjournment	218
Reporter's Certificate	219
Transcriber's Certificate	220

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

2 JUNE 24, 2013

9:17 A.M.

3 MR. REIGNER: I think we're about ready to  
4 go, if we could ask the folks on the phones to  
5 mute their lines, that would be much appreciated.

6 MR. ASHUCKIAN: Okay, I think we're all  
7 ready to go. I want to welcome you to the first  
8 of three workshops regarding our Draft Action  
9 Plan for AB 758. I'm Dave Ashuckian. I'm the  
10 Deputy Director of the Energy Efficiency and  
11 Renewable Energy Division at the California  
12 Energy Commission, and I have many of the team  
13 here today. I think I'll let Christine introduce  
14 the folks in the audience who are here. But to  
15 my right is Bill Pennington, he's the Senior  
16 Advisor and Program Advisor for the Division;  
17 Simon Baker, who is the Manager of the Efficiency  
18 Office at the PUC; Jeanne Clinton, the Governor's  
19 Advisor on Energy Efficiency; to my left,  
20 Christine Collopy is the Program Manager for the  
21 AB 758 Program; and then we have Erik Jensen who  
22 is our technical guy, and also Justin Regnier,  
23 who is going to be handling the WebEx work.

24 Again, thank you for coming today. I know  
25 it's unusual weather we're having for a mid-June

1 workshop, but nice to have cool weather for folks  
2 who are from the Sacramento area.

3           The purpose of today's workshop is to get  
4 comments on our Draft Action Plan and the key  
5 word here is "Draft." This is not anywhere near  
6 final, and we are encouraging and hope to get  
7 comments on a number of areas on this Action  
8 Plan.

9           As far as the logistics of the room, I  
10 have a few housekeeping measures. First of all,  
11 there seems to be a fairly small group, so we're  
12 going to kind of try to play it by ear as far as  
13 how we're going to accept comments. We do have a  
14 box of blue cards in the back where you could put  
15 your name and address, or name and information  
16 and comment. Keith Roberts, back there holding  
17 up the blue card, will be collecting those;  
18 however, I'd like to see if maybe we can provide  
19 a little bit more informal process and not have  
20 to fill out the blue cards, so if there's enough  
21 interaction going on, if you want -- let me put  
22 it this way -- if you want to make sure that you  
23 are heard, fill out a blue card and Keith will  
24 make sure that you get into the queue. But we  
25 hope to have just an open flow of conversation

1 and comments, and these two microphones here will  
2 be live.

3           One point is we are recording the meeting  
4 and so we have to both make sure that when you  
5 speak you speak into a microphone so that  
6 everybody can hear, both in the building and on  
7 WebEx, and secondly, for the Reporter we have to  
8 have your name and correct spelling, and so if  
9 you could either provide us with a business card  
10 or if you fill out that blue card so that the  
11 Court Reporter has your information so that we  
12 can make sure your comments are attributed  
13 appropriately. And the Court Reporter is -- wave  
14 your hand.

15           A little more housekeeping. The  
16 restrooms are on the other side of the foyer  
17 here. Emergency exits, there are two exits on  
18 this side and two in the back. If there is a  
19 reason to evacuate the building, you should cross  
20 the courtyard and the official gathering area of  
21 the PUC building is across McAllister between the  
22 War Memorial Building and the Opera House, out  
23 there, the large sidewalk area, so that's where  
24 you should congregate in the event of an  
25 evacuation.

1           For those who during the breaks want some  
2 refreshments, the café is across the courtyard.  
3 So I think that's all the housekeeping items.

4           The agenda for today. So we have broken  
5 the Action Plan into three different kind of  
6 categories, one we call the No Regrets  
7 Strategies, the second is the Voluntary  
8 Strategies, and the third one is the Potential  
9 Mandatory Strategies. And we're holding  
10 workshops throughout California. Today's is  
11 here, tomorrow will be in Fresno, and on Friday  
12 will be at UCLA in Los Angeles. Rather than hold  
13 the exact same workshop every day and basically  
14 not have the opportunity for folks to kind of  
15 hear all the comments, we have broken up the  
16 agenda so that we're doing different parts of the  
17 Action Plan at different venues.

18           However, for those who cannot attend, or  
19 who are not interested in making comments at the  
20 other workshops across California, we will have a  
21 period, an hour at the end of the day today,  
22 where you can comment on any topic within the  
23 Action Plan, so to make sure you get your  
24 comments in.

25           On top of the verbal comments, we'd like

1 to have written comments, as well, and we will be  
2 accepting those through July 12th. And I was  
3 going to go through the agenda a little bit more,  
4 but that's okay, I don't think we need to. So,  
5 again, tomorrow we'll be talking about  
6 Residential Upgrades, Energy Efficiency and  
7 Property Valuation, Potential Mandatory Ratings  
8 and Basic Upgrades, and Standards for Compliance  
9 and Enforcement. Today we're talking about Data  
10 Reporting and Management, Foundational Marketing,  
11 Education and Outreach, Foundational Workforce  
12 Resources, and Financing Mechanisms. And then on  
13 Friday is the Nonresidential Standardized Tools,  
14 Small and Medium Commercial Building Upgrades,  
15 Public Sector Leadership, and the Potential for  
16 Mandatory Disclosure for Large and Other Public  
17 Buildings.

18           Again, the Next Steps will be after this  
19 series of workshops. We will take your comments  
20 and we will revise the Action Plan. We may hold  
21 a workshop on the various areas that we think  
22 have been omitted from the Action Plan as we get  
23 from our comments. Let me just say that we  
24 haven't determined for sure if we're going to  
25 have another workshop or not before we come out

1 with the final workshop -- or before we actually  
2 come out with the final Action Plan, I'm sorry.  
3 And then our plan is to adopt the Action Plan in  
4 its final form in early fall, the September-  
5 October timeframe. The Commission will actually  
6 have a formal adoption at a Commission hearing,  
7 at a Commission meeting.

8 With that, I'd like to turn it over to our  
9 Commissioners, starting with Bob Weisenmiller,  
10 the Chair of the Energy Commission.

11 CHAIRMAN WEISENMILLER: Good morning. I'd  
12 like to welcome everyone to this workshop today.  
13 It's symbolic that this is in fact at the PUC and  
14 the PUC is a key part of this effort. One of the  
15 things looking at our climate change goals, both  
16 for 2020 and ultimately for 2050, and as we look  
17 through this year's Scoping Plan thinking more  
18 about the 2030-2035 period, is that a key part of  
19 that plan will be retrofitting existing  
20 buildings, or I guess I should start saying  
21 energy efficiency is part of our loading order,  
22 certainly it is a key part of our program to deal  
23 with climate change, and to reduce greenhouse gas  
24 emissions, and so it's going to be a central part  
25 looking at the scoping plan. But as we sort of

1 dial down on it, again, I think one of the big  
2 challenges in that activity is basically existing  
3 buildings. And most of the buildings in  
4 California were built before the late '70s when  
5 we at the Energy Commission started doing  
6 Building Standards, and certainly looking out to  
7 2030 and even 2050, most of our building stock  
8 will continue to be those sort of existing  
9 buildings. And over the almost 40 years that the  
10 Energy Commission has been in existence, we've  
11 always struggled with the challenge of rented  
12 space, I think all of us talk about the split  
13 incentives between the owner and the occupant,  
14 and realize that we have a lot of programs, we're  
15 making a lot of progress, particularly on new  
16 construction, but that's a thorny challenge.

17           And I think AB 758 in a way is an  
18 opportunity for both Commissions to step back, do  
19 a reset on our programs, do a reality check, and  
20 to make sure coming out of this process that we  
21 have a plan going forward to really capture this  
22 key part of our climate change initiatives, and  
23 at the same time this will certainly increase the  
24 comfort of the occupants of those buildings, will  
25 increase the efficiency in cost-effectiveness of

1 our energy system. So, again, I encourage  
2 everyone to think creatively about how to address  
3 this system and we certainly have put 758 to have  
4 a very high priority at the Commission and,  
5 again, I think at both Commissions that priority  
6 is shared. So, again, I certainly encourage full  
7 participation in this process.

8 COMMISSIONER MCALLISTER: Hey, everybody,  
9 thank you very much for coming. My name is  
10 Andrew McAllister. I'm a Commissioner at the  
11 Energy Commission and Lead on Energy Efficiency.  
12 This effort is in my wheelhouse and many of you  
13 in the audience here I recognize and you know  
14 I've been involved in Energy Efficiency for a  
15 long time, probably longer than many of us would  
16 care to remember, really, it means we have to  
17 acknowledge our progression into middle age. But  
18 I am still incredibly excited about the  
19 opportunities in Energy Efficiency, there's just  
20 so much yet to be done and there's so many great  
21 reasons to do it. And this is a great  
22 opportunity to, I think, as the Chair said, sort  
23 of reinvigorate that, put on our thinking caps a  
24 little bit, and figure out how to refresh a  
25 little bit.

1           I think the last few years we've  
2 determined a bunch of things, we've determined  
3 some things that work, we've also I think grown  
4 to appreciate the level of the challenge to get  
5 inside of existing buildings and to get people to  
6 make decisions on a voluntary basis about what  
7 they're going to do in their buildings, trying to  
8 figure out what those pressure points are that  
9 need relief so that people can get to the  
10 decisions that are really fundamentally in their  
11 best interests, but get them to sort of  
12 appreciate and understand that.

13           I think there are a lot of market issues  
14 with existing buildings that things kind of have  
15 to go the right way for any sort of the person  
16 has to hear the right things at the right moment  
17 to say, "Oh, yeah," for that little light to go  
18 on. So this is not like Standards in some very  
19 important ways, and I think at the Energy  
20 Commission we're increasingly appreciating that  
21 fact and kind of realizing that we have to reach  
22 outside of our walls over to the PUC, but into  
23 the marketplace in a very deep way to mutually  
24 support this effort. And I think that's  
25 fundamentally my kind of top level message, and

1 it plays out in so many ways.

2           So the workshops this week, I am very much  
3 looking forward to as kind of an expression of  
4 that communication and it's really a start, I  
5 mean, this is, as Dave said, a Draft Action Plan,  
6 the Final could look quite different depending on  
7 what kind of feedback we get and what good ideas  
8 we get from the folks at these workshops and in  
9 their comments, even discussions that we have  
10 that are sort of pertinent.

11           So I want to acknowledge Christine and  
12 Dave and the staff, Bill and the staff that's  
13 been involved in this, putting this effort  
14 together thus far. I know it's been a lot of  
15 crazy times and a few sleepless nights, maybe  
16 even more than a few, trying to get this ball  
17 moving.

18           Assemblywoman Skinner, whose sort of  
19 brainchild AB 758 is, I think, showed a lot of  
20 vision in establishing this high level process  
21 because she saw, both based on her own experience  
22 and talking with all her constituents, that this  
23 merited an effort, a named effort. And we had  
24 the opportunity in the ARRA period to put some  
25 funds out there and do some programs, get the

1 ball rolling down several paths, on a number of  
2 paths, and I think we're now in a position to  
3 really go to the next level. So I really  
4 appreciate all of your being in the room. We  
5 really need your help. I think all of us  
6 acknowledge that we need to do better and there  
7 are great ways, great reasons why that's  
8 possible. And so I've got a list of things that  
9 I would like to hear about, both some of the gaps  
10 in the report that many of you may have noticed,  
11 but also just other issues that need talking  
12 through. So those will come up, I'll be sure to  
13 bring them up, and I hope you do, as well over  
14 the course of the three days of workshops.

15 Another important think to acknowledge is  
16 that we're really talking about a statewide  
17 program, and that involves not only the investor-  
18 owned utilities, so let me back up briefly and  
19 just say we're conceptualizing this together as a  
20 joint effort together with the PUC, and the  
21 timing of the adoption is specifically meant to  
22 roll into the PUC's Portfolio process, and so  
23 that's really an example of, okay, we're trying  
24 to think about this strategically and for the  
25 long term, and put in place a process that has a

1 very clear path forward, so the 758 Action Plan  
2 when it's finalized and adopted will inform the  
3 development of the portfolio for the '15-'17  
4 period at the PUC.

5 Now, at the same time, the publicly-owned  
6 utilities will also be subject to the direction  
7 here in AB 758, and we really want their  
8 participation and certainly look forward to  
9 working with them on implementing its action  
10 items, as well.

11 So let's see, so I think really the way  
12 this kind of fits into all the various efforts is  
13 we are working very closely with the PUC on this,  
14 there's a lot of great kind of I think cross  
15 communication and cross learning going on at the  
16 staff level. Certainly the Commissioners across  
17 both Commissions are totally committed to success  
18 here, we really see it as a fundamental part of  
19 our Commission's success. And it feeds into an  
20 overall effort that is the update of the Long  
21 Term Energy Efficiency Strategic Plan, which  
22 going forward the idea is to have it really be  
23 truly a joint agency effort and reflect the  
24 imperative that we have these days for the  
25 Commissions to work ever more closely together

1 and be aligned on the goals for the state, that  
2 basic message I think is really important for  
3 people to understand.

4           So, again, the fact that we're here at the  
5 PUC kicking off this whole effort is not by  
6 chance, and I really look forward to the  
7 collaboration going forward. There are areas  
8 that need activity that aren't necessarily going  
9 to fit in the ratepayer funded world, and we need  
10 your help sort of figuring out exactly what those  
11 look like, what makes sense going forward, and  
12 even where some resources could come from to fill  
13 those holes. And I think what I'm talking about  
14 will kind of become clearer over the few days.  
15 But to the extent we need foundational resources  
16 largely they may fall into the no regrets  
17 strategies that we've identified in the Draft  
18 Action Plan. But these are efforts that really  
19 are going to have broad social relevance, broad  
20 relevance for the marketplace, but sort of the  
21 attribution issues and the sort of cost-  
22 effectiveness definitions may not fit them very  
23 well, which is not to say that they're not worth  
24 doing and that they don't have a marvelous  
25 upside, but that the sort of structures that we

1 have in place may not facilitate them getting  
2 done, so we want to sort of think outside the box  
3 about how to get those sorts of things done.

4           Rather than drone on here, I will let us  
5 get to the proceedings, but I'm going to be  
6 asking a lot of questions today and I hope staff  
7 does, as well. And if you have a question, it's  
8 a good question; if you have a comments, it's a  
9 good comment. So really, we're here to learn  
10 from you and to have that interaction. So thank  
11 you all for being here, really, I know it's not  
12 easy to get into San Francisco at any point,  
13 particularly when it's raining, and we really  
14 appreciate your being here and look forward to  
15 your participation today and beyond.

16           MR. ASHUCKIAN: And we were planning on  
17 having Commissioner Ferron say a few comments for  
18 the Public Utilities Commission, unfortunately he  
19 has fallen sick today, so Simon Baker will make a  
20 few comments for the PUC.

21           MR. BAKER: Thank you very much, Dave.  
22 This is a great photograph, it's from my previous  
23 life as a mountain guide and a professional rock  
24 climber, so... For those of you that are here in  
25 the audience, you can see me now in my suit.

1           So I'm sure that Commissioner Ferron would  
2 very much have liked to have been here if he was  
3 healthy and well, but I'm pleased to be here to  
4 be able to make some remarks on the part of the  
5 PUC.

6           It has been a really good collaborative  
7 process with our Energy Commission colleagues  
8 since 2007, and the 758 legislation specifically  
9 directs the PUC and the Energy Commission to  
10 collaborate in order to avoid duplication of  
11 programs, leverage existing programs, and so on,  
12 and I believe we've done that. We've put in  
13 place a number of different interagency  
14 coordination forums, we've had joint Commissioner  
15 level confabs occurring approximately quarterly,  
16 we've had weekly management meetings with senior  
17 management, and we've had ongoing kind of  
18 collaborations with technical staff. And all of  
19 this has been a very positive working  
20 relationship and we look forward to that going  
21 forward.

22           It's important that we do this because,  
23 for the footprint of AB 758 in California, in the  
24 IOU service territories, we're talking about 70  
25 percent of the total electric load in the state

1 and a bit over 80 percent, I believe, of the gas  
2 services provided by IOUs. And so they play a  
3 big role and, if you look at the current  
4 portfolio of energy efficiency programs that are  
5 funded by the PUC, it's approximately a billion  
6 dollars a year of Energy Efficiency Program  
7 funding and about 70 percent of that funding is  
8 directed to retrofitting residential and  
9 commercial buildings. So the PUC is already  
10 authorizing a great deal of activity through  
11 utility ratepayer funds to retrofit existing  
12 buildings and it's important that these efforts  
13 be coordinated.

14           The legislation also gives the PUC a  
15 specific role with regard to investigating  
16 financing options and that's something we've been  
17 active working on since 2010. We initiated a  
18 consultant's report to assess what were the  
19 market needs, what were the gaps in financing,  
20 and then that leads up to today where we're  
21 imminently about to release a proposed decision  
22 on potential funding for new statewide financing  
23 pilots, and so folks should be looking for that  
24 in the coming days and weeks.

25           We'll be hearing in the workshop more

1 detail about our work on financing later in the  
2 day and we welcome your questions and comments on  
3 that at the time.

4 I won't say much more in regards to the  
5 coordination of this effort with the Strategic  
6 Plan, Commissioner McAllister I think said it  
7 very well, other than to just make the  
8 observation that if you take a look at the Action  
9 Plan itself some of you may have noticed, that  
10 have been following the Strategic Plan effort for  
11 some time, that the same look and feel of the  
12 Strategic Plan itself is in the Action Plan and  
13 that's for a reason, we're trying to send that  
14 message that we fully intend for these efforts to  
15 be completely consistent. And to the extent  
16 there are any disconnects, we see these documents  
17 as living documents that are continuously being  
18 updated, and we're committed to doing that.

19 I guess one last thing that I would just  
20 like to emphasize is this point of cost-  
21 effectiveness with which Commissioner McAllister  
22 already touched on a bit today. And that is  
23 that, after the 758 plan is adopted, it will turn  
24 to our proceedings here at the PUC to consider  
25 what can and should be funded by IOU Ratepayers,

1 and as I said, financing programs will be a key  
2 emphasis in accordance with our statutory  
3 mandate, but the utilities are also involved with  
4 a great deal of these other voluntary strategies,  
5 as well.

6           And just a reminder to everyone that our  
7 underlying statutory mandate at the PUC is to  
8 pursue all cost-effective energy efficiency, and  
9 that's as a preferred resource alternative to  
10 fossil energy, and so the benefits from the  
11 perspective of the PUC is primarily looking at  
12 the view of what is cost beneficial for utilities  
13 and ratepayers; it's a preferred resource  
14 alternative in that sense. By contrast, the CEC  
15 in its Efficiency Standards, as an example, they  
16 view cost-effectiveness more from the perspective  
17 of the homeowner and from the building owner, and  
18 whether a measure or a building practice yields  
19 net benefits to the end user. And there are  
20 important differences between those two  
21 perspectives. Without getting into the details  
22 about the differences, I would just note that the  
23 net result of that is that the PUC's cost-  
24 effectiveness test tends to be somewhat more  
25 stringent, but again, it stems from our

1 underlying statutory mandates and the different  
2 purposes of those tests.

3           So I'll also note, however, that the PUC  
4 evaluates cost-effectiveness on a portfolio  
5 basis, where an individual measure or program  
6 doesn't necessarily have to have benefits that  
7 exceed costs. And that policy allows for some  
8 flexibility to fund certain measures or programs  
9 that are expected through policy support to  
10 improve their cost curves over time, or  
11 activities that support market transformation in  
12 other ways such as workforce training, or  
13 emerging technologies, or what have you. So  
14 there is some flexibility to do those things, but  
15 those programs which do not yet achieve cost-  
16 effectiveness benchmarks, those need to then be  
17 counterbalanced by the remainder of the portfolio  
18 that has high cost-effectiveness ratios. And so  
19 I just say that because it's important as we turn  
20 to the PUC proceedings to keep that in mind, that  
21 the overall effort to pursue energy efficiency  
22 through IOU ratepayer funds has to be cost-  
23 effective.

24           So we're looking forward to these  
25 workshops and accompanying the Energy Commission

1 in its efforts to continue to incorporate  
2 stakeholder comment and to finalize the plan, and  
3 we'll be looking ahead to our proceedings to  
4 provide direction to the utilities for the post-  
5 2014 energy efficiency funding cycle. So thank  
6 you very much for the opportunity to be here  
7 today.

8 MR. ASHUCKIAN: Thank you, Simon. Oh, I'm  
9 sorry.

10 MS. CLINTON: I was just hoping to get two  
11 minutes.

12 MR. ASHUCKIAN: Sure.

13 MS. CLINTON: Thanks. So as the Energy  
14 Efficiency Advisor to the Governor's Office, I  
15 just wanted to share a bit of a context for where  
16 we are today. So as Andrew and Commissioner  
17 Weisenmiller and the staff of the PUC know, last  
18 fall we organized through the Governor's Office  
19 something called the Energy Efficiency Big Think,  
20 and the idea was, as some have already said  
21 today, and Andrew said this, to think outside the  
22 box, to figure out how can we scale up energy  
23 efficiency in California beyond where we are, you  
24 know, we're at a billion dollars a year and the  
25 estimate is, by my personal calculations and

1 looking at others, we have at least a \$50 billion  
2 opportunity to do retrofitting of all the  
3 buildings in California. And when you add sort  
4 of distributed renewables to those buildings for  
5 DG, you know, maybe we're up to \$80 billion, just  
6 a huge potential stimulation to the economy in  
7 California, creation of jobs, new business  
8 opportunities, and what we need are new sort of  
9 ways of going to market, new ways of mobilizing  
10 the market, new business models, new instruments  
11 and mechanisms whether it's financing or better  
12 ways of measuring performance, or paying for  
13 performance, new technologies, we need all of the  
14 above.

15           And so the challenge, I think, is how do  
16 we get to scale, whether hopefully it's not just  
17 2X, but we could go to 5X or 10X where we are  
18 today. And as we were talking about the  
19 aftermath of the Big Think and some of the key  
20 ideas that came out of that, we said, well, AB  
21 758 is the natural forum for trying to harness  
22 these ideas and work them into some sort of  
23 action plan for California that can work on  
24 multiple levels, not just looking at the worlds  
25 of utilities, but the worlds of entrepreneurs,

1 the worlds of contractors, investors,  
2 manufacturers, so I just wanted to offer that  
3 perspective, that this platform offers us a  
4 unique opportunity to achieve multiple  
5 objectives, as Commissioner Weisenmiller has  
6 said, you know, energy and climate and also  
7 economic development and jobs. I think we're all  
8 optimistic that this is going to be an incredible  
9 platform.

10 MR. ASHUCKIAN: Thank you, Jeanne. So as  
11 Commissioner McAllister and others have talked  
12 about here, there are some gaps in the Action  
13 Plan as it is currently drafted. I want to again  
14 specifically thank the staff of the Energy  
15 Commission who helped develop this work, and used  
16 the original comments and ideas that came from  
17 our Scoping Report Workshop, which was in October  
18 of last year. The true -- I'd say the core  
19 expertise at the Energy Commission is Standards,  
20 we do appliance standards, we do building  
21 standards, but developing programs that effect  
22 the market directly are not really the core  
23 expertise in our staff, and so developing this  
24 action plan has been a very significant growth  
25 opportunity and a learning experience for our

1 staff.

2           There are areas, and they're listed here,  
3 that we still haven't been able to kind of  
4 coalesce all the information out there into this  
5 report, and that is funding. How will some of  
6 these programs be funded? That is where we would  
7 like to get input from you. Multi-Family  
8 Programs are very lightly touched upon here, as  
9 well as Low-Income Programs. Plug loads are a  
10 major part, over 50 percent of a typical building  
11 uses plug load as the energy consumption is from  
12 plug load, and therefore how do we continue to  
13 adopt and achieve energy efficiency in plug load  
14 in existing buildings is an issue. And, again,  
15 cost-effectiveness; as Simon touched upon, there  
16 are different cost-effectiveness tests that  
17 affect ratepayers versus stakeholders, and a  
18 number of the strategies that we are suggesting,  
19 no matter how you look at it, would not be cost-  
20 effective necessarily to the individual who may  
21 be paying for that, things like data, you know,  
22 how does that fit into a cost-effective strategy?

23           And finally, one area that is not listed  
24 up here, and that is overall goals, we haven't,  
25 again, identified what the market we think is

1 achievable at specific timeframes, and so input  
2 we can have from you, the stakeholders, on what  
3 we can put in the report as far as expected goals  
4 from various initiatives is also an area that we  
5 would like to see input on.

6 With that, Christine Collopy will be  
7 managing and kind of taking us through the rest  
8 of the overview of the report, of the Action  
9 Plan, and so I will turn that over to Christine.

10 MS. COLLOPY: Good morning. I'm Christine  
11 Collopy. I'm the Program Manager for the AB 758  
12 Program. I'd like to welcome you all today and  
13 also thank you all very much for participating in  
14 this workshop in person, as well as over the Web.

15 I'm going to be providing a high level  
16 overview of the Action Plan, but the first thing  
17 I'd like to do is just, as Dave mentioned, I'd  
18 like to just recognize our AB 758 team from the  
19 Energy Commission, multi-purpose to also  
20 introduce them to you, so if you want to talk to  
21 folks today. So if you're on the AB 758 team  
22 from the Energy Commission, can you please stand?

23 So I'm going to go ahead, and just know  
24 that these folks are available today to talk to  
25 you lunch break -- stay standing, I'd like to

1 introduce you -- so Paula David does our market,  
2 education and outreach; Christine Awtrey is on  
3 Data; behind them is Pippin Brehler, our attorney  
4 who is helping us on AB 758; back in the corner  
5 is Keith Roberts, who is working on Public  
6 Buildings; over behind you all is Martha Brook,  
7 who works on many of our non-residential issues;  
8 Lea Haro is next to Martha, who has been our  
9 technical writer throughout this process; up with  
10 me at the table is Bill Pennington, who is our  
11 Senior Adviser on this project and has been  
12 helping us on all of the subject matters. I have  
13 been working on residential programs. Justin  
14 Regnier also is on our non-res team and working  
15 on the upgrades for small and medium commercial  
16 buildings; and Eric Jensen here has been a  
17 wonderful asset to our team, rover, and doing our  
18 tech and then also supporting all of us in our  
19 activities. Did I forget anyone? No. So thank  
20 you all, team, and please, if you're in the  
21 audience today, feel free to reach out to them  
22 today through our breaks and lunch, they would be  
23 happy to receive your input and have  
24 conversation.

25 So getting back to the Action Plan, Dave

1 mentioned if you don't see something today on the  
2 agenda that you'd like to comment on, we will be  
3 having that hour at the end for you to provide  
4 any comments or questions.

5           So what is the Comprehensive Energy  
6 Efficiency Program for Existing Buildings? This  
7 was mandated in 2009 from Assemblymember Nancy  
8 Skinner and this plan that we're working on calls  
9 for a comprehensive program to achieve energy  
10 savings in all of California's existing  
11 buildings. It's a program that embodies a  
12 complimentary portfolio of different techniques,  
13 different applications, and practices to improve  
14 this efficiency in our buildings.

15           The Energy Commission is called to develop  
16 the program with the PUC and with many other  
17 stakeholders and market actors. This program  
18 effort is going to take a massive amount of  
19 partnership and collaboration and, most  
20 important, it's going to take a lot of will. No  
21 entity is going to be able to accomplish this on  
22 their own, this is going to take all of us in the  
23 room, all of us on the phone. Resources are very  
24 scarce, so our goals are really quite common in  
25 this program, and we're going to really need to

1 work together and collaborate and leverage.

2           Lastly, AB 758 authorizes the Energy  
3 Commission to implement regulations, and we will  
4 get more into that as we talk about potential  
5 mandatory approaches.

6           The comprehensive program elements for AB  
7 758, it's a long term statewide approach to  
8 achieving energy efficiency for existing  
9 buildings. Other elements include cost-effective  
10 energy efficiency improvements, public and  
11 private financing options, public outreach and  
12 education is going to be critical, greening our  
13 workforce, we've already gotten a good start on  
14 doing that, but we must continue to do that and  
15 to align, and then also to embody some broad  
16 range assessments, benchmarking, and rating  
17 different opportunities. We believe that we've  
18 covered all of these in the Action Plan, but  
19 we're really looking to you to tell us kind of  
20 where we hit it and where we missed it.

21           So the AB 758 Program is in three  
22 different phases. We are currently in Phase I,  
23 we're in the tail end of Phase I. During this  
24 phase, the Energy Commission conducted the ARRA  
25 pilots which were pilots for the AB 758 Program.

1 The IOUs conducted whole house upgrade programs  
2 for single family and multi-family. Energy  
3 Commission released the AB 758 Scoping Report  
4 last October and we held workshops to talk about  
5 market needs. And the Energy Commission has just  
6 released this Draft Action Plan for you to  
7 comment on. So again, we are at the tail end of  
8 Phase I.

9 Just to get a little bit of background  
10 about the pilots for 758, the Energy Commission  
11 did pilot a lot of different programs under ARRA.  
12 The orange boxes there are representing the  
13 targeted commercial programs that we piloted,  
14 which did like refrigeration case lighting, and  
15 HVAC and lighting control measures in small and  
16 medium commercial buildings throughout the state.  
17 We had a lot of financing programs, pilots that  
18 occurred, and some of them are still ongoing for  
19 the next five years. The Department of General  
20 Services service state-owned buildings, CHF, or  
21 CRHMFA Home Buyers Fund provide a below-market  
22 interest rate for single-family retrofits, Bay  
23 Area Multi-Family Fund did some financing for  
24 multi-family projects. There were some  
25 commercial PACE pilot programs in San Francisco,

1 LA and Placer County, and Sonoma County Revolving  
2 Loan Fund, that supported their residential PACE  
3 Program.

4           The blue boxes represent the Energy  
5 Upgrade California Program, which was a  
6 significant investment, up to a third of our ARRA  
7 funds. The local government commission contract  
8 provided a statewide infrastructure, a lot of  
9 outreach, website development, some finance  
10 programs, etc., were in that contract. And then  
11 in City of Fresno, we did a HERS pilot program  
12 where we did over 1,000 HERS ratings. And in Los  
13 Angeles County, in the SMUD territory, in the  
14 County of San Diego, and in the ABAG counties,  
15 they all have local Energy Upgrade California  
16 Programs which leveraged against that statewide  
17 program.

18           We also had other ARRA efforts that were  
19 going on. We invested over \$18 million in  
20 workforce training, and we also supported the  
21 BEARS non-res rating.

22           Dave mentioned a bit earlier that we  
23 divided our Action Plan basically into three  
24 different categories, the No Regrets category,  
25 the Voluntary Pathways, and the Potential

1 Mandatory Approaches. The No Regrets Strategies,  
2 they're really policies and actions that are  
3 needed to establish a foundation in which like  
4 all the other strategies and initiatives will be  
5 based, but on their own they are critical to the  
6 foundation of energy efficiency programs.

7           There's four foundational elements that we  
8 are going to be talking about for our Action Plan  
9 related to Data, Standards Compliance and  
10 Enforcement, Marketing, Education, and Outreach  
11 Resources, and Workforce Resources. These  
12 foundational elements are necessary in order for  
13 us to really touch all of the existing buildings  
14 in California and to really transform this  
15 market.

16           The No Regrets Strategies will likely  
17 require support from the State or other funding  
18 sources that will likely be from the state.

19           The Voluntary Pathways, these are market  
20 support activities which build upon past efforts  
21 and channel existing resources. The plan  
22 encourages multiple pathways to achieve energy  
23 savings, so we are talking about single measures,  
24 multiple measures, whole building measures, as  
25 well as self-generation.

1           The Potential Mandatory Approaches, these  
2 could make the market more transparent and move  
3 mature measures into wider use. The need for  
4 these mandatory approaches will depend on the  
5 results of the public process to evaluate the  
6 pros and the cons. The mandatory approaches, if  
7 mandatory approaches are to be determined to be  
8 desirable and feasible, the timing of the  
9 specific measures will depend on the results of  
10 implementation of the no regrets strategies and  
11 the voluntary pathways. Mandatory approaches  
12 will be implemented through regulations that are  
13 developed, but only after extensive research and  
14 public stakeholder comment and interaction.

15           So now I'm just going to go into just a  
16 little bit about the actual report. So, again,  
17 the No Regrets Strategies are foundational for  
18 the market to transform. Data -- you'll be  
19 hearing about these segments throughout today, as  
20 well as through the other two days in the  
21 workshop, in more specifics. So the No Regrets,  
22 one on Data Reporting and Management, this  
23 strategy is really calling for the collection,  
24 organization, and storage of data, and providing  
25 access to partners, stakeholders, and ultimately

1 giving consumers or building owners some level of  
2 access to information.

3 No Regrets Strategy 2 is support for  
4 Standards compliance and enforcement. This  
5 strategy calls for implementation of solutions  
6 to increase compliance with enforcement standards  
7 for alterations of existing buildings.

8 Stakeholders are really going to need to  
9 work together in this area to pilot different  
10 programs to gain contractor, local government and  
11 consumer confidence in any kind of change. Our  
12 agencies are going to need to work together to  
13 conduct training and outreach to contractors, to  
14 consumers and others to really lay the framework  
15 to having a strong compliance and enforcement  
16 program.

17 No Regrets 3 are foundational, marketing,  
18 education and outreach resources. Education and  
19 outreach is just going to be critical to the  
20 success of any of our programs. We're going to  
21 need -- I mean, any resources are typically scare  
22 resources and it's really important that all of  
23 us are leveraging those resources and working  
24 together for a common goal, otherwise that is  
25 often an area that has low budgets, but is so

1 critical to the success of our programs.

2           The last No Regrets 4 is workforce  
3 resources. A lot of work has been done in this  
4 area, but it's critical that we align all of the  
5 programs that are going on out there. We work  
6 with labor, we work with our efficiency programs  
7 and others to make sure that, again, we're  
8 leveraging these kind of scarce training dollars.  
9 The ultimate goal is to make sure that the  
10 workers that are working in our green workforce  
11 are keeping up with their skills, they're doing  
12 quality work, and that they build a lot of  
13 consumer confidence in order to move this market.

14           The Voluntary Pathways are market support  
15 activities that are going to build upon past  
16 efforts and existing resources. In Voluntary  
17 Pathway 1, we're talking about residential  
18 upgrades. Again, it's all about creating  
19 multiple pathways for folks to consider upgrades.  
20 We have focused a lot on whole building in the  
21 last several years, and we recognize that not  
22 everybody can do whole building all at one time,  
23 so while we want to continue the whole building  
24 efforts, we want to make sure that consumers are  
25 being brought into a pathway where they can build

1 upon the upgrades that they take, so a single  
2 measure today may be multiple measures tomorrow  
3 or next year, might be a whole house in three, or  
4 five, or 10 years.

5           The next one, Voluntary Pathway 2,  
6 standardizing residential tools for benchmarking,  
7 auditing and retro commissioning, this section or  
8 this chapter is really about developing  
9 benchmarking approaches that enable targeting  
10 high opportunity buildings for audits, retro  
11 commissioning and other upgrades. It's providing  
12 standardized tools to increase user confidence.

13           And as we move into Voluntary Pathway 3,  
14 the upgrades for small and medium commercial  
15 buildings, this is going to really help us survey  
16 networks to establish baseline energy use and  
17 performance levels for those small and medium  
18 commercial buildings. In this area, we're  
19 recommending that we develop cost-effective  
20 energy audit protocols and conduct a lot of  
21 different upgrades in the marketplace to see what  
22 will work best.

23           Voluntary Pathway 4, Public Sector  
24 Leadership, we're recommending that State, local,  
25 and regional governments work together, or work

1 to improve the performance of public buildings  
2 and encouraging upgrades of the privately owned  
3 buildings that are being leased by government.

4           And Voluntary Pathway 5, Energy Efficiency  
5 and Property Valuation, we think it's going to be  
6 important and we'd like to see achieving market  
7 transformation by incorporating energy efficiency  
8 measures and performance into the property  
9 valuation and appraisal processes. That would be  
10 including working with our real estate industry  
11 professionals and other stakeholders to determine  
12 a process that will have like the least  
13 interruption to the marketplace while achieving  
14 our goals. And again, this is an area where we  
15 would need to pilot a lot of programs in order to  
16 build confidence and have success.

17           The last of the Voluntary Pathways is  
18 related to financing upgrades. There's been a  
19 lot of work in this area in the last year by the  
20 Public Utilities Commission and the Energy  
21 Commission did a pilot, some programs. So we're  
22 going to continue the work in this area by  
23 ensuring that those products and programs are  
24 available to the most users in order to encourage  
25 upgrades.

1           The last area of the Action Plan is  
2 Potential Mandatory Approaches. These approaches  
3 could make the market more transparent and move  
4 mature measures into wider use. So the first  
5 potential mandatory approach is to have statewide  
6 energy use disclosure program for the largest  
7 commercial and public buildings. In this area,  
8 we will evaluate the need for and feasibility of  
9 the Statewide Energy Use Disclosure Program for  
10 the largest buildings, and these buildings, then,  
11 will lead the way for others.

12           In the Potential Mandatory Approach 2,  
13 this is the disclosure of ratings and completion  
14 of basic energy upgrades for existing buildings.  
15 The Energy Commission recognizes the need to fix  
16 our current rating system and we really are  
17 looking at comments and from you under other  
18 efforts that we're working on to create a rating  
19 process in California that works in a supportive  
20 and that a lot of people have confidence in.  
21 This mandatory approach will evaluate the need  
22 and feasibility of such changes and no changes  
23 will really occur in any of these areas until we  
24 have a lot of stakeholder engagement and a lot of  
25 conversations and proceedings to talk about the

1 requirements that we'd want to see under these  
2 approaches.

3 Dave already went through the gaps, but  
4 this gaps, but this is just a reminder that we  
5 are looking to you to help us identify what we  
6 missed in the report, and we welcome that today  
7 in person, or in writing over the next two weeks.

8 The other program phases that we're going  
9 to be going into, Phase II, is to implement the  
10 actual plan strategy, so we're going to continue  
11 partnership development to implement these  
12 strategies, we want to address market gaps and  
13 imbalances that occur, work to continue this  
14 market transformation that we've started over the  
15 last several years, coordinate, optimize, align  
16 and streamline existing programs, we want to  
17 leverage, combine, or eliminate duplicative  
18 programs. We want to ensure alignment with the  
19 Public Utilities Commission's Strategic Plan with  
20 the Public Utilities and Energy Commission's EPIC  
21 plan, and we're always keeping -- we are  
22 coordinating with the Energy Commission's  
23 Research Development and Demonstration Division,  
24 the old PIER Division.

25 We will work to identify and fill program

1 gaps to make it possible to touch all buildings.  
2 The plans that we're making do target all  
3 sectors, all building types, vintages, and  
4 climate zones. And the ultimate goal, then, is  
5 to really ensure that all energy saved is begin  
6 counted toward our goals.

7           This is just representing the partnership  
8 that are going to be required in order to achieve  
9 our goals and implement our plan. We're going to  
10 need to work with these key stakeholders to  
11 develop and continue to develop programs, or to  
12 streamline programs. These programs need a well  
13 coordinated -- we need to share information and  
14 leverage these scarce resources. You're going to  
15 hear me say that a lot of the time because one of  
16 the question is how do we pay for this.

17           And lastly, then we're going to move into  
18 Phase III, which is the Potential Mandatory  
19 Requirements. In the Action Plan, we do identify  
20 three areas where the CEC may potentially  
21 promulgate Regulations, but before these  
22 mandatory approaches will be considered, the  
23 voluntary market must reach some level of  
24 sufficient maturity before the mandatory  
25 approaches would even be feasible.

1           We're going to need to determine what  
2 appropriate metrics and what we need to track  
3 over time to understand where the market is and  
4 when we need to trigger these mandatory events.  
5 Again, the mandatory requirements will only begin  
6 after the Energy Commission has gathered  
7 stakeholder input and determined that the  
8 voluntary market has done all that it can do.

9           Those potential mandatory requirements are  
10 to publicly disclose the energy used for the  
11 largest commercial and public buildings, disclose  
12 energy performance ratings, and complete basic  
13 level energy efficiency upgrades.

14           We are also asking for a comprehensive  
15 program oversight committee of some kind. The  
16 Energy Commission does envision the creation of  
17 an oversight group that includes key policy  
18 makers and stakeholders representing a wide array  
19 of industries and interested parties. This is  
20 going to include State and public agencies,  
21 utilities, program implementers and  
22 administrators, local and regional governments,  
23 industry leaders and representatives, our  
24 legislative leaders, and consumer advocates.  
25 This oversight group could meet semi-annually to

1 review progress. We think it would be wise to  
2 consider all of the work that a lot of the other  
3 working groups are doing already in California so  
4 that we can be working toward common goals. We  
5 are looking for input about this oversight  
6 committee because we will be relying on you to  
7 help us get there.

8           Again, our next steps. We're workshopping  
9 all week. A reminder that public comments does  
10 end two weeks after the last workshop, which is  
11 Friday, July 12th. If you're looking for  
12 information on how to submit a public comment,  
13 please pull the notice from our website and that  
14 will give you the address or the email address to  
15 send your written comments. We're looking to  
16 revise this Draft Action Plan over the summer and  
17 we are potentially going to workshop the gaps  
18 that we've missed, as well as the Final Action  
19 Plan in August. We are hoping to adopt the Final  
20 Action Plan from the full Commission at a  
21 Business Meeting in the fall of 2013. And that  
22 is all from me if anyone has any comments.

23           MR. ASHUCKIAN: So we can take some quick  
24 comments right now on the overview, kind of the  
25 large high level program, if there's anybody, you

1 can come up to the microphone. Okay, if we have  
2 no comments, we actually had a break scheduled,  
3 but we actually started a little bit late and so  
4 let's take just maybe a couple minutes while we  
5 transition to get Christine Awtrey up here to  
6 make her presentation on the data.

7 (Break at 10:10 a.m.)

8 (Reconvene at 10:18 a.m.)

9 MR. ASHUCKIAN: Okay, let's get started.  
10 We have a lot to cover today, so if we can get  
11 started. Okay, we have Christine Awtrey, who is  
12 an Analyst who has been working on the Data  
13 Reporting and Management section of the report,  
14 so with that, Christine will talk about that No  
15 Regrets Strategy 1.

16 MS. AWTREY: Okay, I'm going to start with  
17 the overview. Stakeholders have identified the  
18 lack of access to data as the primary barrier to  
19 developing a self-sustaining energy efficiency  
20 marketplace. We learned from the Scoping  
21 workshop comments that the stakeholders had  
22 identified the access to data as a key component  
23 in achieving energy efficiency in the  
24 marketplace.

25 What are some of the current data issues?

1 Incomplete data and inconsistent data. Building  
2 owners, consultants, contractors, investors,  
3 efficiency program implementers, and government  
4 agencies must often work with limited,  
5 inconsistent, or incomplete data on household  
6 energy use.

7           Limited Access to Data. Access to data is  
8 a big issue. It is often difficult and time  
9 consuming for stakeholders to get energy  
10 performance data at a level that is acceptable in  
11 order to perform energy analysis. There are  
12 numerous hurdles to obtaining anonymized and  
13 aggregated data, let alone more granular data.

14           Scattered data. There are also challenges  
15 with data being scattered among numerous  
16 uncoordinated entities, for example, utilities,  
17 consultants, research center, and government  
18 agencies that have different taxonomies and  
19 confidentiality rules. And there's also regional  
20 data not being available. Obtaining geographical  
21 specific information to support local and  
22 regional efforts can also be difficult, and the  
23 security of data.

24           No Regrets I strategy, the basic  
25 statement: accurate energy performance data will

1 be collected, organized, analyzed, integrated,  
2 and made available to all market actors and  
3 decision makers. Data sources will be identified  
4 and collected for all of California through the  
5 Commission's broad data collection authority on  
6 an ongoing basis in a standardized format. Data  
7 will be organized into one centralized location  
8 with the necessary data security protocols put in  
9 place. Energy performance data metrics, energy  
10 analysis, and modeling tools will also be  
11 created. Also, the combining of several  
12 different types of data and creating overlays  
13 will allow a visualization for targeting of  
14 energy efficiency programs. The CEC will  
15 coordinate with the CPUC and other regional data  
16 efforts to ensure integration of various types of  
17 data are accurate and accessible to the market  
18 actors.

19           Here are some of the possible uses of the  
20 data: to assess program effectiveness, to develop  
21 sector and location-specific outreach, to make  
22 program and product offerings as effective as  
23 possible, to understand the market opportunities  
24 as part of potential investors' due diligence.

25 Who wants the data and why? Building owners need

1 data to make informed decisions about energy  
2 efficiency upgrades. Performance data at the  
3 community level and neighborhood level would also  
4 assist with targeting areas with the greatest  
5 potential for energy efficiency upgrades and  
6 developing cost-effective products and programs  
7 to reach those areas.

8 Policy makers and agencies need granular  
9 and up-to-date performance data to accurately  
10 assess trends in the market. Analysis supported  
11 by project-related data will help policymakers  
12 improve the state's energy planning efforts and  
13 evaluate the effectiveness of efficiency  
14 programs. Also, more precise projections of  
15 energy savings are needed, and the actual  
16 likelihood of actually achieving those savings.  
17 Accurate energy savings projections will attract  
18 private capital and enhance competition within  
19 the energy efficiency marketplace.

20 Data Security. Energy Commission staff  
21 share the utilities' concerns about ensuring  
22 privacy and customer confidentiality and is  
23 committed to working closely with all  
24 stakeholders to develop data security protocols  
25 that protect consumers' privacy.

1           Here are some of the examples of ongoing  
2 data efforts. The California Solar Initiative  
3 (CSI), the California Solar Statistics Data  
4 Program. CSI is an excellent example of the  
5 centralized and accessible data repository that  
6 is widely used by policymakers, as well as  
7 consumers interested in solar energy.

8           Regional organizations in Los Angeles,  
9 Irvine, and Fresno, for example, have produced  
10 heat maps that analyze energy use. Heat maps at  
11 the community level will highlight areas with  
12 higher or lower energy use. This type of mapping  
13 and related analysis should ideally be done at  
14 the statewide level, but will require  
15 standardized and consistent data collection. The  
16 CPUC maintains detailed data on all energy  
17 efficiency projects for EM&V, and they are  
18 developing a website to make IOU energy  
19 efficiency data available. Carmen Best will  
20 discuss these and other efforts currently  
21 underway by the CPUC following my presentation.

22           Here are some of the key strategies. The  
23 following key strategies are necessary to  
24 transform the energy efficiency marketplace. The  
25 CEC needs to ensure that the marketplace has

1 access to energy performance data for all of  
2 California. There are excellent examples of  
3 successful projects where layers of data have  
4 been made available. We want to make sure that  
5 efforts such as energy use mapping exist for all  
6 of California, not just portions of it. The data  
7 needs to be standardized and consistent for the  
8 state. We will collaborate with the CPUC to fill  
9 in the gaps where our broad data collection  
10 authority is necessary to ensure the statewide  
11 coverage. We will assist in creating metrics and  
12 other evaluation efforts to ensure that progress  
13 is being made to meet the goal of AB 758, which  
14 is to improve energy efficiency of existing  
15 buildings.

16 Under the Key Strategies, here are some of  
17 the Initiatives, we came up with five of them.  
18 The first one is looking at identifying available  
19 data sources and determining the structure and  
20 resources needed to collect the data. We also  
21 look into developing requirements and protocols  
22 for data security, also the development of a  
23 centralized data collection process, conduct a  
24 public rulemaking to update existing regulations  
25 for regular collection of the data, and also

1 recommend that all energy efficiency programs  
2 providing taxpayer or taxpayer funded benefits  
3 require program participants to release  
4 sufficient data for program evaluation purposes.

5           The Energy Commission, once again, will  
6 collaborate with the CPUC, utilities, local and  
7 regional governments, and other interested  
8 parties to coordinate the data collection effort.  
9 We will look into customer confidentiality, data  
10 security, frequency of data collected, data  
11 structure, and access issues. Another one of the  
12 strategies is to support and promote innovation,  
13 looking at developing residential and  
14 nonresidential building energy performance  
15 benchmarking applications and tools. We also  
16 look at creating and managing a voluntary  
17 software validation and certification process.

18           Data is critical to the development of  
19 software applications that analyze energy  
20 consumption. Green Button is an example of  
21 allowing access to data which spurred innovation.  
22 This streamlined program shared customer-specific  
23 energy use data to enable customer directed  
24 energy management applications and tools.  
25 There's also heat maps as discussed previously,

1 which allows regional governments to use these  
2 maps to overlay information that is specific to  
3 the economic conditions in their communities and  
4 to assess localized barriers to program  
5 participation. Creating a voluntary software  
6 validation process to establish standards for  
7 identifying energy consumption end uses in homes  
8 and businesses, building characteristics and  
9 occupant behavior, will increase consumer trust  
10 in the information provided by the marketplace  
11 and help software vendors market their products.

12           Last strategy looks at using the data  
13 collected in No Regrets Strategy I to established  
14 these baselines and metrics. We look at, collect  
15 data, and compute metrics that measure the  
16 current energy performance of existing buildings  
17 across the state, collect data and compute  
18 metrics that measure the improvements made to the  
19 energy efficiency of existing buildings over  
20 time. Establishing these metrics will require  
21 coordination with the CPUC's Energy Efficiency  
22 Strategic Plan Update.

23           At this time, I'd like to go ahead and  
24 introduce Carmen Best of the CPUC, who will be  
25 discussing their current data efforts.

1 MS. BEST: Thanks, Christine. I'm Carmen  
2 Best and I'm the Demand Side Management  
3 Evaluation Supervisor and I came into the data  
4 scene from that angle, from the evaluation  
5 perspective, so my slides are just going to be  
6 focusing briefly on some of our current data  
7 activities that are going on at the Commission,  
8 and that I've tried to highlight how they  
9 intersect with AB 758's goals.

10 I'm very excited that we're collaborating  
11 with the CEC on this activity. I think any time  
12 that data comes to the fore and is recognized as  
13 a core resource for implementing programs, it is  
14 a benefit for the state and for customers across  
15 the state who will be participating.

16 So the data, as I mentioned, I think data  
17 is really the key to tracking progress on energy  
18 efficiency programs, and that has been a core  
19 effort of my team over the past few years as  
20 we've been getting our legs as the evaluation  
21 leads for the IOU programs.

22 Energy Division is specifically  
23 responsible for tracking progress and  
24 performance, we do Evaluation Measurement and  
25 Verification, and one of our major goals since

1 2006 is developing a centralized and standardized  
2 dataset from the four Utilities operating in  
3 California. And the intersection with AB 758 is  
4 that the Action Plan really recognizes the value  
5 of data and offers a really good opportunity to  
6 build on the progress made at the CPUC for the  
7 standardization activities.

8           We have multiple energy efficiency  
9 databases that we are maintaining, and I kind of  
10 use that database term loosely, they're not  
11 sitting on someone's desk, they are multiple  
12 users of data and interfaces that enable all the  
13 different activities that we do at the  
14 Commission. So we have the top three which are  
15 Goals and Potential, our Frozen Ex Ante Source  
16 Data, and the Customer Consumption Data, are all  
17 elements of our data tools that are telling us  
18 something about information about customers and  
19 how we target programs and approve the portfolio  
20 and review the portfolios that are proposed by  
21 the utilities. All of these are developed in  
22 interaction with the utilities, and based on our  
23 best available information at the time.

24           The Customer Consumption data is really  
25 billing data and core information at a very

1 granular level, it tells us a lot of things about  
2 how customers are using their energy. This is  
3 currently not a public dataset, this is used  
4 solely for evaluation purposes and provided only  
5 to entities that have nondisclosure agreements  
6 specifically with us to do that.

7           The last three are tracking data, which is  
8 how the utilities report detailed information  
9 about who has participated in the program, it has  
10 provided the most detailed level on a quarterly  
11 basis, as I noted before it is standardized  
12 across the four utilities. We use this for  
13 implementing our evaluations, which is done on a  
14 sample basis, and our field based evaluation  
15 studies also generate a lot of information about  
16 performance and actual activities in the field.  
17 And the final component is our portfolio summary  
18 data, which aggregates all that information and  
19 it includes both the tracking and evaluated  
20 results.

21           The last three components really offer an  
22 opportunity to see the standardized information  
23 which is gathered about program implementation  
24 and evaluation, and that can be used for  
25 comprehensive reporting on statewide progress.

1 And I think that will be a really important  
2 intersection with the AB 758 activities to either  
3 standardize how we're tracking the information,  
4 how we're collecting and archiving our evaluation  
5 results, and then how we're summarizing progress  
6 for the whole portfolio.

7           One other note that I wanted to make is  
8 that we are currently doing an overhaul of our  
9 EEGA website, first as a name change, not to  
10 downgrade the legacy of EEGA and the hard work  
11 that went into it, I think it really did -- it  
12 has evolved a lot over the years, and this is  
13 currently what you can see is tracking progress  
14 over time on an aggregate basis. You can drill  
15 down to a lot of different details about the  
16 portfolio through this website, but it is a  
17 little bit chunky and we're looking at new ways  
18 to provide access to this quarterly data. The  
19 detailed measure-based information which is more  
20 corollary to the CSS dataset, which was cited  
21 earlier for the California Solar Initiative. So,  
22 it's going to look a little bit more like this,  
23 we're launching a name, which is still in draft  
24 form, California Energy Efficiency Statistics,  
25 again, borrowing from the California Solar

1 Initiative, we're utilizing a software tool  
2 called Tableau which enables this geographic  
3 picture of where activities are happening. It's  
4 kind of hard to see it on the slide, but that's a  
5 geographic presentation of where these different  
6 activities have happened, the color coding is the  
7 different types of measures that have been  
8 installed, and then we have different dashboards  
9 and things that we think will be key information  
10 to share with stakeholders. There will also be a  
11 "have at it" sort of forum where people can take  
12 all this information which is security protected,  
13 and they can drill down however it makes sense  
14 for their application.

15 We're really excited about this, the  
16 timeline for it will be launched later this fall,  
17 and we're going to launch that concurrently with  
18 an online annual report, which will also provide  
19 more continuous information and access about  
20 valuation results.

21 I'd like to give a shout out to Amy  
22 Reardon back there, who is the lead on my team  
23 for moving us into this next generation of data  
24 access.

25 Now, this site is also going to have

1 access to a lot of legacy research, the CALMAC  
2 database, CALMAC.org if those of you who know is  
3 kind of a library of evaluation results and  
4 historic information, it's going to have a portal  
5 for getting to other public sites that provide  
6 important information like the DOE's Building  
7 Performance Database, and other links that will  
8 be relevant to understanding what's going on.  
9 We're very excited about that.

10           One other component, this is the data  
11 store that's being developed, is really where  
12 we're archiving all of our evaluation data and  
13 field information that we're gathering. I think  
14 this is where program implementers potentially or  
15 other evaluators can start not from scratch, they  
16 can kind of build off of historic data that has  
17 been collected and will enable us to continue to  
18 move the ball forward rather than starting with a  
19 blank page and citing what we need to study,  
20 where we need to get the data, and it may enable  
21 some more longitudinal analysis. I think it will  
22 help with AB 758 implementation by having both  
23 implementation and evaluation resources that can  
24 leverage the best available information on  
25 program performance which has been gathered from

1 the field.

2 I was also asked to do a status update on  
3 the Smart Grid Proceeding which is currently in  
4 Phase III. Some of the goals in that proceeding  
5 are to address issues of access. They are  
6 developing a streamlined and consistent procedure  
7 by which non-commercial third parties can request  
8 access to customer usage information, the data  
9 will be either aggregated and/or anonymized  
10 consistent with PUC policies and state law, and  
11 also be comparable across the utilities. There's  
12 a lot of leg work going into this right now among  
13 the parties participating in that proceeding and  
14 they include both customer advocacy groups and  
15 privacy advocates, as well as the utilities and  
16 other public entities.

17 It also has a process by which disputes  
18 between utilities and noncommercial third parties  
19 can resolve their issues. I know that's been a  
20 problem in the past that there's a logjam when a  
21 dispute comes up and there's no recourse for kind  
22 of breaking through it, so that's another thing  
23 that they're looking at. Also, they're looking  
24 at developing some standardized nondisclosure  
25 agreements, so we can streamline this process of

1 data access for the more granular information  
2 that may be needed by academic institutions or  
3 others. So those are one of the things that are  
4 going and the nexus again with AB 758 is allowing  
5 this streamlined access to the data for all  
6 implementers to be able to meet AB 758 goals.  
7 And was noted early, there are multiple players  
8 in this sphere, so we're going to need to make  
9 this information accessible to a wide range of  
10 players, not just regulators.

11           The other goals that they have in the  
12 Smart Grid proceeding right now is developing  
13 some more definitions about what aggregated data  
14 is and anonymized data -- that might sound like a  
15 real bore, but it's very important -- and they're  
16 also proposing recommendations for testing and  
17 piloting advanced algorithms that may be used to  
18 aggregate and anonymized data, and make it  
19 unidentifiable. There are really smart computer  
20 scientists who are working on these things, that  
21 have volunteered their time to fiddle around with  
22 the algorithms and I think that will come out  
23 with some widely applicable strategies for  
24 anonymizing and aggregating data that will make  
25 it all the more accessible and still very useful.

1           And then finally, it will allow the  
2 process and adopted policies to have a chance to  
3 work themselves out and create an ongoing group  
4 of representatives of these interested parties to  
5 kind of keep the conversation going because, as  
6 we've seen in data and information technology, in  
7 general, it evolves very quickly and things  
8 change in terms of how much information people  
9 are willing to share, what sorts of software  
10 tools are available to access the information,  
11 etc., and we feel that if we stop the  
12 conversation here, we'll be outdated within  
13 weeks, and that probably won't be very  
14 advantageous to anyone in the industry. So,  
15 again, that nexus is enabling an ongoing  
16 discussion over data access and security issues  
17 as the world changed.

18           The final page here was just -- I'm  
19 constantly trying to get the word out about what  
20 data is available about energy efficiency  
21 activities that we are providing. Our annual  
22 progress and evaluation report is available at  
23 this link. The '06-'08 evaluation report and our  
24 public dataset, which is not real widely known,  
25 but every participant that was engaged in the

1 '06-'08 programs is available -- you can see the  
2 entire dataset for all four utilities from our  
3 website. It is anonymized so you can't see who  
4 they are, but you can see what they did and where  
5 they participated and you can download the access  
6 databases to pour over that information. And  
7 then, of course, the EEGA site is still live and  
8 that's our best available resource right now, but  
9 by the end of the year we'll have another version  
10 and, of course, the archived evaluation studies  
11 since the early '90s can be accessed at  
12 CALMAC.org. That's all I had there -- oh, I  
13 guess I wanted to share one other thing, sorry --  
14 I forgot that I had this last pop-up, which is  
15 that California really has a long history of  
16 gathering data that's geared to understand  
17 progress, and I'm excited that AB 758 can  
18 leverage from that very strong foundation to  
19 really get off the ground quickly and maximize  
20 whatever dollars we have available to implement  
21 AB 758, we can head in the right direction from  
22 the beginning. Thank you.

23 MS. COLLOPY: After every segment, there  
24 will be an opportunity for comments and  
25 questions, so if you'd like to come up to the

1 front to ask a question, please do so -- these  
2 front microphones at the end of every row. And  
3 remember to bring a business card with you if  
4 you're not filling out a blue card, so you can  
5 give it to the transcriber next to us.

6 MS. LONDON: Hi. I'm Jody London with  
7 Local Government Sustainable Energy Coalition. I  
8 really want to thank both of you for the work  
9 that you have been doing on this. Access to data  
10 is so critical. I personally have been extremely  
11 involved in the work that's been going on in the  
12 Smart Grid Proceeding around the energy use, all  
13 the things that you just described, Carmen, and I  
14 know, Christine, we've worked with your group, as  
15 well. When we submit our comments, we'll include  
16 some documents that we've developed in the  
17 working group context, I think would be helpful,  
18 but I really want to impress upon you that  
19 there's a couple of things that are additionally  
20 important to them, one is that the data be  
21 manipulable (*sic*), so we need to be able to take  
22 the data, and you talked about this, that whole  
23 idea of segmentation; getting flat data isn't  
24 helpful to us, it doesn't allow us to really  
25 identify where a program is working and not

1 working. And then the other piece is making sure  
2 that there's someone who owns that process of  
3 actually providing data timely to people who need  
4 it and who have signed the appropriate non-  
5 disclosure agreements, so we're real excited to  
6 keep working on that with you, but I just wanted  
7 to really highlight that we like the direction  
8 that you're going and we're really looking  
9 forward to seeing how we can continue to improve  
10 upon that. Thank you.

11 MR. POPE: Ted Pope with Energy Solutions.  
12 I also share the excitement over data, I agree  
13 that it's a huge opportunity and really will  
14 unleash market forces. I have one question, I'm  
15 having trouble lurking at all the right  
16 proceedings these days and I know in the  
17 financing one there was a lot of discussion about  
18 the need for data, not just loan performance  
19 data, but I think there was also sort of side  
20 discussions about energy efficiency measured  
21 performance databases, and I'm curious whether  
22 that proceeding will just take advantage of what  
23 we're talking about here, or do we think there  
24 will be a separate initiative that supports the  
25 \$200 million finance hub kind of project? What's

1 the thing there?

2 MS. BEST: I can't answer that completely  
3 right now, Ted, but I can tell you that we are  
4 working with them. So we have the Data  
5 Coordination Group within my team, which Amy  
6 Reardon is the lead, and then we have a financing  
7 counterpart within the Energy Division which is  
8 working on that, so the two of them are  
9 connected, but we haven't really focused on that  
10 too much yet, but it's definitely on the radar  
11 and we'll be touching on that going forward.

12 COMMISSIONER MCALLISTER: I would suggest  
13 that probably Jean -- well, Michael, or Jean  
14 Lamming, or Jeanne Clinton could probably talk  
15 about this, as well.

16 MR. COLVIN: This is Michael Colvin,  
17 Adviser to Commissioner Ferron. In answer to the  
18 data and financing question, I think Carmen is  
19 absolutely right, the Commission will be speaking  
20 more to this point soon. The one thing that I  
21 would just observe for when it comes to financing  
22 data is that, while there's all the same goals  
23 that AB 758 shares, there's also a secondary  
24 audience which is the financial institutions, and  
25 so there might be some additional things that the

1 Venn Diagram for AB 758 data purposes and  
2 financing purposes is not 100 percent there, is  
3 going to be a slightly different audience, and so  
4 there might be some additional requirements that  
5 we're going to be thinking of for that audience.  
6 But there is certainly going to be leverage.

7 MS. COLLOPY: And I apologize, before we  
8 go on with questions, I'd like to open it up --  
9 apologies to the Chair and Commissioner  
10 McAllister, I'd like to open up any comments or  
11 questions to you. And then we're going to do the  
12 room. And those on Web, just know that we will  
13 be releasing mute and asking you for any comments  
14 or questions you may have. So please use the  
15 raise your hand feature on WebEx and we will get  
16 to you as soon as possible, but I'm going to go  
17 ahead and turn it over behind me for a moment.

18 COMMISSIONER MCALLISTER: Thanks,  
19 Christine. And apologies to those who are  
20 waiting at the mics there. So, yeah, I want to  
21 just sort of chime in with my enthusiasm on this  
22 topic. I'm really happy that we're all getting  
23 aligned on this and I'm also super happy to see  
24 kind of it's dawned on me, or I've realized all  
25 the existing sort of resources that are there at

1 the Commission that have just kind of not -- you  
2 know, partly not ready for prime time, but just  
3 sort of not intended -- they've been evolving and  
4 they've been kind of getting ready for the moment  
5 to where they can sort of go out into the world.  
6 And it's really great to see that that moment is  
7 getting nigh. So that's good news.

8           From my perspective, having worn a lot of  
9 hats over the years and wanting to develop  
10 insight into the market, and like I said at the  
11 beginning, the market is going to do this, right?  
12 Regulators are not going to do this, the  
13 marketplace is going to -- you know, the guys  
14 with the white trucks who are going to go around  
15 and sell a job to a customer and install that job  
16 and make a customer happy, and make some money in  
17 the process. There's usually no other path, that  
18 has to be the core activity that we're all trying  
19 to promote here. In order to do that, we saw it  
20 in the CSI database, I go back to that because  
21 it's really the most recent, most concrete  
22 example of a marketplace that has grown  
23 tremendously and has been assisted by the  
24 availability of insight of data, that enables,  
25 even if it's aggregated and sliced and diced in

1 certain ways, and it's very I think relatively  
2 good quality data, you can bicker about some of  
3 the cost stuff and everything, but for sure that  
4 database has enabled a couple of things, 1) the  
5 market -- anybody who wants to look at that data  
6 can download the Excel spreadsheet that's got all  
7 the project information at the individual project  
8 level and do analysis on it. They can do  
9 longitudinal analysis on it, they can look at the  
10 market evolution, they can do it geographically,  
11 they can look at the cost trends, lots of  
12 information in there that, you know, I don't even  
13 know what all the questions are that they might  
14 want to ask, but they can ask them and anything  
15 that occurs to anybody that they can ask, they  
16 can go in there and see if they can answer the  
17 question. So that is something that I think is  
18 just a foundational resource. And any equivalent  
19 in the energy efficiency realm is going to be  
20 quite a bit more complex. That database is  
21 relatively simple, it's only solar, it is  
22 basically a flat resource. But the second thing  
23 it enables is to really notice market trends  
24 quickly because it's up to date, so an online  
25 application in the solar sphere resulted in up to

1 date, relatively high quality data available for  
2 anybody who wanted it. And even for the program  
3 administrators, it was key, right, to be able to  
4 notice, okay, well, when the PPA model and the  
5 leasing model came up, some clear trends  
6 happened, and within a couple of months, you  
7 know, it can be detected. And then, if there  
8 were policy decisions to be made based on that  
9 information, then we were all in a better  
10 position to sit down, talk about it, and figure  
11 out what to do. And innumerable cases of that  
12 actually occurred as the solar program marched  
13 along. And so something similar for energy  
14 efficiency, I think, is just invaluable.

15 I mean, we're in the 21st Century, data is  
16 just of primary importance, the ability to deal  
17 with big data is actually higher than it's ever  
18 been, and certainly, I mean, we're seeing  
19 internationally globally the privacy and sort of  
20 all these concerns are really coming to a head at  
21 the moment, which I think we all need to heed,  
22 you know, keep in mind.

23 But there are just so many possibilities  
24 here and there's so much potential for good on  
25 this, I think that we really have a good team

1 together to work through these issues and get to  
2 a point where it's going to be very impactful and  
3 allow this marketplace, as Jean mentioned, allow  
4 this tremendous market activity to grow, thrive,  
5 and take place in California.

6           So you know, at various moments I've  
7 shared Jody's frustrations with data and many of  
8 other folks' here in the audience, and I want to  
9 draw two distinctions, one is between the  
10 agencies and everybody else, so the agencies are  
11 behind the data firewall, so the access for us  
12 means something different than it does for out  
13 there in the world, and those are two relatively  
14 different discussions, maybe they're linked in  
15 some way, but you know, when it comes to sort of  
16 the Energy Commission's data gathering authority,  
17 that really is about the data that we get access  
18 to. Then, the next step of that is, okay, well  
19 how then to turn around and push the right data  
20 out into the world so it can be useful for  
21 people, and I think it's not the same discussion  
22 necessarily.

23           And then I would also just point out that,  
24 you know, largely when we did the thought leaders  
25 a couple months ago now, the thought leaders'

1 discussion about data, largely I was taking pains  
2 and still am to be talking mostly about non-Smart  
3 Meter data, and I think as soon as you start  
4 talking about sort of real time Smart Meter data,  
5 you get into some sticky issues pretty quickly  
6 and that's what is in the Smart Meter Proceeding  
7 over here at the PUC, but you can tell a lot  
8 about the market evolution with monthly billing  
9 data in the traditional sense, and I think a lot  
10 of times that's enough to do a lot of important  
11 things and certainly enough to inform some of the  
12 key policy decisions of the day. Now, if you're  
13 trying to talk about load management, you know,  
14 Demand response, really short term stuff, peak  
15 reduction and stuff, then you need to get into  
16 the more time of use and interval data. But I  
17 think let's keep in mind that all data is not  
18 created equal. And in that sphere, I think there  
19 are some really powerful tools that are coming up  
20 that do leverage Smart Meter data within the  
21 customers' realm, so pushing the green button, or  
22 whatever the version of that that is going to be  
23 most practicable, to then leverage the knowledge  
24 out there and in the cloud, and to get actionable  
25 information and recommendations in front of the

1 customer without necessarily reporting the data  
2 itself, but doing that within the realm of the  
3 customer sphere.

4           So this goes a lot of different  
5 directions, but I think there's no excuse for not  
6 having our ducks in a row with respect to market  
7 intell that is reasonably innocuous and just  
8 having very up to date, consistent longitudinal  
9 quality data available to folks who need it to  
10 build their businesses, there's no excuse for not  
11 having that. And I think that's kind of where I  
12 get my feathers ruffled a little bit when we get  
13 bogged down in some of these discussions. We  
14 need to solve this problem and get it done, and  
15 then go forward. So whatever we have to do to  
16 sort of make this ready for prime time and get a  
17 once and for all kind of, okay, here's the  
18 structure, let's move forward, I think, you know,  
19 we're California, we've got to be able to do  
20 this, I just won't believe that we can't do this.  
21 So I really appreciate all the collaboration, I  
22 know that a lot of people are now working really  
23 hard on this at both Commissions and beyond, and  
24 I'm really paying attention and looking for it to  
25 getting to an end result, and I know many of the

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1 people on the team and I'm really happy that  
2 they're on the case here. So, thanks.

3 CHAIRMAN WEISENMILLER: Great. I was  
4 going to say, as the Commission Scientist,  
5 obviously I tend to love data and the old truism  
6 of knowledge is power, that I think this is a way  
7 of empowering decision makers and the market to  
8 understand the trends. So, again, keep up the  
9 good work.

10 MS. AWTREY: Okay, are you ready? Okay,  
11 go ahead.

12 MR. MURRAY: Hi. Michael Murray. I'm a  
13 CEO of Lucid, a software company in Oakland.  
14 Thank you for mentioning Green Button, my company  
15 was one of the first to support that for  
16 commercial buildings, and so it's something that  
17 I've been very very passionate about and I do  
18 think it has transformative potential if you can  
19 lower the cost of accessing customers' data.

20 But my question is about I guess the  
21 status with the Public Utilities Commission on  
22 some of the Data Access Proceedings. It seems  
23 like there's a couple that are involved, one is a  
24 customer data access proceeding, there's another  
25 one that's part of the Smart Grid OIR, I don't

1 know if those are different things or the same  
2 thing. But the CEC obviously, you just heard,  
3 has a great interest in getting a lot of this  
4 consumption data and making that available to the  
5 marketplace, but my understanding is that a lot  
6 of that is held up because the CPUC has not ruled  
7 yet on the utilities' liability for the third  
8 parties' breach of customer data, and that's like  
9 *the* big sticking point that's holding back a lot  
10 of progress in this area, particularly the Green  
11 Button connect implementation with the IOUs in  
12 California. So if you have any insight on when  
13 that decision might be expected because I think  
14 this could kind of be the lynchpin that aligns  
15 together a lot of things, you know, we'd all like  
16 to be able to do things with data, but if you  
17 don't have access to it with a customer's  
18 consent, because the utilities think that they're  
19 liable for a breach, then it's not going to  
20 happen.

21 MS. BEST: And just to clarify, I believe  
22 that those two proceedings that you're talking  
23 about are actually both being handled in the  
24 Smart Grid Proceeding, or the OIR, through the  
25 OIR right now, but I can't comment on when there

1 will be a final decision, I just -- a) I don't  
2 know, and b) I couldn't even if I did know. But  
3 timelines, I'm not real sure what the exact  
4 timeline is right now. But I would encourage you  
5 to sign up for the Service list for that OIR so  
6 you can get regular updates on this.

7 MR. MURRAY: Yeah, I'm on it. Thank you.  
8 Yeah, I just wanted to mention I think that's the  
9 -- if the liability question is not answered, it  
10 will be very very hard to make progress in this  
11 area.

12 MS. COLLOPY: And you're welcome to submit  
13 comments, too, that would be great.

14 MR. SCHMIDT: Hi. Steve Schmidt from HEA,  
15 we used to be called High Energy Audits, we  
16 changed our name to Home Energy Analytics. And  
17 we've been analyzing residential Smart Meter data  
18 for as long as Smart Meters started being  
19 deployed by PG&E. And I want to applaud the  
20 Commission on this latest plan, it's wonderful to  
21 really embrace all this new data that we get from  
22 the 10 million or so Smart Meters out in  
23 California. It will make the overall energy  
24 efficiency process so much more cost-effective  
25 once we can use that data and analyze homes or

1 buildings using their actual data, instead of  
2 trying to model homes. We've been involved in a  
3 couple of different ARRA pilots, the one that's  
4 most effective, or most appropriate, is down in  
5 Mountain View where we've got a thousand  
6 homeowners, which turns out to be about 10  
7 percent of the single family residences in  
8 Mountain View, to sign up for a program where  
9 online they received analysis of where their  
10 energy goes in their homes. And with Smart Meter  
11 data, you can do that remotely. The cost-  
12 effectiveness is tremendous. So you can identify  
13 in individual homes whether the energy is going  
14 towards heating and cooling, or whether it's  
15 going to plug loads, or whether it's going to  
16 behavioral issues.

17 My comment is that there's two different  
18 issues related to data management, one is in  
19 terms of aggregate data management like the CSI  
20 which has been incredibly effective, or the heat  
21 maps that have been used in Fresno, but that is  
22 aggregate data, or it should be aggregate data.  
23 I think there should be a lot of focus on that.

24 The other issue which the gentleman from  
25 Lucid just mentioned is what we've been focusing

1 on, and it has tremendous opportunities to make  
2 our overall process much more efficient, and that  
3 is when a homeowner or a building owner gives a  
4 third party access, or approval to access this  
5 data. And what we saw in Mountain View is that  
6 they're okay with a trusted third party. A  
7 thousand people signed up and gave us access to  
8 their detailed Smart Meter, they have us access  
9 to information about the occupancy of their  
10 homes, answered questions about how many TVs,  
11 Playstations they had, they're willing to do  
12 that, but I don't think they will be willing to  
13 do that if they think that that information is  
14 going to end up in a big database somewhere, so  
15 just please keep that in mind. And, Commissioner  
16 McAllister, your comments were dead on, I think  
17 that sounded great, I didn't read that in the  
18 document, so maybe it could be expanded a little  
19 bit. Thank you.

20 MR. NESBITT: George Nesbitt, a HERS  
21 Rater. I want to talk about consistency of data  
22 and programs. I think in California we've had a  
23 real big problem because, a) we have a two-headed  
24 monster, we have CPUC and we have CEC, and they  
25 have sort of -- they're connected to the same

1 body, but they control different things, and then  
2 each of those heads isn't consistent within  
3 itself at times. So take CSI and NSHP, we're  
4 talking about PV, yet totally different processes  
5 for the same thing, different processes mean  
6 different data, means different databases. The  
7 CEC has a calculator to help assessors value a PV  
8 system on a house, right? Great idea, right?  
9 You go to sell it, you'd like some value out of  
10 it. We have the NSHP data, but not all the CSI  
11 data, which goes to the whole privacy thing which  
12 I'll get to. We've got Energy Upgrade  
13 California, a statewide program, yet all kinds of  
14 different administrators, and they handle the  
15 same data with different databases, and some can  
16 handle some things and some can't. So you've got  
17 internal problems there. The HERS system -- I'm  
18 a HERS Rater, right? So what do we do? We make  
19 every provider develop their own registry, their  
20 own database. RESNET nationally developed a  
21 central database. We're talking about the same  
22 information, it's expensive for everyone to do  
23 that. Every time someone has to develop something  
24 new, every time you want to integrate another  
25 piece of software in something, there's going to

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1 be problems, and there are. So, you know, so we  
2 have like HERS data, but, well, I can't tell you  
3 how many duct tests were done in California ever,  
4 right? Where's the data? So privacy, having  
5 data, having access to data, we've been hiding  
6 behind the whole privacy. What's the violation  
7 of a customer's privacy to give utility data that  
8 doesn't have a name or an address on it? Yet  
9 we've been hiding behind this for a decade and we  
10 have like no credible case studies because we're  
11 all hiding behind privacy. So, you know, and  
12 without data obviously we can't make the  
13 decisions, we don't know what we're doing, blah,  
14 blah, blah, so...

15 MS. GOODHILL ROSEN: Hi. Gina Goodhill  
16 Rosen from Global Green USA. I just first of all  
17 want to thank the Commission and the CPUC, I know  
18 there's been a lot of hours that have been spent  
19 putting this together, so thank you. I'm really  
20 excited to see data reporting and collection as  
21 part of the Plan, I think it's one of the  
22 categories that we need and, as you already  
23 suggested, the market probably won't be able to  
24 do on its own. I don't know if you've decided  
25 exactly which categories you're going to be

1 collecting data on yet, so clearly there will be  
2 things like energy consumption I'm expecting, but  
3 one thing that I think Global Green would really  
4 recommend you consider is building condition,  
5 sort of non-energy benefits. I know it's not  
6 quite as easy to collect data on, but things like  
7 acoustics, comfort, indoor air quality, I think  
8 that's the sort of information that actually  
9 really sells the building owner at the end of the  
10 day and if you've looked at marketing, if you've  
11 looked at why people do these upgrades, that's  
12 the kinds of things that people care about. And  
13 that would be fantastic to have more information  
14 on to see what the changes look like.

15           And so I don't know if you know sort of  
16 what tools you're going to be using, we have some  
17 suggestions that we'll probably include in our  
18 written comments, but it seems like a really  
19 important thing as long as we're starting from  
20 the beginning with this to include.

21           MR. ASHUCKIAN: We have one comment on the  
22 Web. Let's go to the web person next. Sophia  
23 Hartkopf.

24           MS. HARTKOPF: Hi. This is Sophia  
25 Hartkopf calling. I'm with TRC, formerly HMG.

1 And we're program implementers. I just have a  
2 comment related to the disclosure discussion that  
3 was brought up earlier about a goal to require  
4 participants and programs to collect data on  
5 actual energy usage post-retrofit. And I am  
6 absolutely excited about the prospect of us being  
7 able to analyze post-retrofit data as a result of  
8 energy upgrades that are performed throughout the  
9 state, but one point of caution and potentially  
10 -- or maybe just a comment related to that data  
11 collection is related to the timing. One of the  
12 challenges that we've had, or we've faced running  
13 multi-family programs where there are larger  
14 rehabs that take potentially upwards of a year of  
15 time to complete is, by the time the project  
16 completes, the program has completed and we don't  
17 have a sufficient timeframe to collect any kind  
18 of post usage data because the program cycles are  
19 too short. So one of the things that I just  
20 wanted to bring up to encourage everyone to  
21 consider is, if we want to have programs where  
22 we're tracking post-energy usage, we really need  
23 to start thinking about lengthening those  
24 timeframes and also figuring out who is going to  
25 pay for that data collection, it's something that

1 can be very costly, especially for larger  
2 buildings and more complicated buildings with  
3 multiple tenants, and it's certainly not an easy  
4 process to collect all that post-usage data,  
5 especially when you start getting into individual  
6 tenant spaces, rather than just common areas.  
7 Thank you.

8 MS. AWTRY: Thank you.

9 MR. CHANGUS: Jonathan Changus from the  
10 Northern California Power Agency. Just a couple  
11 of points -- very excited, I guess, to see this  
12 start to roll out and interested to see how much  
13 of the existing data reporting that is currently  
14 done will be included; for example, we just  
15 completed in March a report pursuant to SB 1037  
16 which outlines for all of public power in the  
17 state energy savings from their programs for the  
18 last year, as well as this year was a 10-year  
19 forecast out, and so we've been in contact and  
20 multiple communications with the Energy  
21 Commission staff about how we can improve that  
22 report to pull out the more poignant parts in  
23 seeing how does that dovetail to this either  
24 building off of that for additional data  
25 reporting, or are there things that we can do

1 under that report that is sufficient? And the  
2 second point, I guess, and we'll hopefully be  
3 submitting comments on this, too, is "data" is a  
4 four-letter word that has many meanings to many  
5 folk, and so whether it's forecasting out demand  
6 and what we can expect to save from energy  
7 savings, whether it's from utility and evaluating  
8 programs on an annual basis to see what's being  
9 effective to customers and finding out what they  
10 need, and then third-party vendors, trying to  
11 identify what they need kind of pursuant to what  
12 Commissioner McAllister spoke to earlier. I  
13 think as this proceeding goes forward, it would  
14 be helpful to understand when seek data  
15 collection we understand its meanings and what  
16 it's going to entail and how we plan to use it  
17 going forward would be, I think, very helpful to  
18 learn a little bit more about.

19 MS. AWTRY: Thank you.

20 COMMISSIONER MCALLISTER: Thanks,  
21 Jonathan. I guess, you know, at some point --  
22 maybe I'll just throw this out there, that I  
23 think there's a need, you know, to Steven  
24 Schmidt's comments, as well, there's a need for a  
25 taxonomy of what it is we're really talking about

1 because I think we can verbalize all we want, but  
2 until you really show it and sort of put it down,  
3 I think we're going to be explaining over and  
4 over again, and maybe not even on the same page  
5 generally. So it would be good to have a  
6 taxonomy of what kinds of data we're talking  
7 about going into what box because I think, if we  
8 let this discussion sort of get polluted with  
9 some of the longer term stickier discussions  
10 about privacy, I mean, there's clearly a privacy  
11 component to this particular discussion, but we  
12 don't have to bite off -- we don't have to take  
13 the whole bite, we can bite off just the  
14 appropriate part, so it would be good to have a  
15 taxonomy. Maybe we can build that into the final  
16 Action Plan.

17 MS. BEST: Maybe a follow-on suggestion  
18 there, too. On the EEGA website, we do have all  
19 the specifications for the types of data that  
20 we've been collecting from the utilities. That  
21 might be -- and I can forward that link because  
22 it's a little bit hard to find, but that might be  
23 -- oh, sorry -- I was just saying that the Energy  
24 Commission does provide a public view of all the  
25 data that we've been collecting from the

1 utilities and that might be a helpful starting  
2 point to frame that discussion, and then build on  
3 it, so I can provide that link both for the  
4 follow-up to this workshop and then, of course,  
5 Christine and Amy and I will be working on this a  
6 lot together.

7 MS. KIRKEBY: Hi. I'm Megan Kirkeby from  
8 the California Housing Partnership. I want to  
9 echo all the others who thanked data for being  
10 part of this, it's certainly a big part of the  
11 process. And I also want to echo Sophia  
12 Hartkopf's comments about recognizing that multi-  
13 family has a particular role here. You mentioned  
14 program evaluation data for that method early on,  
15 I think we see it as very important and just very  
16 helpful if multi-family is often called out in  
17 program evaluation. Often when we review how the  
18 low income programs are working, or the general  
19 energy efficiency ratepayer programs, it's hard  
20 to separate how well are they serving multi-  
21 family from just generally. But then a big other  
22 piece that was mentioned here today is from the  
23 consumer perspective, maybe a multi-family  
24 building owner, for example, you want to be able  
25 to use that data on a more granular level, really

1 evaluate -- you might be a multi-family building  
2 owner of 15 or 20 properties and trying to decide  
3 what in your portfolio you want to work on, and  
4 even right now, even if it's a master metered  
5 building where the privacy barrier shouldn't be  
6 an issue, there are still big barriers in terms  
7 of uploading that data and getting past some of  
8 the technical barriers. But then, even when you  
9 move into the individually metered, we still have  
10 a lot of work to do, echoing some of what others  
11 said, where you have residents who would gladly  
12 share information, but there's no clear cohesive  
13 path to allowing your building owner to see your  
14 energy usage and maybe identify problems that  
15 could be saving you money. So I think getting  
16 there is really critical for the multi-family  
17 sector. Thank you.

18 MS. WATTS ZAGA: Hi. I'm Camille Watts  
19 Zaga with the Division of Ratepayer Advocates  
20 here at the CPUC. And thank you, Carmen, for  
21 just listing out those sources right there, I  
22 think, you know, when you get a list of available  
23 sources in one place, it's always great, but I do  
24 want to encourage for this Action Plan  
25 specifically is to maybe put in a few more

1 interim bite-sized pieces on this data issue  
2 because, you know, this is sort of an issue that  
3 people can't disagree about, but getting from  
4 where we are with the list of a couple sources to  
5 the visions that are being expressed in the Smart  
6 Grid Privacy Proceeding, and here and there, are  
7 really I think not to be underestimated and what  
8 I'd like to suggest, just because DRA does have  
9 the advantage of looking behind the firewall,  
10 sometimes at the agency data and then also from  
11 the public perspective, is that you just take one  
12 or two programs implemented by different  
13 administrators and start with trying to combine  
14 the data tracking from just a couple different  
15 programs because we've been attempting to do  
16 that, say, you know, something from ARRA with  
17 something with WAP, and just getting those two  
18 different administrators to get something  
19 together could be a nice bite-sized way to do it,  
20 and you could also take the bite-size behind the  
21 firewall that only the agencies can see, which  
22 doesn't sound so appealing for people who aren't  
23 behind that firewall, but the reason I suggest it  
24 is because if you can at least do that, then you  
25 might be able to turn something around that's

1 useful for the public, too. So these bite-sized  
2 pieces I think are what are eluding us, and you  
3 can also start with, say, CSI which people like,  
4 and then try and match that with how many of  
5 those same buildings have taken advantage of the  
6 multi-family rebates, even the cross between EE  
7 and CSI might be a really important place to  
8 start. Or one last suggestion is, within one  
9 utility that administers a couple different  
10 programs, ask them to combine some programs and  
11 see which buildings have overlapped and then  
12 making one database out of two programs, because  
13 we have asked that question and it seemed  
14 difficult, even within that same utility, so I  
15 think those bite-sized pieces are really -- may  
16 be a good way to go.

17 COMMISSIONER MCALLISTER: Thank you very  
18 much. And I would just add, actually, we've gone  
19 through a lot of generations of energy efficiency  
20 programs in the state and we, I think, you know,  
21 we've got a structure, the 80/20 where the  
22 utility portfolio is about 80 percent, there's a  
23 certain percentage that gets bid out to third  
24 parties, and so even within one utility service  
25 territory, you've got a real monopoly of efforts

1 going on which is a good thing. We ought to be  
2 able to -- so that generates a whole bunch of  
3 participation in those programs, and so you get  
4 participants, okay? But with the sort of  
5 maturation of this, you get a baseline -- you get  
6 impacts that are increasingly difficult to  
7 disaggregate among different efforts, and so  
8 you've got this shifting baseline around, you  
9 know, many people in the room kind of appreciate  
10 that; you've got a whole bunch of different  
11 decisions that are being made with or without  
12 participant and programs. You know, you've got a  
13 lot of impacts that are there, but are difficult  
14 to tease out if you're only focusing on the  
15 participants. And so I know the standard EM&V is  
16 to also incorporate non-participants to sort of  
17 gauge the impacts.

18           So I think I want to sort of jack the  
19 discussion up a little bit to a higher level and  
20 say, look, we have AB 758, we have these long  
21 term goals in the state for energy intensity, for  
22 energy consumption overall, for carbon  
23 reductions, you know, there's interplay with RPS,  
24 say, on the carbon intensity of the electric  
25 system, you know, there are long term trends that

1 we need to be able to track, and we need to be  
2 able to link those at some level to whatever  
3 influence, whether it's energy efficiency  
4 programs or not. And so I think there is a  
5 understanding of the patterns of electricity  
6 consumption, generally, and not even just as it  
7 relates to program participation, is something  
8 that we need to be able to do, and so that  
9 essentially is, you know, we need to figure out  
10 what metrics and what data we need to then  
11 calculate those metrics, to monitor those metrics  
12 going forward in a very rigorous way. We need to  
13 put in place for AB 758 because we have long term  
14 goals here for the energy intensity, essentially,  
15 of the existing building stock, and so that is  
16 actually somewhat of an independent question of  
17 like what particular programs achieve or not;  
18 there's going to be, you know, latent decision  
19 making if we're successful in igniting the  
20 marketplace and they're going out and they're  
21 selling jobs and maybe they're not even  
22 participating in programs. We've got to sort of  
23 be able to also see that happening. And so I  
24 think what I would really like people to opine on  
25 is what kind of metrics would actually be the

1 good ones and maybe we can list a few, right, is  
2 it number of qualified contractors? Is it number  
3 of jobs? Is it cash flow of jobs? Is it percent  
4 permitting that is being achieved? Is it -- you  
5 know, what are they exactly, other than energy  
6 intensity kinds of metrics? I think there are  
7 lots of ways we could gauge the success of AB 758  
8 as a program and we'd love your thoughts about  
9 what that could look like and how we would go  
10 about measuring it over time.

11 MS. COLLOPY: Thank you, Commissioner.  
12 We're going to take one more question in the  
13 room. If you're on the phone through WebEx, we  
14 have 70-80 participating over the WebEx, so we  
15 are unable to take you all off mute at one time  
16 because of the feedback, so please put either  
17 your question or your name in the comment area,  
18 or raise your hand. Tiger?

19 MS. ADOLF: Tiger Adolf with Building  
20 Performance Institute. I commend the staff on  
21 all the work you've done putting this plan  
22 together, really an amazing job. And I want to  
23 echo what Commissioner McAllister said about  
24 finding the bite-sized pieces. What do you  
25 really need to know? You need to define your use

1 cases, what are you going to do with this data,  
2 and how fast do you need what kind of data. You  
3 need to come up with that common taxonomy so that  
4 everybody is calling the same information the  
5 same thing, using common language that is defined  
6 across all of the different sectors, and then you  
7 also need to have data transfer protocol. One of  
8 the reasons a lot of contractors are not  
9 participating in the programs right now is  
10 because the complexity of transferring data from  
11 tools that they can use and trust into the  
12 program datasets, and that lack of ability to  
13 make that transfer, and then for the utility to  
14 go on and make that transfer into a common  
15 database is really a big breakdown in the system.  
16 So what California needs to do here is not just  
17 collect a bunch of data that's going to sit in a  
18 repository, but make sure that data can be shared  
19 and is useful not just within California, but  
20 globally. A lot of people are looking at the  
21 efforts that are going on here and that ability  
22 to share data and aggregate data in different  
23 ways is absolutely crucial. Thank you.

24 MS. AWTREY: Thank you.

25 MR. ASHUCKIAN: So I think that will end

1 our first strategy and we'll have Paula David  
2 come up and talk about Strategy 2 (*sic*), which is  
3 Foundational Marketing, Education, and Outreach.  
4 Again, I want to remind all folks that, if you  
5 didn't have a chance to comment, please submit  
6 your written comments to us.

7 MS. DAVID: Good morning, everyone. And  
8 thank you for coming. I'm Paula David and I'm an  
9 Analyst with the AB 758 Program at the California  
10 Energy Commission, and I'm here to present the  
11 chapter on Foundational Marketing, Education and  
12 Outreach Resources. It's our No Regrets Strategy  
13 3 in the Draft Action Plan. This Chapter was  
14 truly a team effort and before I get into the  
15 chapter itself, I wanted to give a shout out to  
16 Christine Collopy and Rory Cox from CPUC for  
17 helping with this chapter, also Patrick, thanks  
18 for some suggestions, and finally Conrad Asper  
19 and Tiger Adolf for some quotable scoping  
20 comments, thank you both.

21 Marketing, Education and Outreach  
22 activities get the word out. They provide the  
23 motivation to upgrade buildings with energy  
24 efficiency measures and devices. ME&O is one of  
25 the crosscutting elements of this Action Plan

1 because it is a component of several strategies  
2 addressed in other chapters. AB758 is already  
3 being implemented. Some programs have completed  
4 and the lessons learned related to ME&O are being  
5 incorporated into current planned and recommended  
6 activities. And ME&O supports both Demand  
7 response and compliance efforts.

8           Because the three terms are sometimes used  
9 interchangeably, I'd like to clarify the terms  
10 Marketing, Education and Outreach as they are  
11 used in the Draft Action Plan. Marketing is the  
12 process of communicating the value of a product  
13 or service to customers for the purpose of  
14 selling the product or service. The primary  
15 purpose is to attract customers. Education is a  
16 means of learning in which knowledge and skills  
17 are transferred from one group of people to  
18 another group through teaching, training or  
19 research. And then Outreach is the action of  
20 providing services or information to populations  
21 who might not otherwise have access to those  
22 services. Providers meet those receiving the  
23 outreach services at the locations where those in  
24 need are. Outreach often has an educational  
25 role, raising the awareness of existing services.

1           First I'll provide a short overview of the  
2 chapter. In order to meet California's energy-  
3 related goals, ME&O efforts must educate decision  
4 makers about the urgency of taking action to  
5 maximize the efficiency of the buildings for  
6 which they are responsible and, again, I'll  
7 emphasize the term "urgent." Also, to  
8 communicate the urgency and benefits of upgrades,  
9 we must create messages that motivate and deliver  
10 those messages in the most effective ways  
11 possible. For example, having contractors  
12 equipped with information about efficiency  
13 upgrade options and available financial programs  
14 to customers, customers who will need to replace  
15 worn-out equipment is one example. Also,  
16 information delivered to owners, managers and  
17 tenants must be credible, relevant, user-  
18 friendly, and accurate. And an example of that  
19 is really tied to data, our previous topic, data  
20 gathered about various efficiency-related  
21 programs, technologies, and measures is needed to  
22 create customized messages, and for planning how  
23 to deliver that information in the most effective  
24 manner.

25           As I mentioned earlier, AB 758 didn't just

1 begin with this Draft Action Plan, there were  
2 activities going on previously that have laid a  
3 foundation and have provided some best practices  
4 and lessons learned for us. For best practices,  
5 much has been learned from the Energy Upgrade  
6 California programs that were created in 2010,  
7 and that program, because it was an unprecedented  
8 investment in collaboration amongst state and  
9 local government and utilities, it set the stage  
10 for what we can continue to do from here on out.  
11 The Energy Commission invested millions of  
12 dollars of ARRA stimulus funds for a statewide  
13 ME&O infrastructure, and also to local ME&O  
14 efforts. And in that circle, a lot of those  
15 different programs, if not all, had Marketing,  
16 Education and Outreach funding components to  
17 those programs. Local governments leveraged U.S.  
18 DOE grants to pilot local Energy Upgrade  
19 California programs and to fund additional ME&O,  
20 while also California's IOUs delivered marketing  
21 efforts to their Ratepayers and customers.

22           After many ARRA programs expired, the CPUC  
23 decision was to expand the Energy Upgrade  
24 California brand from the residential statewide  
25 umbrella brand for energy information and

1 encouraging demand-side management actions,  
2 including demand response and distributed  
3 generation, by all residential and small business  
4 customers. Existing programs will join new  
5 programs as subprograms under the statewide  
6 Energy Upgrade California brand.

7           Looking at the future, the plan suggests  
8 expanding ME&O efforts to support additional  
9 efficiency upgrade efforts that benefit all  
10 building types from housing, for low income  
11 residents, to large industrial and commercial  
12 buildings, to public buildings.

13           We are motivated by the success of  
14 building efficiency programs here in California,  
15 as well as those offered throughout the U.S. and  
16 in other parts of the world. In all successful  
17 programs, there are elements of collaboration,  
18 leveraging, and leadership. Federal and State  
19 agencies, local governments, regional energy  
20 networks, utilities, contractors, raters, real  
21 estate professionals, financing entities,  
22 trainers, quality assurance agents, and advocacy  
23 groups must continue to work together to leverage  
24 resources, to collaborate, and to assume  
25 leadership roles.

1           There are two key strategies in the ME&O  
2 chapter, No Regrets 3.1 is about using Marketing,  
3 Education and Outreach to motivate building  
4 owners and managers to take immediate action to  
5 make energy efficient improvements. This  
6 strategy primarily focuses on how to conduct ME&O  
7 programs to achieve California's energy  
8 efficiency-related goals. Recent energy  
9 efficiency programs emphasize whole house  
10 upgrades, for example. This plan acknowledges  
11 the importance of incremental approaches and the  
12 message development and delivery tactics that are  
13 needed to address the additional segments.

14           No Regrets Strategy 3.2 is conducting ME&O  
15 as part of complementary power management  
16 programs for all building sectors. This strategy  
17 focuses on ME&O efforts to motivate those making  
18 decisions to upgrade building types not  
19 necessarily included in many of the recent and  
20 current upgrade programs. Both key strategies  
21 include operations management and demand response  
22 elements, as well as compliance elements.

23           Each strategy has several initiatives.  
24 The initiatives are the specific action items on  
25 how we're going to reach those goals, and the key

1 initiatives under No Regrets 3.1 are up here on  
2 the screen, and I'll go ahead and just paraphrase  
3 those real quickly. These initiatives recommend  
4 these action items: conduct additional market  
5 research for targeted message and delivery,  
6 target message delivery by prioritizing customer  
7 segments, build on the successes of Energy  
8 Upgrade California by supporting its expansion,  
9 and collaboration with providers statewide in  
10 leveraging existing programs in an efficient and  
11 effective way to conduct ME&O.

12           The rest of the initiatives under that  
13 strategy, there are four more, targeting messages  
14 regarding cost savings and property value  
15 benefits, focusing on common areas, for example,  
16 as a priority for multi-family or commercial and  
17 public buildings, that's one example; engaging  
18 the real estate industry to help develop messages  
19 relevant to their customers and to engage their  
20 assistance in delivering those messages; creating  
21 statewide programs to educate industrial and  
22 large building facility managers regarding  
23 benefits and behavior modification, and providing  
24 statewide outreach to public building managers  
25 regarding benefits and behavior modification

1 methods.

2           Here are the initiatives under No Regrets  
3 Strategy 3.2: as I mentioned earlier, they focus  
4 more on the future, not so much the specifics of  
5 creating the messages and delivery tactics, but  
6 expanding best practices and what's worked so  
7 far.

8           So just in summary, before the comments  
9 begin, I would like everyone to think about do  
10 these strategies address the barriers and the  
11 issues that you, all the various stakeholders  
12 here in the room and on the WebEx, are concerned  
13 with. We welcome your ideas. There's also an  
14 opportunity for written comments, as most of you  
15 know, and we will continue to refine the Draft  
16 Action Plan. And thank you for your interest. I  
17 welcome questions and comments about Marketing,  
18 Education and Outreach. First, do the  
19 Commissioners have any comments?

20           COMMISSIONER MCALLISTER: I'm looking  
21 forward to hearing what the public has to say. I  
22 think I sometimes make the mistake of getting my  
23 own opinion out there too early, and then  
24 everybody is like, oh, well, whatever, and then  
25 maybe we don't get as many people speaking out.

1 But this is a huge area of need and I think  
2 having the first initiatives say, look, we've got  
3 to understand this better, is kind of the  
4 Commission's feeling, but many of you out there  
5 have a lot of understanding about what gets  
6 people to make decisions and it's really all  
7 about that -- how can we help contractor,  
8 customer, come to a product decision? How can we  
9 really help the marketplace function? What is  
10 needed to do that? And so we want to be able to  
11 use your knowledge to be able to focus policy on  
12 the right things and I think we need your help to  
13 do that.

14 MR. ASHUCKIAN: We have a card from Tenaya  
15 Asan and I think this is probably an appropriate  
16 time.

17 MS. ASAN: My name is Tenaya Asan. I'm  
18 here on behalf of the Empowerment Institute, CEO  
19 David Gershon, and their California Cool City  
20 Initiative, which is a behavior change  
21 initiative. I'm going to be a little bit formal  
22 today because I want to make sure that I make all  
23 my points. The program is a nexus of ME&O and  
24 voluntary adoption, so I thought, yeah, this  
25 would probably be the best place to put it.

1           I think it's clear to all of us that the  
2 supply side of this problem is the easy part, and  
3 everybody has spoken to that; gaining  
4 participation, creating that demand is  
5 challenging and it's the area that we have  
6 actually the fewest answers. As I read the  
7 Scoping Plan or the Action Plan, there is,  
8 although most of the action to date is  
9 traditional marketing approaches, there is  
10 reference to peer to peer approaches, and that's  
11 what I want to talk about today.

12           I've been researching extensively peer to  
13 peer behavior change programs and I believe this  
14 is a critical point and a critical component to  
15 add to the marketing and to the strategy to gain  
16 traction. I think there's another critical  
17 component and it's hinted at the CCSE's 2013-2014  
18 Energy Upgrade California Marketing Plan, and I  
19 quote: "focusing on the needs of the consumer  
20 citizen to whom the behavior is marketed, rather  
21 than the benefits to the producer of any product  
22 or services, is what is needed." David Gershon  
23 has done tremendous research on behavior change  
24 and he says people's intrinsic needs are not  
25 energy efficiency, they're things like "how do I

1 create a better world for my children?" "How do  
2 I increase my social connections?" "How do I  
3 find more meaning and purpose in our lives?" And  
4 peer to peer programs can help to solve those  
5 problems.

6           So in this context, I want to introduce an  
7 innovative peer to peer behavior change program  
8 with demonstrated success throughout California,  
9 the nation, and the world. I'm going to read the  
10 remainder of this so that I make sure that I  
11 capture all of my comments. We will be making  
12 written comments, as well. "Unlike conventional  
13 top down climate action approaches, the Cool City  
14 Challenge is designed to work from the bottom up  
15 using community outreach and neighbor to neighbor  
16 peer support networks to empower citizens to  
17 reduce their carbon footprint through  
18 participation in structured behavior change  
19 programs such as the low carbon diet, which many  
20 of you may have heard of, with a peer support  
21 group of neighbors called Echo Teams."

22           So the results that they've received are  
23 pretty phenomenal. Working with 20,000 people,  
24 the Empowerment Institute Behavior Change Program  
25 and Community Engagement Strategy has been able

1 to get 25 percent average participation rate on a  
2 block by block basis with an average of 14  
3 percent energy savings by household. Multiple  
4 studies indicate that these behaviors have  
5 persisted over time.

6 Further research done by the Empowerment  
7 Institute has demonstrated promising results for  
8 overcoming many of the barriers of getting home  
9 energy upgrades. They did a pilot in San  
10 Antonio, Texas, and 41 percent of the 205  
11 households that participated in this peer support  
12 program did some sort of energy efficiency  
13 retrofit on their home.

14 So combined with this 25 percent  
15 recruitment rate results, it indicates that the  
16 approach is capable of achieving 10 times the  
17 success rate that we've had of door to door  
18 retrofit programs that are typically about one to  
19 two percent conversion rate -- at best.

20 Additionally, because the household  
21 recruitment and support is done on a voluntary  
22 neighbor to neighbor basis, with obviously paid  
23 staff support, this approach is comparable to  
24 major marketing campaigns, it's very cost-  
25 effective, and it's scalable.

1           So we will be providing you, as I said,  
2 full comments, but I wanted to introduce you to  
3 the work today. In final, I want to let you know  
4 that there are five cities here in California  
5 that have signed on, have written agreements that  
6 they would like to participate, those cities are  
7 San Francisco, Palo Alto, Davis, Sonoma, and San  
8 Rafael. The initiative would choose three as  
9 pilots with the intent to scale it.

10           As some of you know in the room, I've been  
11 actively engaged for seven years in advocacy for  
12 residential green building and carbon reduction  
13 in California. I know the barriers and the  
14 hurdles intimately. This program in my opinion  
15 provides an extraordinary opportunity for us,  
16 it's synergistic with all of the other work that  
17 we do, and it fills some of the gaps, including  
18 plug loads, that we've been talking about. So I  
19 encourage the Energy Commission, the CPUC, the  
20 Commissioners, to really look at this and other  
21 peer to peer programs. And I'll be happy to  
22 provide additional information whenever I can.  
23 Thank you so much.

24           MS. GOODHILL ROSEN: Hi again. Gina  
25 Goodhill Rosen with Global Green. A couple of

1 comments, one just on general overall marketing  
2 and a larger view. This kind of goes back to  
3 something that I was going to bring up at the  
4 end, but we really think that the marketing needs  
5 to be connected to some sort of broader goal for  
6 AB 758, and that the best way to do that would be  
7 to have the policy goals drive the marketing.  
8 So, for example, to have the CEC determine in  
9 order to meet our energy goals, we need to reach  
10 X number of buildings and we need to have X  
11 number of those buildings actually do retrofits,  
12 and then from that figure out, okay, to reach  
13 that many buildings, how do we need to design the  
14 marketing to do that? So I think looking at  
15 marketing as really a very very broad right from  
16 the beginning system would really help the  
17 program overall.

18           And then more specifically, I noticed in  
19 the plan that you guys mentioned the need for  
20 early adopters, I think I read that same report,  
21 definitely agree that it's a good approach, but  
22 overall this program clearly needs to reach every  
23 building type beyond just the early adopters, and  
24 I'm curious to know what the marketing plan is to  
25 reach everyone, not just the people who are most

1 likely to take action. Traditional marketing, I  
2 think, as actually the person who was just  
3 commenting mentioned, doesn't work in a lot of  
4 areas that we work with, for example, Affordable  
5 Multi-Family Housing, it really does require more  
6 peer to peer, and so I'd really like to see that  
7 be implemented.

8           And then finally, I didn't notice  
9 environmental nonprofit groups as one of the  
10 stakeholders, I just want to throw out there, not  
11 to be biased, but we really do -- environmental  
12 groups in general I think have a lot of history  
13 marketing the importance of energy, and more than  
14 that I think we're really trusted in communities  
15 that more traditional agencies are not trusted  
16 in, and so really utilizing the trust and the  
17 experience that nonprofit environmental groups  
18 have in this effort, I think, is going to be key,  
19 especially to getting to nontraditional  
20 communities. Thanks.

21           MR. SCHMIDT: Hi. Steve Schmidt again  
22 from HEA. We've had a lot of experience with  
23 marketing and outreach in our programs. I  
24 mentioned the one from Mountain View, that  
25 program just finished in December, so you might

1 not have seen the final report, it didn't come  
2 out until early February, but we had a lot of  
3 success in that program. The folks in Fresno, I  
4 think, also concluded the same thing, that  
5 lowering the bar for participation in energy  
6 efficiency program, especially for homeowners, is  
7 critical. So requiring a \$400.00 HERS audit  
8 doesn't make a whole lot of sense as a first  
9 step. What we found is, beyond the first step of  
10 lowering the bar, secondly educating them about  
11 their particular building's energy use is  
12 critical and gets them involved in the process.  
13 And the third thing is to provide recommendations  
14 for them that are specific to their home, so  
15 homes where heating and cooling is the major  
16 load, they need to learn about the Energy Upgrade  
17 Program and retrofits, and all the opportunities  
18 there for contractors to come in and help them.  
19 Other homes, it might be plug loads. Finally,  
20 there might be homes that have behavioral issues.  
21 The program has to be specific to them to get  
22 them engaged. So I just want to make that point.

23 MR. ASPER: Good morning, this is Conrad  
24 Asper, Efficiency First California. First, I  
25 would like to echo previous comments of how

1 impressed we are with the work that's gone into  
2 this and we really do appreciate the listening  
3 that's been done, and the prospect of the  
4 listening that will continue over the next couple  
5 months of specifically contractor input, but  
6 input from all stakeholders, so we really do  
7 appreciate that.

8           My comment is really on, in the ME&O, as  
9 we're focusing on the consumers, as my colleague  
10 Gina from Global Green said, we do need to keep  
11 in mind what the big picture is and what the big  
12 message is, and though I think the multiple  
13 approaches is important, including and promoting  
14 especially contractors, that's crucial to get  
15 them in the game, we do need to be messaging that  
16 this is a pathway, this is an onramp, the lower  
17 levels of energy efficiency savings for these  
18 contractors are for projects, it's getting  
19 consumers on a pathway to deeper energy savings.  
20 If we're going to meet the goals that we've set  
21 out here, we really do need to make sure that  
22 we're focusing on whole house and that we do have  
23 that viewpoint and picture in mind, and so that  
24 consumers don't get the message, "Great, I did a  
25 \$5,000 home upgrade and I'm done." So we really

1 need to make sure that that messaging needs to be  
2 part and parcel of the messaging going out to all  
3 of the homeowners for this type of ME&O. Thanks.

4 MR. ASHUCKIAN: We have a comment on the  
5 Web, Matthew Hargrove. Matthew Hargrove, you  
6 had comments?

7 MR. HARGROVE: Yeah, can you hear me?

8 MR. ASHUCKIAN: Yeah.

9 MR. HARGROVE: Okay, great. Thank you.  
10 This is Matthew Hargrove and I'm here in  
11 Sacramento, it's been a great meeting today,  
12 thank you very much. On the marketing piece,  
13 just two quick comments I want to make, one is  
14 most of this on the commercial side you need to  
15 be marketing to the business community and,  
16 really, none of the language that's been used  
17 today in this call or throughout much of this  
18 process really speaks in language of the business  
19 community. I think one of the number one ways  
20 you can get commercial real estate owners,  
21 industrial owners, shopping mall center owners to  
22 do some of these retrofits is to start talking  
23 about the bottom line and return on investment,  
24 and that many of these programs that will be  
25 marketed to are being provided a reasonable

1 return on investment in a reasonable period of  
2 time.

3           Many of the energy efficiency strategies  
4 that have been talked about over the last few  
5 years really don't meet up with the expectations  
6 of the business community in terms of what an  
7 investment -- what that return on investment  
8 should be, both -- I mean, we always talked about  
9 these things pay for themselves, but until they  
10 pay for themselves in a reasonable period of  
11 time, they're not going to be adopted by many  
12 business owners, so I think that's just one thing  
13 in the marketing.

14           And then also in terms of the  
15 communications strategy, we have reached out many  
16 times as a partner wanting to help communicate  
17 with the industry. We represent here in  
18 Sacramento the International Council of Shopping  
19 Centers, we represent Napa, California, the  
20 Building Owners and Managers Association of  
21 California, the Retail Industry Leaders  
22 Association, the Institute of Real Estate  
23 Management, so basically all different forms of  
24 residential and nonresidential real estate, and  
25 many of these national groups already have energy

1 efficiency programs that are going on, and I  
2 didn't read or hear any part of the strategy of  
3 working with some of these national groups to tap  
4 into the energy efficiency networks they already  
5 have going. We think that that could be very  
6 efficacious on behalf of the Energy Commission  
7 and the PUC to tap into a program like BOMA's 360  
8 Program, which is already out there and operating  
9 and helping commercial real estate owners become  
10 more energy efficient. Thank you very much. I  
11 really think this is a great process and this has  
12 been a good call.

13 COMMISSIONER MCALLISTER: Thanks, Matt.  
14 We really appreciate that.

15 MS. COLLOPY: Matt, and yeah, I really  
16 appreciate those comments as well, that is a  
17 miss, and we would really like to hear from you  
18 in writing on your suggestions.

19 MS. CLINTON: So I also have some  
20 observations to make that I think will knit  
21 together some of the comments that we've heard  
22 and looking at this document, and I think not  
23 just in this strategy, No Regrets Strategy 3, our  
24 Marketing, Education and Outreach, but throughout  
25 the document you've got a lot of the pieces in

1 different places of what does the intervention  
2 sort of Action Plan look like, and what you've  
3 got here in the Marketing, Education & Outreach  
4 is just sort of one slice, and you know, it's a  
5 dilemma when you're tackling all the existing  
6 buildings in the state how to pull together the  
7 different strategies. But I wanted to suggest  
8 that the theme has to be ultimately that the role  
9 of Marketing, Education and Outreach needs to be  
10 rifle shot and not buckshot, and that means that  
11 there needs to be -- what I would recommend that  
12 ultimately in the evolution of this Action Plan  
13 that it strive for logic models for each of the  
14 market segments in terms of what is the go to  
15 market strategy for altering or influencing the  
16 way investment decisions are going to be made,  
17 number one, and then, of course, there's the  
18 behavioral and operation and maintenance aspects.  
19 And in the course of developing these logic  
20 models, I would suggest that there could be  
21 targeting at two levels, one is -- and I think  
22 this is consistent with the definitions that you  
23 already have -- one is communication for  
24 awareness, and the second is communication to  
25 influence investments. And I think, you know,

1 they require different kind of messaging through  
2 different channels, and with different  
3 information. And so the challenge, I think, is  
4 as you start thinking about the building sector  
5 to break it down into the different market  
6 segments, however you end up wanting to define  
7 them, and then to have sort of a logic model for  
8 what's the intervention strategy. And that way  
9 you can bring in the idea of trigger points, you  
10 can bring in ME&O, you can bring in the tools  
11 such as financing. You can talk about how you  
12 work through the intermediary, the trusted  
13 intermediaries such as the ones Matthew was just  
14 mentioning for the business sector. So I think  
15 in essence that's my challenge to all of us, I  
16 think, is in that next iteration, and going -- I  
17 think Matthew said what you needed to hear on the  
18 business community side -- turning back to the  
19 consumer side and, I'm sorry, I don't recall your  
20 name?

21 MS. ASAN: Tenaya.

22 MS. CLINTON: Tenaya, thank you. In  
23 addition to the kind of research that you  
24 mentioned, in California four years ago, three  
25 and four years ago, there was extensive funding

1 in the consumer market on sort of decision making  
2 and how people reached decisions, it was done to  
3 inform something that at one time was called  
4 Engage 360, and that market research showed that  
5 there were eight different market segment types  
6 just in the residential consumer group that  
7 combined a lot of demographics. And the point  
8 was that you had different messaging and  
9 different motivations in each of the market  
10 segments, and different people who were trusted,  
11 deliverers of that information. So I think  
12 there's a tremendous amount of information out  
13 there that can be brought into this, and what I'm  
14 suggesting is to try to build a structure that  
15 sort of reflects a lot of the nuance that we do  
16 understand from the programs and the research  
17 that's been underway, and that will take drilling  
18 down another level or so.

19 MR. ASHUCKIAN: Anymore comments?

20 MR. CROWE: Hi. Eliot Crowe from PECI.  
21 Thanks for the presentation today. Marketing,  
22 Education and Outreach, I get the sense that  
23 doing them well is going to cost a lot of money  
24 and I have a perception that there's a limit on  
25 the amount of public money that can be spent on

1 things like Marketing, Education and Outreach  
2 because it's a lot harder to tie them to  
3 reportable savings. So I'm curious to know if  
4 there's a sense that that limitation is going to  
5 be stretched a little bit to do a better job of  
6 these things, or if AB 758 is going to be set up  
7 to create a framework that motivates others to  
8 invest more in these kind of things, or maybe I'm  
9 just plain wrong.

10 MS. COLLOPY: I think it's too early to  
11 tell at this point. I think we're going to work  
12 our way through that kind of thing. I think the  
13 important thing, there are limited dollars for  
14 ME&O, it's more than marketing, there's a lot of  
15 education and outreach that needs to occur. This  
16 is where we're going to really have to -- the  
17 collaboration is going to be key and leveraging  
18 those dollars is going to be key. Sharing and  
19 working together will be key, but that's a great  
20 question, I don't have an answer and I don't know  
21 if anybody else has anymore comments.

22 COMMISSIONER MCALLISTER: I just would  
23 sort of posit that this, you know, I'm not a  
24 marketing person, so I leave sort of the  
25 specifics of how it works to the experts, but I

1 do feel like this is another area where the data  
2 availability is really important, just  
3 understanding the market and where it's going and  
4 being able to sort of understand trends. The  
5 folks that are really going to be delivering the  
6 most cogent message are the people trying to sell  
7 the jobs. And so it's their business to develop  
8 the messaging that actually enables the customer  
9 to see the light and pull the trigger. So we can  
10 sort of create that foundation of understanding  
11 broadly, in different ways with traditional  
12 marketing and peer to peer, and other efforts  
13 like that which can be extremely effective, but  
14 it totally remains to be seen how much of that is  
15 sort of coverable under the traditional funding  
16 flow like within the IOU portfolios and sort of  
17 within the program environment as it exists now.

18 I think part of what we want to talk about  
19 for AB 758 is what additional things should we be  
20 doing, what is likely to work, can we work that  
21 into the program portfolios, or does there need  
22 to be some standalone resource that's going to  
23 enable that, those kinds of discussions. I mean,  
24 the input here is going to enable both  
25 Commissions to sort of hammer out, okay, can we

1 cover that, can we not cover that, that sort of  
2 thing. But certainly a lot of this is going to  
3 have to be privately funded, I mean, it's going  
4 to have to be part of a business proposition out  
5 there and so I think that collaboration with the  
6 marketplace is just, again, we keep coming back  
7 to that; again, it's critical for us to keep  
8 having this communication so that we can make  
9 sure that, 1) we're not getting it wrong, and 2)  
10 that we're helping in the right places.

11 MR. CROWE: Thank you.

12 MS. FOLEY: Siobhan Foley with the  
13 California Center for Sustainable Energy. Thank  
14 you, Paula, for all your work on this section,  
15 along with everyone else. I just wanted to  
16 comment, I've been hearing a lot of the same  
17 things that I think we've been wrestling with as  
18 we've been developing marketing planning for the  
19 Energy Upgrade California brand, and I wanted to  
20 just make a point to kind of explicitly  
21 acknowledge what I think was pretty clear in the  
22 presentation, but may not be totally clear to  
23 everyone, which is that the Energy Upgrade  
24 California brand for consumer and small  
25 commercial is a shared brand across the AB 758

1 program, and IOU efforts, and CPUC efforts with  
2 regard to statewide marketing, education and  
3 outreach.

4           And just a couple of things, I think  
5 Gina's point about coordinating policy goals to  
6 consumer education is really critical, and it's  
7 something that we've really been looking at  
8 doing. And one thing that hasn't come up in the  
9 discussions, so data of course was in this  
10 section and it's critically important to good  
11 marketing, two things I just wanted to touch on  
12 is the need to message, and Tenaya talked about  
13 it well, which is consumers don't really care so  
14 much about energy, not nearly as much as we all  
15 do, and we really do need the ability to  
16 communicate to them about things that they care  
17 about, and figuring out how that works with  
18 regard to programs and sort of what the full  
19 spectrum of things we could talk about is, is  
20 very important. And then the other element is I  
21 do think we're off to a great start, actually, in  
22 regard to the coordination of marketing with this  
23 brand and it provides a central core platform,  
24 and that's really important, but the programs  
25 have to be coordinated themselves, the products

1 have to be coordinated, as well, in order for  
2 good marketing to occur. We can't just  
3 coordinate kind of right before we push it out  
4 the door to consumers because then it doesn't  
5 really work. So I just think that's something we  
6 need to be thinking about in great detail. Thank  
7 you.

8 MS. MCBRIDE: Demetra McBride, County of  
9 Santa Clara. I'll be brief because Siobhan just  
10 basically stole a little bit of my thunder. I  
11 just wanted to repeat some of the comments that  
12 were already made and emphasize that I think, if  
13 we look at a long term perspective, we're all  
14 talking about money and available funding, and at  
15 the same time there is a direction towards  
16 weaning these programs off publicly funded  
17 incentives in order to be effective. And  
18 marketing and education is one thing, and I know  
19 Christine and I have had this conversation  
20 before, but I do think it's really important that  
21 we look at combining marketing, outreach and  
22 education with, for lack of a better term,  
23 research, on establishing additional new value  
24 propositions that do demonstrate value to people.  
25 And you can look at different groups and maybe

1 there will be different value propositions for  
2 large market sectors that we can identify. But  
3 if we're going to take incentives away, which has  
4 been a big motivator on these programs, then we  
5 have to put something of value in its place and  
6 the performance of energy efficiency on many  
7 different levels and co-benefits is not -- I  
8 don't think it's a panacea for everything, but I  
9 think that it is a potentially potent tool to get  
10 us to multiple goals, including the cost-  
11 effectiveness that we ultimately want to achieve  
12 on these programs.

13 MR. ASHUCKIAN: Okay, if there are no more  
14 comments, again, I want to encourage written  
15 comments on this subject matter, it's very  
16 important, and any comments that you have that  
17 can tie in marketing with the goals would also be  
18 of value. With that, I think let's break for  
19 lunch and, because we are running a few minutes  
20 early, let's reconvene at 1:15 rather than 1:30,  
21 which is on the schedule, so meet back at 1:15.  
22 Thank you.

23 (Break 12:15 p.m.)

24 (Reconvene at 1:22 p.m.)

25 MR. ASHUCKIAN: Good afternoon. We're

1 going to start off with Chris Graillat talking  
2 about the foundational workforce resources. And  
3 with that, do we have WebEx online? Okay, let's  
4 go.

5 MS. GRAILLAT: Good afternoon, everyone.  
6 It should be on. Is it loud enough? I hope I  
7 can keep you awake after lunch. As Dave said, my  
8 name is Chris Graillat and I'm the Workforce Lead  
9 for AB 758, and I will be presenting on No  
10 Regrets Strategy 4, Foundational Workforce  
11 Resources.

12 So the basic high level overview of this  
13 strategy is we want a highly skilled and well  
14 trained workforce, which is essential to  
15 strengthening and growing California's green  
16 economy. As the energy efficiency market  
17 evolves, it will require new skills and knowledge  
18 to continue to meet market demand. So basically  
19 this plan will foster a workforce that responds  
20 to industry needs and provides career advancement  
21 opportunities and livable wages to all  
22 Californians. Our coordinated efforts will  
23 result in a quality well-trained workforce that  
24 knows how to, for example, properly install HVACs  
25 and insulation, assess energy efficiency

1 upgrades, and inspect work done.

2           So if all these pieces are in place, 80  
3 percent of the work is done for California to  
4 achieve its energy efficiency goals. And just in  
5 case you're wondering, that's not an official  
6 statistic, but I just wanted to emphasize how  
7 important workforce is to this program.

8           There are two key strategies for the  
9 workforce effort, the first focuses on high  
10 quality and standardized training, which is  
11 necessary so the workforce can draw from a  
12 consistent body of knowledge. So the training  
13 should be informed by best practices, it should  
14 be shaped by nationally recognized certifying  
15 bodies, it needs to reinforce technical skills,  
16 address skills gaps, and incorporate additional  
17 elements, for example, multi-family housing, and  
18 it should be flexible enough to keep abreast of  
19 technological advances and changes to Codes and  
20 Standards. So quality work and knowledgeable  
21 professionals will help to build consumer  
22 confidence in energy upgrades.

23           The second strategy focuses on  
24 partnerships, which really are essential to  
25 carrying out this mission, we can't do it

1 ourselves. Our partnership and coordination with  
2 PUC, with the IOUs, with State and local labor,  
3 education agencies, NGOs, labor unions, trade  
4 associations, all of these stakeholders are  
5 essential for streamlining the energy efficiency  
6 workforce, transforming the market, and building  
7 momentum for energy efficiency and residential  
8 and nonresidential markets.

9           There are a number of key initiatives that  
10 we want to carry out to implement these  
11 strategies, I'm not going to read these word for  
12 word, but basically the initiatives on this slide  
13 will establish energy efficiency, education, and  
14 training at all levels of California's education  
15 systems, that's the goal of the Long Term Energy  
16 Efficiency Strategic Plan, and our plan is  
17 coordinated with that. It's important to build  
18 career pathways, create stackable credentials,  
19 and scale and target the workforce through  
20 regional sector strategies that are aligned with  
21 economic strategies.

22           More key initiatives here. In addition,  
23 the initiatives focus on meaningful, value-added  
24 and continued training for existing  
25 professionals; this is just as important as

1 training new workforce entrants.

2           And to ensure that training is value-added  
3 and meets industry and workforce needs, relevant  
4 data must be collected, quality and timely  
5 evaluations must be conducted, and training  
6 programs should be adjusted accordingly.

7           This last set of initiatives will enable  
8 the development of the key partnerships for AB  
9 758 for the Workforce Development portion. These  
10 efforts, as mentioned before, require strong  
11 coordination with the existing efforts; for  
12 example, the sector strategies implemented by the  
13 IOUs and also other workforce education and  
14 training efforts by the Public Utilities  
15 Commission.

16           We also need to coordinate with  
17 professionals such as real estate agents,  
18 building inspectors, mortgage brokers, and  
19 others. And in addition, we need greater  
20 coordination with the Contractors State Licensing  
21 Board, for example, with continuing education and  
22 outreach for contractors.

23           And that actually is a very quick summary  
24 of the workforce component. So, I will open it  
25 up to comments and questions. Commissioners --

1 or Commissioner?

2 COMMISSIONER MCALLISTER: You know, I'd  
3 like to hear what attendees and Web attendees  
4 have to say. You know, I think obviously  
5 workforce -- a lot of effort went into sort of  
6 workforce initiatives in the ARRA period and I  
7 think we are understanding more how this went and  
8 which ones worked well, but I think really the  
9 folks that can tell us what they need are the  
10 folks in the building industry out there trying  
11 to make things happen, so I'd love to hear what  
12 you all have to say.

13 MS. HERNESMAN: Barbara Hernesman from  
14 CalCERTS and Building Performance Center, Inc.  
15 And I'm going to have to put my glasses on. I'm  
16 here first to let you know that CalCERTS and  
17 Building Performance Center are very appreciative  
18 of all the work the Commissioners and the staff  
19 and all the working groups who have worked  
20 endlessly to work on this draft.

21 We're here to support the No Regrets  
22 Strategy 4, Workforce, Education and Training,  
23 that aligns with the current and developing DOE  
24 Federal Job Task Analysis and Knowledge, Skills  
25 and Abilities that are out there. Also, the

1 support that the best practices that we learned  
2 from the QTIP Program. That was an amazing  
3 program, talk about the partnerships that came  
4 together to work to make sure that that was  
5 effective. We have a lot of best practices and  
6 lessons learned from that, so we should  
7 definitely incorporate those, and I see that  
8 they're in some of these plans already.

9           We also want you to know that the ANSI  
10 IREC Program 14732 2012, the Accredited  
11 Certificate Training Programs, are a great model  
12 going forward. This is a curriculum that's  
13 already been built, there is a model for this, a  
14 strategy for this, there's valuation, quality  
15 assurance, this is something that we'd really  
16 like to see incorporated and continue to be  
17 supported by all the people who are providing  
18 training throughout the state and nationally,  
19 actually.

20           Best practices that we have learned in  
21 this QTIP program, the ARRA program, was it's  
22 great to get certifications, and it's great for  
23 the existing workforce to have that on their  
24 belts and to be able to say to their publics "I  
25 am qualified to do this work," but we also

1 learned one of the major things we learned from  
2 this, is you can't have this be a revolving door,  
3 it's an ongoing continuous training, so it has to  
4 be from one level, to the next level, to the next  
5 level, and there will be the entry level  
6 workforce, there will be the employees, and then  
7 there's the existing workforce, the construction  
8 industry at large. I think one of the things we  
9 missed in the QTIP Program was that we had the  
10 contractors and the raters in mind, we had some  
11 of the marketing in mind, but I think one of the  
12 things we left out was how do we bring all of the  
13 sales people, all the business development, all  
14 of that together as an integrated approach to  
15 this because this is an industry, so we want to  
16 keep making sure that we kind of don't leave  
17 those pieces out that support those as we go  
18 forward.

19           One of the things that I think is  
20 important, too, is that there is -- and we saw  
21 this in your Strategy 4 -- was we're looking at  
22 training the trainer, we're instructing the  
23 instructor, whatever the terminology is that we  
24 use, and there has got to be some real effort put  
25 into finding how to do this, the best practices

1 of this. IREC already has a national program  
2 that looks at quality instructors, which is your  
3 first step into this industry, and then the  
4 mastery of becoming an actual national industry  
5 trainer, so when we incorporate this, which I  
6 think is really important, we take a look at what  
7 are those structures that are already out there  
8 that we can utilize when we start structuring  
9 this kind of stuff.

10 So I want to say thank you for all the  
11 work that you've done, again, and CalcERTS and  
12 BPCI are very interested in workforce education  
13 and training. Thank you.

14 MR. NESBITT: George Nesbitt, HERS Rater.  
15 I think earlier someone said it was a demand  
16 problem more than a supply problem. I'd like to  
17 tell you, you've got a supply problem. Even if  
18 we could train new people at the junior college,  
19 or wherever, right, they would go out into an  
20 industry that's not doing it right, and they will  
21 get beaten over the head, "No, that's not the way  
22 we do it." Of course, even despite our efforts  
23 to work with junior colleges and to give them the  
24 right information, I can tell you, the students  
25 are not being taught the right information. So

1 what we are faced with is re-training our entire  
2 existing industry, as well as all those that come  
3 in. And I'm not just talking about market  
4 transformation in the HVAC industry. I have yet  
5 to pass an insulation contractor the first time  
6 as a HERS Rater, you know. I can go on and on  
7 about redesigning mechanical engineers' work  
8 because they don't actually know how to do their  
9 mechanical engineering. These are trained,  
10 certified, you know, registered people. You make  
11 fun of mechanical engineers, and then the  
12 electrical engineers, you know, like go and screw  
13 with you. You know, so it is -- it's everything,  
14 the Building Departments, too, they're not  
15 enforcing the Code. You know, you've got  
16 clients, clients are sometimes willing to save  
17 money, not get permits, not have things meet the  
18 Code because of budgets, it's the whole system, I  
19 mean the whole system has to demand quality. We  
20 know how to insulate, right? We know how to air  
21 seal, we know how to design and install  
22 mechanical equipment, we know all the technical.  
23 We've know it for decades. It's how do we make  
24 it happen on every job so that quality is always  
25 what's done, whether there's a permit or not -- I

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1 got busted for working without a permit and  
2 Brandon was making fun of me, but I'm the kind of  
3 person that will do it right whether I have a  
4 permit or not because I am driven to do it right  
5 and to, you know, I was taught right from the get  
6 go. And you know, I've been driven to go and  
7 implement what I've been taught, but that's not  
8 most of us. So it's really daunting because, as  
9 Barbara said, you know, it's also sales people,  
10 it's everyone, and the thing is we have a lot of  
11 turnover, especially in the less skilled entry  
12 into the business. A lot of people come in and  
13 out. It's also a boom bust business, which makes  
14 it tough. And sometimes in some ways, when it's  
15 a bust it's better because people tend to retain  
16 the longer or better people, but it's going to  
17 take a lot.

18 MS. GRAILLAT: Thanks.

19 MS. RAVNIK: See how well the batteries  
20 are working, yes? Diane Ravnik, I'm Chief of the  
21 California Division of Apprenticeship Standards.  
22 I want to endorse the outline that you've laid  
23 out, particularly the concept of partnerships. I  
24 hope it does. I know we've had conversations  
25 include both our Division of Apprenticeship

1 Standards and the State's other workforce  
2 agencies, most notably the California Workforce  
3 Investment Board that manages hundreds of  
4 thousands of job training dollars from the  
5 Federal Government, who has -- I mean, a lot of  
6 the things I heard you discussing reflects the  
7 CWIB's Strategic Plan that they've just developed  
8 for the next five years, the sector strategy  
9 regional areas, career pathways, stackable  
10 credentials, so it coordinates so nicely. The  
11 California Workforce Investment Board has its own  
12 Green Collar Jobs Council, and so I think it's  
13 really vital that everything be coordinated.  
14 We've been working, as well, with the IOUs and so  
15 I hope that we can continue to do it in this  
16 forum. We're very much industry driven,  
17 hopefully meeting both the demand and supply.

18 I think another important component as we  
19 move forward, and listening to the last speaker  
20 talk about entry level, that's often where  
21 apprenticeship comes in, and I think it is  
22 essential both that there be effective training  
23 at the onset; another thing that we do, and we're  
24 really looking more at with respect to this  
25 effort, and that is we do journeyman upgrade

1 because I think most of our apprentice graduated  
2 skilled craft workers do an outstanding job, but  
3 Codes change, other things change, and so we  
4 would hope in order to fully and effectively  
5 implement this to a series of journeyman upgrade  
6 in the HVAC industry, in particular, involving  
7 some of our traditional crafts sheet metal  
8 workers, plumbing, and pipefitting, and others,  
9 so we would be looking at that in a continuing up  
10 -- we also do some pre-apprenticeship which helps  
11 get certain groupings of individuals that I know  
12 the Commission, as well as all of us, are seeking  
13 to bring into the workforce targeted populations,  
14 disadvantaged youth, Veterans, we're always  
15 looking for more women in this industry, so I  
16 think, you know, it really is coming together  
17 very nicely.

18           The other thing that we would be looking  
19 to become involved with also is training the  
20 trainer, which I heard was mentioned, because we  
21 have longstanding community college certified  
22 training instructors that do our apprenticeship  
23 training and often do the same journeyman  
24 upgrade, both for the installers, but they often  
25 do for their own management side of the industry,

1 so we would look to do that. Many of our program  
2 sponsors -- and we're hoping to get more of them  
3 -- are ANSI certified, as well. So I think it  
4 comes together nicely and we look forward to  
5 working with you, both through the CWIB and  
6 through our Division of Apprenticeship.

7 MS. GRAILLAT: Thank you.

8 MS. COLLOPY: I just want to remind  
9 everyone that, when you do come up and speak, to  
10 please bring a business card with you and give it  
11 to the Court Reporter.

12 MR. LESS: My name is Brennan Less from  
13 Lawrence Berkeley Lab. I might have missed it in  
14 my sort of quick review of the section, but I was  
15 wondering if we could add something about health  
16 and safety training explicitly. Home Energy  
17 Retrofits are just, you know, a big health and  
18 safety issue for the occupants and for the  
19 workers, there's legacy pollutants, there's  
20 indoor quality issues when you tighten up  
21 envelopes, and I can say from my personal  
22 experience talking with contractors and people in  
23 the industry there's a lot of inconsistency in  
24 providing ventilation, a lot of disbelief in  
25 terms of what's important, what's not, when do

1 you need it. I'd like to see that explicitly  
2 included in training; if we're mentioning things  
3 like plug loads as specific training elements, I  
4 think health and safety should be there. Thank  
5 you.

6 MS. GRAILLAT: Thank you.

7 COMMISSIONER MCALLISTER: Thanks. I  
8 wanted to just bring up an issue that it would be  
9 great to have folks' feedback on. And that is,  
10 you know, a program for existing building  
11 upgrades, say, you know, residential focused just  
12 for an example, needs to have some minimum  
13 criteria for participation for the contractor,  
14 and I think there's been a lot of kind of ideas,  
15 there aren't that many great options as far as I  
16 can tell about what the minimum criteria for  
17 participation ought to be. Maybe we just rely on  
18 having a contractor's license in the right  
19 category and it be in good standing with the CSLB  
20 to start, and then when bad actors become  
21 apparent, you know, which they will, not many of  
22 them, but they will, I mean, that's the program  
23 experience generally, then deal with it somehow  
24 in Guidelines or in some other way. But a  
25 question is, what certifications are there that

1 we could lean on as minimum for the various types  
2 of programs, projects that would be forming part  
3 of this endeavor we're calling AB 758. Should  
4 there be any? And if so, what should they be? I  
5 think we're hearing that there's got to be  
6 consistent training, there's got to be quality  
7 training, some kind of standards need to be there  
8 either in industry, the program, or both, but  
9 more detail on what makes the most sense I think  
10 would be really helpful for us. And we don't  
11 necessarily have to explicitly put them into the  
12 Action Plan, or dictate them, but it would be  
13 nice to kind of see Federal -- sort of national  
14 level, industry level, sort of what the options  
15 are specifically and what the pros and cons of  
16 each of them actually might be.

17 MR. NESBITT: George Nesbitt. I'll kind  
18 of address that. I think we've certified --  
19 there's nothing wrong with certifications, but  
20 they don't automatically mean you're qualified;  
21 there's no substitute for actually being  
22 qualified, but we need to put a lot more emphasis  
23 on Standards, Codes, we have a lot of those,  
24 manufacturers require you to do this or that, or  
25 they have instructions on how to install their

1 insulation properly and all that. A  
2 certification is not a substitute for having  
3 Standards and also verifying. I mean, we have to  
4 do the QA, we have to mentor people, we have to  
5 make sure they're actually doing it right because  
6 there is no substitute. And as someone who holds  
7 a bunch of certifications, I'm burned out on  
8 them, okay? There are people with more than me,  
9 I mean, it is a burden. I mean, it just becomes  
10 ridiculous after a while -- the cost, the  
11 duplication, and a lot of people are just not  
12 going to do that, and especially if you talk  
13 about trying to get everyone in their company  
14 certified and whatnot. So when I was in the  
15 utility -- in the RCP Program, Residential  
16 Contractor Program over a decade ago, there were  
17 no certifications required beyond license,  
18 insurance, and -- but the program had Standards  
19 and they inspected, or tried to inspect 100  
20 percent of the attic insulation jobs because,  
21 well, that's how bad the industry does. Yes,  
22 it's expensive. And some of the programs there  
23 is no QA or certifications, so you know, it's not  
24 a substitute.

25 MS. GRAILLAT: Thank you.

1           COMMISSIONER MCALLISTER: So I just want  
2 to point out that there are four No Regrets  
3 strategies and we're only talking about three of  
4 them today. The fourth one, which is actually  
5 number 2, sorry for the confusion there, is  
6 Permitting Support and Code Enforcement. So  
7 that's kind of the fourth link in this No Regrets  
8 kind of suite that we've identified as being  
9 foundational things that need to happen in order  
10 for this industry to be properly supported. And  
11 they're linked, I mean, I think we've heard --  
12 we'll talk about that tomorrow in Fresno, and  
13 please, if you can't make it, call in if you are  
14 interested in that, but there are four No Regrets  
15 Strategies, and we made room for Financing today,  
16 so that's why we're not talking about the  
17 permitting one today, but it's very important and  
18 I think we're really looking forward to digging  
19 into that tomorrow.

20           MS. ADOLF: Hi. I'm Tiger Adolf with the  
21 Building Performance Institute. We are both an  
22 ANSI accredited standards development  
23 organization, as well as an ANSI accredited  
24 certification body with our first certifications  
25 coming out very very soon, scores have been

1 released from the pilot. So that's coming  
2 quickly for the first board certifications. But  
3 it's more than just about certifying the  
4 individuals. Individual technicians, qualified,  
5 not qualified, whatever, are going to do what the  
6 boss tells them to do. There has to be  
7 accountability at the management level, whether  
8 it's an independent business owner or a big union  
9 shop, there has to be the accountability for the  
10 business model to change, to actually provide the  
11 results they say they're going to provide,  
12 otherwise the technician is going to do what he's  
13 told to do in the field, regardless of how well  
14 he's trained or how much certification he has, or  
15 how many years of experience, so you have to  
16 address the entire workforce, taking that  
17 ownership level into account, as well. And that  
18 does become a very difficult thing, but the  
19 qualifications to become a licensed contractor  
20 perhaps need to be reconsidered, it's more than  
21 just your ability to get insurance and have a  
22 business license, there has to be a little more  
23 raising that bar so that you know they know what  
24 your goal are -- remember, the whole workforce,  
25 you have to address the workforce as a system

1 just like we address the whole building as a  
2 system.

3 MS. GRAILLAT: I like that analogy. Thank  
4 you.

5 MR. ASPER: Conrad Asper with Efficiency  
6 First California. I wanted to echo what both  
7 Tiger and then -- what was your name -- Brennan  
8 said. I think that it is very important to have  
9 certification standards, but I also think that  
10 health and safety is a huge portion here,  
11 particularly for the work we're doing. We've got  
12 to make sure that that's recognized. And I just  
13 wanted to add, you know, I think it's also  
14 something that I'm hearing feedback on from some  
15 of the electric contractors who are doing pretty  
16 good work out there, it's that on-the-job  
17 training really is important and, if we can find  
18 ways to fund the actual companies to be able to  
19 do on-the-job training, I think ETP is a good  
20 model of that, I think there are ETP funds for  
21 that type of activity. But this isn't a rote  
22 memorization type activity, this is really  
23 learning on-the-job and mentoring-type activity  
24 that we're talking about here, so we really need  
25 to make sure that when we're talking about

1 workforce development, we are creating the  
2 structure to be able to have hands-on training  
3 and mentoring and that type of activity. I do  
4 see that here. And so, again, I think you guys  
5 are covering the vast majority of the needs of  
6 what we're needing here, so thank you.

7 MS. GRAILLAT: Thanks, that's nice to have  
8 what we've done reinforced by industry.

9 MR. GOLDEN: Hi. Matt Golden with  
10 Efficiency.org. And I just actually am pretty  
11 much agreeing with everything that has been said,  
12 but I wanted to raise the point, and this  
13 actually kind of reflects your comments about,  
14 you know, do you just pick out bad actors, and I  
15 think we should draw a distinction between using  
16 Standards and Certifications to get good results  
17 versus create a baseline to kind of create  
18 liability protection, and health and safety  
19 protection. I think there's been a long history  
20 of attempting to certify and regulate to get  
21 outcomes that we want, and that hasn't actually  
22 delivered very well historically with things like  
23 HVAC requirements that have to be the highest in  
24 the country, for sure, maybe the world, with  
25 virtually -- well, potentially single digit

1 adoption rates in the field, so they're not  
2 actually driving the behavior we're looking for.  
3 So I would just consider company level  
4 accreditation and commitment to the health and  
5 safety minimums makes a lot of sense, but we have  
6 to actually start measuring the results we're  
7 trying to achieve, and not attempt to kind of  
8 proscriptively use certification, which can add a  
9 lot of expense to businesses as a way to try to  
10 drive good results when we're not even measuring  
11 the results we're trying to drive ultimately. So  
12 I'd like to see us looking at moving towards  
13 performance-based models that actually start  
14 measuring the outcomes, rather than trying to  
15 regulate every step in the process in hopes of  
16 good outcomes because I think that just, again,  
17 doesn't have a very good history of being  
18 successful. Thank you.

19 COMMISSIONER MCALLISTER: Thanks, Matt. I  
20 was going to sort of really just point out  
21 something along those lines. I mean, we need  
22 this industry to scale up, so we -- I don't think  
23 anybody gains by sort of having a phantom problem  
24 that we regulate to prevent before the fact, you  
25 know, I think we need to know what the real

1 problems are going to be and then try to solve  
2 those. And so we only get that if we have enough  
3 scale to be able to detect the real problems, and  
4 so the industry has got to be able to go out and  
5 do jobs, and if some of them are sub-optimal  
6 jobs, then first and foremost we need the ability  
7 to know which those jobs are so we can identify  
8 that problem and solve that problem. But  
9 imagining that we know all the problems already  
10 and then preemptively, or sort of designing  
11 programs to avoid them, I think is just spending  
12 a bunch of resources that we're not sure are  
13 needed, and it's also creating barriers that may  
14 be counterproductive.

15           So I guess just as a general organizing  
16 principle, I'm trying to figure out where the  
17 Commission and the PUC and the other stakeholders  
18 here can really create the positive foundational  
19 tools that enable industry and then figure out  
20 what the essential program elements are that we  
21 all know are needed and put those in place, but  
22 really with respect to having that be a minimum  
23 bar so that there's as much flexibility and  
24 freedom out there to do projects as possible, and  
25 then we can understand the marketplace going

1 forward and hopefully it can scale. So just in  
2 general, that's kind of the -- let's put our  
3 thinking caps on and figure out, look, if I'm a  
4 business out there trying to thrive and I want to  
5 go hire people, where am I going to hire those  
6 people from? And what do I need them to know?  
7 If I am going to look for VC to scale my  
8 business, what information do I need that VC to  
9 have access to so that he or she can evaluate  
10 this business opportunity and invest in my  
11 business? That's related to the data question.  
12 I think we really need to dig in on this and put  
13 our heads together, and so we're talking about  
14 the specific issues, but really there's got to be  
15 a bigger vision of what we're trying to  
16 accomplish, which is making it as easy as  
17 possible for good faith enterprises to go scale  
18 their businesses and do good work. So certainly  
19 there has got to be some level of QC, certainly  
20 there has got to be some level of training, there  
21 have got to be some minimum standards, and we  
22 have to have the data infrastructure, the  
23 informational infrastructure to manage and sort  
24 of monitor that marketplace going forward. If we  
25 don't, we're going to get bad outcomes and we're

1 not going to know they're happening. So I would  
2 kind of challenge everybody to think about what's  
3 truly necessary and focus on that.

4 MR. MALONEY: Brian Maloney, Resource  
5 Solutions Group. I agree with what you just  
6 said, I think it's really important, I mean, I  
7 think we talked about from the highest vision,  
8 the bad actors, how we keep them out of there,  
9 where we draw the minimum line, but to many  
10 points that have been made before, there's this  
11 group of people that just need to know what needs  
12 to happen in the field and sometimes the  
13 certifications -- and it's very important to have  
14 health and safety -- in the way the national  
15 standards have gone, they've broken it out, but  
16 there are some very rudimentary simple jobs for  
17 entry people that these things need to be dumbed  
18 down, so I highly support the infield training  
19 sort of things, I've seen those become very  
20 effective. And the other case in point is I  
21 think it's really important to have a feedback  
22 loop between what's happening on the quality  
23 control inspections and marry that back to your  
24 curriculum because, you know, curriculums get  
25 nationalized and so forth, and sometimes you're

1 not emphasizing the right points to get the  
2 quality jobs and if you keep missing the same  
3 detail over and over again, it just needs to be  
4 emphasized more and corrected. So I don't think  
5 there's a silver bullet or, you know, there's  
6 many credentials out there and a lot of them are  
7 very good, but I think as we do that, you know,  
8 tiering them and stacking them so the entry level  
9 person knows what he needs to do to seal ducts,  
10 install insulation, the basic weatherization  
11 tasks needs to ramp up to being able to do a  
12 proper assessment and energy modeling, etc. So  
13 just a general comment.

14 MS. GRAILLAT: Thank you.

15 MR. CROWE: It's Eliot Crowe from PECCI. I  
16 think the plan as is laid out right now, I think  
17 there's a lot of good pieces in there and we had  
18 a lot of discussion here today about kind of the  
19 how, how to do the training right, and how to do  
20 it to a good standard, and how to get the work  
21 done to a good standard by those who have been  
22 trained; something that I don't see coming  
23 through really strongly is the long term  
24 forecasting piece for workforce, maybe it's  
25 implied in the sector strategies piece, but I

1 think that with AB 758, there's going to be a lot  
2 of policies put in place which are going to have  
3 very long term ramifications for what workforces  
4 needed, and adequately forecasting those needs  
5 with enough accuracy that you can have time to  
6 train the workforce, I think is going to be  
7 pretty important.

8 MS. GRAILLAT: Thanks.

9 MS. HERNESMAN: Barbara Hernesman,  
10 CalcERTS. A couple things that I want to agree  
11 with you about, what you were saying earlier  
12 about how do we take a look at what the workforce  
13 needs today, and how do we ramp that up. And I  
14 think one of the things, a discussion that  
15 happened like in 2006, was when a bunch of us  
16 Home Performance Contractors were out there, we  
17 were trying to figure out like how many people do  
18 we actually need on our crews? Well, this is an  
19 entrepreneurial world, so that could be anywhere  
20 from two to five people, that's what we had  
21 decided internally is like, okay, we've got the  
22 head honcho, the person who has the business,  
23 then we have somebody who can actually be our  
24 right-hand person, left-hand, right-hand,  
25 whichever way that goes, and then a couple people

1 who are well trained by us to go out and actually  
2 perform the work. So when we talk about this, we  
3 have to think about we *do* have entry level people  
4 and we *do* have the seasoned folks, now how do we  
5 marry the two so that we can actually continue  
6 with that entrepreneurial spirit? We can  
7 encourage them to ramp up as you want them to  
8 ramp up, but again, what George was saying, we  
9 have a problem out there, we don't have a large  
10 enough market for the people who want to actually  
11 get out there and do the work, we have true  
12 believers, we really do, and we have not just the  
13 workforce, but we have the consumers. Now, how  
14 do we attach that so we can ramp this up? What  
15 you were saying.

16           The other thing is I wanted to say that it  
17 didn't get brought up that I was hoping it was  
18 going to be, but there is a standard for  
19 continuing education units and we have to be able  
20 to adopt that standard because right now it's all  
21 over the place. When we were doing the ANSI  
22 IREC, the accreditation for our Certificate  
23 Programs, it's one unit for 10 hours. Now, you  
24 can see the variation throughout this industry  
25 where you can get eight hours and you attended

1 three hours, I mean, if your CEUs are involved in  
2 the strategy, we have to have some kind of  
3 standards so that everybody is doing this, so  
4 that if I go one hour and I get 10 hours of CEUs,  
5 that's really not equivalent to an actual eight  
6 hours of study, or learning something -- truly  
7 learning it.

8           Anyway, the other thing I would like to  
9 say is that Chris and the Workforce Education  
10 Program at CEC has done a lot of work to  
11 understand what makes this work, so we really --  
12 I don't know how to emphasize this anymore than  
13 to say take what you have learned and the best  
14 practices are out there, and give us a chance to  
15 do it again on another level because we're all  
16 concerned, even at lunchtime we were talking  
17 about what is this next generation going to do?  
18 So QTIP has a great model, let's just take it and  
19 expand it to be even better. Thank you.

20           MS. GRAILLAT: Thanks.

21           MR. SCHMIDT: Hi. Steve Schmidt from HEA  
22 again. I just want to reinforce what Matt said,  
23 and I think there's a quote in the document from  
24 Devon Hardeman about using actual energy results  
25 to either pay or help motivate the contractors,

1 and we couldn't do that five years ago, but I  
2 think we could really do that now with the data  
3 we have for homes and buildings, and that would  
4 help motivate everybody to move in the right  
5 direction, whether it means adding a new furnace,  
6 or helping a homeowner with behavioral issues, or  
7 with plug load issues, if they're compensated  
8 based on actual energy savings that will move  
9 everybody in the right direction. Thank you.

10 MS. GRAILLAT: Any Web comments or  
11 questions? Okay. Well, thank you very much. I  
12 don't know if I did such a great job of keeping  
13 you awake, but I thought we had some really good  
14 discussion here.

15 MR. ASHUCKIAN: Again, I encourage written  
16 comments on the subjects, as well. So next we're  
17 going to talk about financing mechanisms, and  
18 unfortunately Adrian Ownby was unable to make it  
19 today, he had some health issues as well, and so  
20 we have Lea, who will be presenting for Adrian.

21 MS. HARO: So stakeholders have commented  
22 about a lack of financing as a major barrier to  
23 energy efficiency upgrades, and specific barriers  
24 to financing vary by sector. In the residential  
25 sector, most homeowners do not have \$15,000 to

1 \$20,000 to pay for a comprehensive energy  
2 efficiency upgrade, even simple window  
3 replacements or HVAC change-outs require some  
4 type of financing. In the non-residential  
5 sector, small businesses typically do not have  
6 the readily available capital to meet their  
7 upgrade needs, nor do they have access to the  
8 most attractive financing products.

9           For nonresidential, the most notable  
10 barrier is the split incentive between owners and  
11 tenants. Other barriers include ownership  
12 structure, existing financing structures, and the  
13 schism between lender and borrower expectations.

14           According to a recent CPUC-sponsored study  
15 by Harcourt Brown and Carey, an estimated \$4  
16 billion per year for the next 10 to 15 years is  
17 required to overcome this barrier. In addition,  
18 State Governments need to work with the lending  
19 community, building performance contractor  
20 community, and borrowers to encourage development  
21 and implementation of effective loan products  
22 that meet the needs of multiple sectors, and this  
23 includes single-family, multi-family, affordable  
24 housing, small and medium businesses, large  
25 businesses, and local governments.

1           So essentially, Strategy 1 is about  
2 continuing successful existing programs and is a  
3 real world attempt to find out what works and  
4 what doesn't work, and to make changes to improve  
5 products.

6           And these initiatives are basically a list  
7 of the things that we do now and were successful,  
8 things that we should continue and expand upon.

9           Strategy 2 emphasizes that there are two  
10 key players whose needs have to be met, the  
11 borrowers and the lenders; Governments have a  
12 tendency to focus on the former and ignore the  
13 latter and, if programs are to succeed, then to  
14 target both.

15           So I'm just going to summarize the key  
16 initiatives and not read them. So the first  
17 initiative is really about targeting sector  
18 specific financial products, and it's clear that  
19 some sectors will require more specialized  
20 financial products and these include multi-family  
21 housing, affordable housing, small business  
22 enterprises, leased and rental properties;  
23 Initiative 2, this is something that was raised  
24 earlier, that the private sector lenders need  
25 data on how well energy efficiency loans perform;

1 Initiative 3 links to workforce development,  
2 which Chris just spoke about, and it's about  
3 developing contractor soft skills to inform  
4 decision makers about multiple finance programs;  
5 Initiative 4 deals with the dissemination of  
6 information and the Energy Commission sees Energy  
7 Upgrade California as fulfilling this need;  
8 Initiative 5 is about continuous quality  
9 improvement through monitoring and support;  
10 Initiative 6 deals with increasing monitoring and  
11 evaluation with the intent of troubleshooting;  
12 and Initiative 7 deals with leasing of equipment  
13 for energy upgrade projects, and many local  
14 governments already lease equipment for these  
15 types of projects and this would be most relevant  
16 for commercial sector upgrades; Initiative 8,  
17 most programs already attempt to reduce risk and  
18 this initiatives is really about figuring out  
19 what works best supporting those things that work  
20 well; and with Initiative 9, we would like to see  
21 underwriters integrating the value of more  
22 efficiency measures in the evaluation of property  
23 and integrating the value of the utility bills in  
24 the underwriting process.

25 So at this point, I'd like to turn it

1 over to Jean Lamming.

2 MS. LAMMING: Hello there. This is going  
3 to be a pretty whirlwind tour of what you've been  
4 doing through the utilities and other actors.  
5 The first couple slides are about what's been  
6 happening in the last cycle and the one before  
7 that, so our first program really in financing  
8 for nonresidential customers, first and only  
9 program we've had, was On-Bill Finance. And  
10 SoCalGas and SDG&E started that -- thanks, Jodie,  
11 okay -- so the Sempra utilities started this in  
12 late 2006 and then it ramped up statewide for  
13 2010-2012, and just as an aside, we may not  
14 continue this program after this current cycle,  
15 '13-'14, just because it's quite expensive and  
16 I'll show you that with the features here. The  
17 main features that kind of profile this program  
18 are that it's zero interest rate and that's due  
19 to consumer lending laws in the state that apply  
20 to the utilities. The loans are completely  
21 ratepayer funded and then a couple other features  
22 -- those two things make it quite expensive. A  
23 couple other features are that it's bill neutral,  
24 so the savings of the project are supposed to  
25 meet or exceed, or at least be projected to.

1 IOUs collect the payment and we do have a  
2 disconnect provision for nonresidential customers  
3 if they don't pay the loan part of their bill.  
4 We did do a process evaluation of this early on  
5 in the 2010-2012 cycle. And I would just note  
6 that the first three of these features are really  
7 not prominently part of what we're doing in this  
8 cycle, or proposing to do in the statewide  
9 pilots, I think there's one pilot that has been  
10 proposed by consultants to be bill neutral in the  
11 multi-family sector, but we're really trying to  
12 get away from using ratepayer funds and I don't  
13 believe there's anything we have proposed or  
14 that's operating now that is zero interest.

15           So back in 2009 is really when we started  
16 scoping and planning for and collecting public  
17 input on the pilots that are either operating, or  
18 actually that we're proposing to operate this  
19 cycle, we haven't started yet. We held our first  
20 public workshop, I think, in June of 2009 and  
21 there's been other work done since then, but just  
22 some more of the recent highlights are January of  
23 2012, DLJ put out a ruling which maybe many of  
24 you remember that ask for party comments to  
25 really start scoping the development of these

1 pilots and it really emphasized some things like  
2 leveraging private capital, getting to deeper  
3 savings, being able to finance deeper retrofits,  
4 quoted the consultants with that \$4 billion need  
5 that Lea just talked about, identified some of  
6 the most prominent barriers that we need to  
7 address, and like I said, really looked to the  
8 private capital providers to help with this and  
9 fill these gaps.

10           The Guidance Decision is the decision that  
11 came out in May 2012 that helps the utilities  
12 plan their portfolio for the '13-'14 cycle, it  
13 asks the utilities to provide \$200 million in  
14 programs, to carry through some of these themes,  
15 do deeper retrofits, reach other segments.

16           Then the utilities consultant held  
17 workshops in October 2012 and released the  
18 report, many of you have probably seen, from  
19 October 19th that was really a framework for the  
20 statewide pilots that we hope to start later this  
21 year, residential and nonresidential pilots.

22           And then the Budget Decision came out for  
23 the portfolio that is operating right now, 2013-  
24 2014, and authorized \$214 million, and this is  
25 sort of how it was allocated, continuing On-Bill

1 Finance with \$214 million in ratepayer funds for  
2 ratepayer funded loans with pretty much the same  
3 program features, although there may be some  
4 changes, a few changes still coming. And it  
5 authorized \$75.2 million and it allocated that  
6 funding, and that's from the consultant  
7 recommendations, but it deferred further details  
8 and we're still pending a CPUC decision to  
9 finalize the design of the pilots and which ones  
10 launched, and when. And that's a pending  
11 decision. And that decision continued ARRA  
12 funded programs and that was done under the  
13 utilities, so if you look at their statewide  
14 finance program, PIPs, we call them, Program  
15 Implementation Plans, they included some of the  
16 ARRA Programs in there operated by local  
17 governments or other actors. And then we have  
18 new Administrators that you might be familiar  
19 with, that are piloting this '13-'14 cycle, they  
20 are independent, they are done by local  
21 governments in Southern California, Northern  
22 California, and then the Marin Energy Authority,  
23 which is actually a CCA, so it's a little  
24 different than the other two, and they are  
25 operating finance pilots that they propose that

1 were approved in the budget decision in November  
2 of 2012.

3           So this is really a closer look at what  
4 the consultants propose that is still pending.  
5 So nonresidential -- this is the residential  
6 pilots, this is what Harcourt Brown Carey  
7 proposed. And the first three are single-family,  
8 and one I left out of there, actually, there was  
9 also a wheel proposal to operate, and the first  
10 one is direct loans which would be done by local  
11 banks using a loan loss reserve, that's what  
12 Harcourt Brown Carey proposed. They also  
13 proposed what was called a "wheel" using a  
14 subordinated debt credit enhancement that would  
15 tap into the secondary markets and provide  
16 capital that way, private capital. And then  
17 there was sort of a sub-pilot in single-family  
18 that would test collecting residential bill  
19 payments on the bill to see if that provided any  
20 benefit, you know, made their payments more  
21 regular, or provided any convenience to them, but  
22 it doesn't include any kind of disconnect  
23 payment, or disconnect provision or transfer  
24 obligation with the meter, that does not apply in  
25 the residential sector here. It also called for

1 a middle income pilot to try to reach people that  
2 may not qualify as easily for loans, and a multi-  
3 family pilot which was for the master metered  
4 affordable housing sector, again, with no  
5 disconnect provision in the residential sector.

6           And the nonresidential sector offered, or  
7 what HBC proposed, was On-Bill repayment which on  
8 the bottom here you can see that is the full  
9 blown program which would include utility  
10 disconnection if you didn't pay, and a tariff  
11 which would allow the loan obligation to transfer  
12 with the meter, so if a tenant got an owner's  
13 approval and was able to do a retrofit and then  
14 they moved, the benefit of that retrofit could  
15 continue and be paid for by the next metered  
16 customer in that residence, or an owner could  
17 change ownership and obligation would transfer,  
18 and the idea was it would securitize the loans  
19 and maybe allow lenders to offer better terms,  
20 longer terms, and might allow people to finance a  
21 project that was bigger and over a longer life  
22 than they normally could with something that  
23 didn't carry with a loan term that didn't last  
24 that long and an obligation that wasn't that  
25 secure.

1           So Harcourt Brown and Carey proposed  
2 actually about \$21 million and a lot of that was  
3 for small business, but they also recommended  
4 that medium and large businesses be allowed to  
5 use the credit enhancement, and they also talked  
6 about the need for a small business equipment  
7 leasing pilot. Then they also proposed On-Bill  
8 repayment without any credit enhancement, and  
9 when there's no ratepayer credit enhancement  
10 involved, it really frees up the opportunity to  
11 get beyond energy efficiency, and that pilot was  
12 proposed to include demand response measures or  
13 distributed generation solar, that sort of thing  
14 could be financed with that because it wouldn't  
15 have to be tied to EE because the credit  
16 enhancement is not there. And that's about where  
17 we stand right now and we're waiting for a  
18 decision. That's all I have.

19           MS. COLLOPY: We can go ahead and start  
20 with any comments or questions from Commissioner  
21 or Chair.

22           COMMISSIONER MCALLISTER: I want to thank  
23 both Commissions for all the work on this, we did  
24 a bunch at the Energy Commission during the ARRA  
25 period, and then also a lot of heavy lifting

1 going on at the PUC, which is really great to  
2 see. And I think, you know, I really see  
3 financing as sort of greasing the wheels on what  
4 people want to do. I think it's obviously,  
5 evidently quite necessary, but it's not sort of a  
6 sufficient condition, and I see it as part of the  
7 conditions that need to exist for somebody to be  
8 able to do to express their demand and actually  
9 make it happen, and can really facilitate that.  
10 So lots of different ways, you know, each sector  
11 is going to have its challenges and we definitely  
12 want, depending on where you sit, adherence on  
13 your particular sector, residential obviously is  
14 an important one, all sorts of different sectors  
15 within the commercial sphere. But I'm really  
16 looking forward, again, to some creative thought  
17 from those who are actually out there in the  
18 trenches doing this.

19 MS. COLLOPY: Questions?

20 MR. COLVIN: Michael Colvin, Adviser to  
21 Commissioner Ferron. I have to first of all just  
22 give a shout out to Jean Lamming because I don't  
23 think she would toot her horn quite loudly  
24 enough, that she has just really done a  
25 phenomenal job on all of this work. I just

1 wanted to make sort of two observations that I  
2 think Jean touched on, but I just wanted to sort  
3 of connect the dots to the -- the first one, in  
4 our On-Bill Financing Programs that have been  
5 running a little bit longer, and Jean was  
6 actually in charge of this impact evaluation  
7 study, we sought three or four kind of big  
8 lessons learned, 1) most of the survey  
9 respondents were saying something to the effect  
10 of the fact that it was On-Bill and that it was  
11 easy to understand was a huge removal of the  
12 barrier to entry, regardless of the fact of what  
13 the interest rate was, just the fact that it was  
14 sort of a package and was something they could  
15 understand. The largest uptick was small  
16 business and the largest loan size in terms of  
17 frequency of where the loans were being dispersed  
18 was relatively small loans, \$10,000 to \$50,000 in  
19 range. So just kind of interesting data as we're  
20 looking forward to these newer pilots of who is  
21 the customer that we're trying to target vis a  
22 vis AB 758. I think that is influencing some of  
23 the thinking that we have here at the Public  
24 Utilities Commission, and hopefully some of  
25 yours, as well. So that's point 1.

1           Point 2, which I think Jean made, but I  
2 just wanted to kind of highlight, or really  
3 underscore it, the trick with these four new  
4 pilots, what's different, is that it's all about  
5 using the ratepayer dollar to help build  
6 infrastructure to make the loans happen. The  
7 ratepayer dollar itself is not being used for the  
8 primary part of the loan, unlike On-Bill finance  
9 or some of the other programs that we've all  
10 tried before, so it's all about creating a way of  
11 minimizing risk, or pooling the risk, or buying  
12 down the credit via the credit enhancement --  
13 buying down the interest rate, excuse me -- and  
14 if we're going to do the scale that we're  
15 thinking about trying to do in AB 758, I think  
16 those are the strategies that we are looking for.  
17 In terms of timelines, I think what both  
18 Commissions have been talking about with these  
19 pilots is building up the infrastructure in '13,  
20 starting to scale it up in '14, and then have  
21 deployment in the next portfolio cycle, and I  
22 think that's the timeline that we're still very  
23 aggressively pursuing. So again, lots of heavy  
24 lifting being done at both agencies, and we've  
25 really enjoyed working with you all. But I just

1 wanted to make certain that those two points were  
2 sort of made in the context of 758.

3 MR. GOLDEN: Hi, and thank you. My name  
4 is Matt Golden with Efficiency.org and I wanted  
5 to actually kind of build on what Michael was  
6 talking about in terms of infrastructure building  
7 and make sure that we're building a foundation  
8 that can actually achieve these AB 758 goals.  
9 And I actually believe if you run the numbers on  
10 our long term plan that \$4 billion a year is a  
11 very conservative number when it comes to the  
12 amount of actual private investment that's going  
13 to have to come to the fore to hit our numbers,  
14 and it actually probably will -- if we are ever  
15 to hit our numbers -- probably exceed \$4 billion  
16 a year. But I think we should be reflecting as  
17 we look at these different options that we need  
18 to have a success scenario in mind, and I have a  
19 concern with some of the latest that has come out  
20 of the PUC on this pilot period that's coming up  
21 over the next two years, that the wheel project,  
22 which got left out of this presentation, which is  
23 the warehouse for energy efficiency lending, and  
24 it's really the first ever secondary market  
25 transaction for energy efficiency anywhere. And

1 it represents access to the type of long term  
2 large scale cheap capital that we need to hit  
3 those numbers, and I think if you look at the  
4 local banks that we have in California who, by  
5 all means should be a participant in this  
6 process, they have regulatory problems and cannot  
7 possibly even achieve a fraction of that \$4  
8 billion a year. So I'm very concerned that we  
9 aren't taking kind of the lessons learned in how  
10 you buy a car, and how you buy a house in  
11 Pennsylvania and some of the more successful loan  
12 programs, and we're not making those investments  
13 in California.

14           And it seems like we're poised to decide  
15 that we're going to go with the strategies that  
16 we've been attempting over the last three years  
17 to pretty limited success, and probably the most  
18 interesting and biggest new idea that we have an  
19 opportunity to participate in, that we're going  
20 to opt out of, and I think that's a tremendous  
21 mistake and we should be revisiting that idea.  
22 Thank you.

23           MS. MENTEN: I have to move the microphone  
24 down a bit. Hi, my name is Becky Menten. I'm  
25 with the Marin Energy Authority and we were one

1 of the folks that Jean Lamming mentioned, who has  
2 the authority to move forward with the financing  
3 pilot in the 2013-2014 timeframe, which is really  
4 exciting for us.

5           Something to clarify about our On-Bill  
6 repayment pilot, due to the nature of our billing  
7 infrastructure, which is way more esoteric than I  
8 care to go into, we're not in a position to  
9 provide utility shutoff, and our banks have not  
10 chosen to pursue transferability of the debt  
11 along with the meter. So while we have an On-  
12 Bill repayment mechanism, the debt does show up  
13 on your energy bill, it's not On-Bill repayment  
14 in the way that it's being presented under much  
15 of the CPUC proceedings thus far. I think it's  
16 an important pilot just the same, it kind of  
17 demonstrates the fact that there is some interest  
18 in participating in this kind of a lending  
19 mechanism, without that shut-off threat. We've  
20 been able to get a five percent interest rate for  
21 multi-family and small commercial, we do have a  
22 credit enhancement, which I think is also part of  
23 how we're getting that downward pressure in the  
24 interest rate. ]

25           The single-family side, I think the credit

1 enhancement is actually doing more to get us to  
2 lend to underserved communities than it is having  
3 a pressure in the interest rate, so we're able to  
4 serve to lower FICOs at about a 6.5 percent than  
5 you may traditionally see served in the  
6 marketplace. So those are just some interesting  
7 notes, we're very much at the initial launch  
8 phase, so we're learning a lot and we have a lot  
9 to contribute.

10           One of the things I think is important to  
11 mention in this context is that some of you may  
12 be familiar with SB 37, a bill that just died in  
13 the Legislature, I think it's dead at this point,  
14 which would have sought to create the legal means  
15 to do utility shutoff and transferability along  
16 with an OBR program. With the almost certain  
17 death of PACE at the residential level at this  
18 point, given some of the recent legislative  
19 activities, those two mechanisms can't be  
20 undermined as being really important for moving  
21 this market. The ability to transfer the debt,  
22 the ability to treat it as off balance sheet, if  
23 that's the way it works for a commercial entity,  
24 are important. So while we're demonstrating one  
25 model of OBR, which I think can be a really good

1 match also for smaller banks, there is still this  
2 really strong need at the State level, and it's  
3 not really finding the support that it needs. So  
4 that's something to keep in mind.

5           One other thing I want to just mention  
6 quickly is that it's absolutely true that scale  
7 needs to happen, there's a huge investment that  
8 needs to take place, there are so many benefits  
9 that we can all reap if we enable that to happen.  
10 But at the same time, the large banks have been  
11 very reluctant to participate and I don't think  
12 it necessarily makes sense to bend over backwards  
13 to try and court their participation. There are  
14 plenty of small banks that are stepping up to the  
15 plate, not even just credit units that are  
16 mission driven, but also some medium-sized banks  
17 that are willing to fill that gap, and I'm of the  
18 perspective that if you build it they will come;  
19 once we're able to get some participation, once  
20 we're able to demonstrate success in the  
21 marketplace, I mean, the big financial  
22 institutions are not ones who are going to stand  
23 by and watch a market opportunity pass. If it's  
24 there, they'll show up, they'll participate. So  
25 just a cautionary tale in that regard. Thank

1 you.

2 MR. CHOY: Hi. Howard Choy with Los  
3 Angeles County. And thank you for your  
4 recognition in support of the local programs that  
5 started under ARRA. I think Matt mentioned that  
6 they're progressing, you know, somewhat slowly.  
7 I would say they're struggling right now. And  
8 one of the biggest factors is, especially in the  
9 residential sector, we don't have enough products  
10 that we're able to finance, specifically in the  
11 residential sector we only have the basic and  
12 advance packages that are able to be financed  
13 with these programs. I think -- and this is true  
14 of all sectors, I think we need to balance the  
15 need for comprehensiveness and deep retrofits and  
16 use financing as a tool to accomplish some of the  
17 other objectives that the state has identified  
18 and, just as an example, the idea that HVAC  
19 burnouts when they're replaced only get 10  
20 percent get permitted. Well, I think there's an  
21 objective there that financing could also  
22 support. I think financing -- I agree with  
23 Andrew -- financing is really going to be the  
24 grease that moves these wheels, but right now  
25 we're too restricted in what we can allow.

1           And I will counter a bit what Becky said  
2 about residential PACE being dead, and this is a  
3 perfect example of where being more flexible  
4 drives greater participation. The Western  
5 Riverside (WRCOG) Hero Program, which is a  
6 residential PACE program that, good for Western  
7 Riverside COG, they stuck their finger out to  
8 FHFA and said, "We're going to do this program  
9 anyway," and in one year they had 5,000 approved  
10 applications in Riverside County, that's one  
11 percent of the homes in Riverside County. And  
12 this is a program that takes absolutely no public  
13 funding, no State or Federal funding, it is  
14 absolutely 100 percent privately supported. As a  
15 matter of fact, when I asked the WRCOG people if  
16 they would be interested in taking Public Utility  
17 Commission money, SoCalREN money, to do some  
18 reporting to provide the PUC and the CEC with  
19 data about what's happening, how did 5,000  
20 projects get approved, and what are people doing,  
21 she said, "I need to know what strengths come  
22 with me accepting that money before I'll accept  
23 it, even to do a report." So I'm just saying  
24 that financing will be a key solution and we need  
25 to get broad in what we're allowed to -- or what

1 financing can support. Thank you.

2 MR. ASPER: Conrad Asper with Efficiency  
3 First California. I was looking at the time, and  
4 I don't know how appropriate this is, but I'll  
5 give it a try and you can shut it down if it  
6 doesn't make sense, but back on Matt's comment, I  
7 have looked into the Wheel Project and it does  
8 seem like it's a credible pilot that we could be  
9 looking at and, I don't know, is it really not  
10 going to be piloted? And if so, is there any  
11 reason why? And I don't know if it's something  
12 that could be commented on if there are smarter  
13 people in the room that know about that.

14 MS. LAMMING: The pilots are pending a  
15 decision, so we really have to wait to see that  
16 until we know what will be included. So --

17 MR. ASPER: So it's not necessarily out of  
18 the picture?

19 MS. LAMMING: I can't really speak to  
20 that, I don't know where Matt got his information  
21 or if anybody else -- we'll have to see what the  
22 decision finds and the HLC report did recommend  
23 the Wheel as a pilot, so --

24 MR. ASPER: Okay. Thank you.

25 MS. COLLOPY: Are there anymore questions

1 or comments related to financing mechanisms in  
2 the room? Or through the Web? It looks like we  
3 have Jane from Sonoma.

4 MS. ELIAS: Hi. Jane Elias, Sonoma County  
5 Energy Independence Program. And I would just  
6 like to support what Howard mentioned regarding  
7 PACE and Residential PACE not being dead.  
8 Obviously, we've got the longest running PACE  
9 program in Sonoma County, it's still very  
10 successful and running, and we applaud Western  
11 Riverside Council of Governments Hero Program for  
12 starting up and they've surpassed us, as well,  
13 which is great news. And in addition to that,  
14 Placer County is also looking at possibly  
15 restarting their Residential PACE program up  
16 again. So I just wanted to support the fact that  
17 Residential PACE is not dead and, hopefully,  
18 depending upon what will happen nationwide,  
19 that's always a question, but we look forward to  
20 working with the FHFA to see if there is some  
21 sort of way to work this out and/or possibly  
22 through legislative action. Thank you.

23 MS. COLLOPY: Go ahead, Annie.

24 MS. HENDERSON: Good afternoon. My name  
25 is Annie Henderson with Renewable Funding. We

1 are the program administrator of sort of the  
2 brand name "Wheel," which is a subordinated  
3 capital structure, so when we talk about loan  
4 loss reserve and debt service reserve, we  
5 shouldn't call it Wheel, we should call it  
6 subordinated capital; however, I just wanted to  
7 make the comment that we do look to launch the  
8 program in Pennsylvania towards the end of this  
9 summer, so I'm hoping that California can move  
10 forward with this. Thank you.

11 COMMISSIONER MCALLISTER: I want to chime  
12 in a little bit here. Do we have anybody online  
13 that wants to speak?

14 MR. ASHUCKIAN: There is someone --

15 COMMISSIONER MCALLISTER: Oh, great. I'm  
16 sorry, I missed that.

17 MR. ASHUCKIAN: So we have someone from  
18 SoCalGas.

19 MR. DALTON: Yes. This is Christopher  
20 Dalton from SoCalGas.

21 MR. ASHUCKIAN: There is a comment from  
22 Southern California Gas.

23 MR. DALTON: Well, I did have a question  
24 for the last presenter. What made -- you said  
25 that you were offering an EE program to your

1 Residential customers and they said they did not  
2 want CPUC program funding?

3 MR. ASHUCKIAN: Can you start over with  
4 your question?

5 MR. DALTON: This program keeps  
6 automatically moving --

7 MR. ASHUCKIAN: So we can barely hear you.

8 MR. DALTON: Okay. The last presenter, or  
9 last commenter, said that his agency was running  
10 a residential energy efficiency program and it  
11 was funded by private sources, and that when  
12 these residential customers were asked if they  
13 wanted to participate in CPUC programs, the  
14 residential customers specifically said they did  
15 not want CPUC funding for residential energy  
16 efficiency? Is that correct?

17 MR. CHOY: No. That's not true.

18 MR. DALTON: I just wanted to get the name  
19 of the agency that was doing --

20 MR. CHOY: This is Howard Choy. My  
21 statement was about the Hero Program  
22 Administrator not wanting to accept PUC money  
23 simply to do a report, or get various  
24 stakeholders at the same table to discuss what  
25 was happening, you know, how they were able to

1 get 5,000 projects approved in one year. I think  
2 that's data that a lot of people would be  
3 interested in, but they were very -- the program  
4 administrator was very concerned about any  
5 requirements that came, even with accepting PUC  
6 money to do a report, so that's kind of the heavy  
7 hand, right, that in this case a private  
8 financing administrator is feeling relative to  
9 public monies. It was not homeowners who were  
10 refusing to accept Public Utilities Commission  
11 funds.

12 MR. DALTON: Thank you.

13 MS. COLLOPY: We are getting a lot of  
14 feedback on the WebEx, so if you are on the  
15 WebEx, can you please mute yourselves and then we  
16 won't have as much feedback. Thank you.

17 MS. CLINTON: Hi. Jeanne Clinton here at  
18 the Public Utilities Commission and Advisor to  
19 the Governor's Office. There's another theme  
20 underlying the pilots and the whole PUC financing  
21 that Jean presented, and that is the aim to build  
22 sort of our -- to contribute to a public  
23 database, to inform sort of the performance  
24 profile of lending both on the energy product  
25 performance and on the loan financing repayment

1 performance, and the desire across all of these  
2 financing mechanisms, whether they're utility On-  
3 Bill financing, or they are continuation  
4 programs, or the new pilots, is to join with as  
5 many entities who are doing energy efficiency  
6 financing as possible and to contribute to a  
7 public database.

8           The Public Utilities Commission's decision  
9 last year directed the utilities and the  
10 participants in these lending programs to form a  
11 work group to figure out how to contribute to  
12 preferably a national database on the performance  
13 of these financing activities, with the objective  
14 of getting more quickly to a large enough pool of  
15 data to let the financial industry make their own  
16 determinations of risk associated with these  
17 different borrowers, and to figure out if they  
18 wanted more financial institutions playing in  
19 this space, developing and offering new products,  
20 but basically they need information and data to  
21 inform their offerings, and so that's one of the  
22 underlying themes for all of these activities, to  
23 do that. There is a separate data working group  
24 for the financing activity. I'm not up to speed  
25 on its current thinking. I know there was some

1 desire to look to the U.S. Department of Energy  
2 National Database to see if perhaps that might be  
3 an appropriate forum, but at the end of the day,  
4 it's a matter of trying to do three things  
5 simultaneously, 1) pull credible loan repayment  
6 information into a database, 2) do that with all  
7 due consideration for privacy, and 3) bring in  
8 the energy performance expectations, too, and to  
9 put that into one database. So again, that will  
10 be part of moving forward in the next year and a  
11 half, but I just wanted to put that out there.  
12 The financial industry keeps saying we need data,  
13 we need data, we want 10 years' of data, or we  
14 want 20 years' of data, or we want hundreds of  
15 thousands of transactions in order to inform  
16 their sort of risk assessment, and there are  
17 plenty of financing activities going on in the  
18 Northwest, in Pennsylvania, in New York, and you  
19 know, what we need to do is pull this together  
20 into a profile that the capital markets can  
21 utilize.

22 CHAIRMAN WEISENMILLER: Jeanne, do you  
23 have a sense of what the current volume of energy  
24 efficiency financing is in California?

25 MS. CLINTON: I think it's tiny

1 CHAIRMAN WEISENMILLER: But as --

2 MS. CLINTON: Renewable funding might have  
3 a sense, or Howard.

4 MR. CHOY: I'm sorry, I didn't hear.

5 MS. CLINTON: Does anybody in the room  
6 have a good estimate of the size of the energy  
7 efficiency financing market in California today?

8 MR. CHOY: Sonoma was saying \$60 million.

9 MS. CLINTON: Sixty million a year?

10 MR. CHOY: For the PACE financing --

11 MS. CLINTON: 16 or 60?

12 MR. CHOY: Sixty.

13 MS. COLLOPY: It's really important that  
14 you come up to the microphone.

15 MS. CLINTON: I'll just repeat it, how's  
16 that, for everybody. So Sonoma was saying they  
17 have a six zero (60) million dollar pool that  
18 includes solar, as well as efficiency. Howard?

19 MR. CHOY: I think the Harcourt Brown  
20 Carey report gave an estimate of how much  
21 financing was going on and it was pulled from the  
22 existing programs that ARRA started, but it also  
23 estimated the amount of ESCO financing. It's in  
24 the report.

25 MS. CLINTON: Okay, so Howard Choy who is

1 from LA County is suggesting that we look to the  
2 Harcourt Brown Carey report. Howard, was that  
3 the original 2011 assessment, or their pilot  
4 design in 2012? Do you recall?

5 MR. CHOY: I think it was the original  
6 work.

7 MS. CLINTON: Okay, but I would say we're  
8 probably under \$100 million a year. Maybe if we  
9 add the PACE program in Western Riverside, maybe  
10 it's twice that.

11 MR. COLVIN: Be sure to add in the On-Bill  
12 financing stuff on top of it, it would be on  
13 programs that were over that.

14 MS. CLINTON: Well, we will be. The last  
15 three years, we only had \$40 million for three  
16 years. And, oh, Jean, on your slide I think it  
17 was 82 or 83, it was the one that gave the  
18 profile of the \$214 million of currently  
19 authorized money for finance, there was a typo on  
20 the Utility On-Bill financing, it said the total  
21 is \$214, and then the next line for the portion  
22 that is Utility On-Bill financing also said \$214.  
23 I think it's \$120. And then if you add up the  
24 rest of the numbers, then it all adds up to \$214.

25 MS. COLLOPY: And the Energy Commission,

1 through ARRA, we invested about \$50 million in  
2 financing outside of DGS, and with DGS revolving  
3 loan fund, about \$75.

4 MR. NESBITT: George Nesbitt, HERS Rater.  
5 Another tool that's out there that's not dead,  
6 although I don't hear as much about it recently  
7 and didn't see it in the Draft Plan, is the EEM,  
8 the Energy Efficient Mortgage, which is a real  
9 powerful tool for either the purchase of a new  
10 home, or buying an existing home, financing  
11 improvements as part of a single mortgage, takes  
12 into account savings, you know, can stretch debt  
13 to income ratios, can do a lot of great things.  
14 I think one of the problems is it's really been  
15 restricted to FHA loans which are more expensive,  
16 harder to get, and so that's something we need to  
17 look at, how can we get that out as a tool that's  
18 easier and cheaper for people to use. And I  
19 think Colorado just is doing some sort of Zero  
20 Net Energy, Net Zero Energy thing, and of course  
21 DOE Challenge Home, and a lot of other things are  
22 the whole idea of using the energy savings as a  
23 way to make the monthly cost no more or less, as  
24 a way of justifying the added cost for a better  
25 product. As well as obviously we need to look at

1 the On-Bill financing and the PACE and, you know,  
2 figure out whatever the barriers are. But I  
3 think also one of the lessons hopefully we have  
4 learned these past few years is that financing  
5 people and projects that are ultimately not  
6 viable, that they can't afford, and then they  
7 walk away. So these have been difficult times  
8 and a lot of people, they don't have the cash nor  
9 the ability to borrow. So it's kind of tough,  
10 you know, we have to really look at not creating  
11 the same problem, but we also need to enable  
12 people to do upgrades.

13 COMMISSIONER MCALLISTER: I wanted to  
14 chime in. I think there's an underlying question  
15 that's maybe so far unstated, is what are the  
16 underlying criteria for lending on any given  
17 program, and I don't think the Riverside folks  
18 are here, but my impression is that they have an  
19 extremely flexible approach to what is  
20 financeable under that program, with very few  
21 kind of explicit requirements and a big list of  
22 stuff that's financeable. And they've got a  
23 straightforward application process, and they do  
24 not pin it to any particular ROI, or energy  
25 savings, or anything like that -- if you want

1 windows, or whatever, then you can get them. And  
2 so that's kind of one end of the spectrum right  
3 now, and I'm not arguing for that, I'm just  
4 saying that we need to have this discussion sort  
5 of -- if we want to make recommendations in the  
6 758 Action Plan for Guidelines, or we want to  
7 recommend something to the PUC programs, then it  
8 would be nice to know sort of what the tradeoffs  
9 are with respect to flexibility versus kind of  
10 cost-effectiveness, say, because I think that's a  
11 clear access that we want to look at. And so  
12 there's a pretty good argument that if people  
13 want to do something, and it has energy  
14 implications, it may have all sorts of other  
15 implications that are non-energy benefits, you  
16 know, people want windows for lots of different  
17 reasons, and maybe it's that Riverside said,  
18 "Look, we don't want to get into people's  
19 business, we just want if there's some energy  
20 savings and people want to finance them, we want  
21 to let them finance them." And so they didn't  
22 make the whole investment be contingent on the  
23 particular energy component of the benefits. And  
24 so the fact that they had the flexibility to do  
25 it and they went ahead and did that is, you know,

1 good for them, they're achieving goals that they  
2 have locally. So that's one example that I think  
3 is a really interesting one to look at. I don't  
4 know how much information is public about that  
5 program and whether they would want to  
6 participate in our process to help us learn from  
7 them. But Sonoma is another one that has a  
8 specific history that we can look at, you know,  
9 and a lot of good data and the Sonoma folks have  
10 just been so visionary and so -- just willing to  
11 roll with the changing context and I really  
12 really appreciate that. So we want to learn from  
13 you guys.

14           You know, I also would be very interested  
15 in digging into the actual history of the Sonoma  
16 PACE program regarding the changing kind of  
17 funding sources and the strings attached to those  
18 funding sources, okay, well, when you had a  
19 higher focus on efficiency, or slightly more  
20 requirements, then what did that actually do to  
21 the feedback that you got from your participants  
22 or your potential participants so we can design  
23 around that going forward? So really, that kind  
24 of just pragmatic practical impact of what we can  
25 do to help, and what we ought to do to get out of

1 the way, I think is really important; both of  
2 those things are equally important.

3 MR. GOLDEN: Thank you. It's Matt Golden  
4 again. And first of all, I really do want to  
5 support your comment of getting out of the way  
6 and keeping things simple, and I think there is a  
7 lot that we could learn from some of these  
8 programs that are achieving more volume, and all  
9 of our goals are tied to volume, but we do also  
10 need to remember that we do need within those  
11 large pools some way to encourage better results,  
12 and so the other side of that equation is, if  
13 everybody is treated exactly the same, the people  
14 at the very bottom might have the best deal. So  
15 we need to make sure that if folks are actually  
16 going the extra mile, doing deeper retrofits,  
17 delivering real savings that are truly there and  
18 you can measure them and calculate them, that  
19 those folks are rewarded for that, as well, or  
20 you have this unfortunate race to the bottom that  
21 we want to avoid. And I think we can do both.

22 Kind of related to Jean's comments in  
23 data, I just wanted to call some attention to a  
24 project that I'm involved with through the  
25 Environmental Defense Fund and the Clean Energy

1 Finance Center working with a group called Data  
2 Science for Social Good out of the University of  
3 Chicago, funded by the Chairman of Google, which  
4 is a fellowship where we're working with NYSERDA,  
5 the Treasurer's Office in Pennsylvania, Oregon,  
6 Cincinnati, Babylon, New York, CNT in Chicago, a  
7 growing list of loan programs, so pretty much any  
8 loan program that we can get our hands on, and  
9 it's really kind of quick and dirty, we're not  
10 trying to build the central long term data  
11 warehouse for the country, but we're gathering  
12 data on loan performance, project attributes,  
13 underlying asset data, and energy performance to  
14 the degree it exists -- and that's a big  
15 spectrum, quite frankly -- pulling it together  
16 with a bunch of people that are way smarter than  
17 I, and doing some very quick down and dirty  
18 analytics and gap analysis on that data so we  
19 actually know what we have and know what  
20 questions we can actually answer with today's  
21 data, and identify what things we need to  
22 concentrate on, and so we don't have any data  
23 from California, so I just wanted to throw that  
24 out there, is that we don't need meters or names,  
25 but the more data the better.

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1           COMMISSIONER MCALLISTER: Can I actually  
2 ask, you know, to the extent we've talked a  
3 little earlier this morning about taxonomies and  
4 sort of like data structures and things like  
5 that, what allows you to actually answer and ask  
6 those questions, it would be good to sort of  
7 triangulate that effort with any potential tool  
8 we might create in California, or if it could be  
9 the same, or coordinated with DOE, or whatever it  
10 would look like.

11           MR. GOLDEN: Yeah, I totally support that  
12 effort. There's a big effort that DOE is about  
13 to undertake, there's actually a report that they  
14 commissioned a group called Paragon out of Boston  
15 that's going to come out I think at the end of  
16 this month, and I think their goal over the next  
17 12 months moving away from like -- not away from,  
18 but concentrating on taxonomy and XML so that we  
19 all start speaking the same language, and I think  
20 I can speak from EDF and the Investor Confidence  
21 Project that's sponsoring, that's gravy that will  
22 really help. We have some software tools out  
23 there for big data analytics now that make  
24 blending and doing down and dirty analytics a lot  
25 easier than it used to be, so I don't know if

1 what we're going to do is a long term -- we need  
2 these taxonomies to be able to maintain it long  
3 term, but for the short run, we can do a pretty  
4 good job just through smart people sorting the  
5 data.

6 COMMISSIONER MCALLISTER: Absolutely. I  
7 guess I'm going towards kind of long term  
8 sustainability where if we're going to let, for  
9 example, if we're going to put in place a process  
10 and essentially through regulation potentially  
11 say, you know, "Utilities, thou shalt do X, Y and  
12 Z," they need to be able to know what tool  
13 they're reporting into and with what pertinacity,  
14 with what -- I mean, got down to data fields, I  
15 mean, we need to basically have to dictate all  
16 that, so I'm just throwing that out there is  
17 that, look, if we're going to really solve this  
18 problem and make it sustainable, we've got to  
19 solve this problem.

20 MR. GOLDEN: I couldn't agree more. So  
21 actually, we hope to feed into that by knowing a  
22 little better what we have and kind of where the  
23 gaps are. So more power to you. Thank you.

24 MS. ELIAS: Jane Elias, Sonoma County.  
25 Thank you for the comments, Commissioner

1 McAllister, and we worked very closely with the  
2 Energy Commission during the CEC grant. A couple  
3 of comments regarding that, yes, when we did have  
4 the CEC grant, the ARRA funding, we did institute  
5 the loading order and so we had, for anybody  
6 wanting to do solar, had to do at least a 10  
7 percent energy efficiency, and at the time when  
8 that started we were accepting applications of  
9 about \$1.2 million in applications per month. As  
10 soon as that was implemented, we saw that drop by  
11 over half. So it did make a huge impact. It was  
12 mentioned earlier today and it's something that  
13 is very important that we've looked at is people  
14 do want to go ahead and do the deep energy  
15 retrofits, but they don't necessarily have the  
16 \$20,000 to \$30,000 to set aside and do that all  
17 at once, it's really -- it has to be piecemeal  
18 for them, and they have to look at what equity do  
19 they have, what is their savings, and what kind  
20 of projects do they line out over time when  
21 they're figuring out what kind of upgrades  
22 they're going to do to their home and what needs  
23 to definitely be done. So there was definitely  
24 an impact when we put the loading order in place.  
25 We do have the \$60 million pool to access for

1 PACE financing, however, we have done over \$63  
2 million to date because of people making the  
3 principle payments, as well as those that have  
4 been forced to pay off because of the FHFA  
5 requirements, so we still have about \$13 million  
6 left that we can access, and that's both for  
7 commercial and residential. In addition, I don't  
8 want to speak directly for Western Riverside  
9 Council of Governments for their Hero Program,  
10 but when they did start it up, they did contact  
11 us and they used many of the same eligibility  
12 requirements and underwriting criteria that we  
13 started with our program, and took all of those  
14 documents that we had. As far as I understand,  
15 however, with the upgrades, the eligible  
16 improvements, they've structured that a little  
17 bit differently and they run off a much longer  
18 list of I think over 200 items, whereas we have  
19 about 90 eligible improvements in Sonoma County.

20 One other thing I want to mention about  
21 Sonoma County, there's a program going on with  
22 one of the towns that is the PAYS Program, the  
23 Pay As You Save, and that is an On-Bill financing  
24 -- PACE and PAYS -- we have them both in Sonoma  
25 County. But that's On-Bill financing through

1 water bill, and it's mostly for water  
2 conservation, but it also allows for energy  
3 efficiency to be done, and then people can pay  
4 that off over time on their water bills through  
5 the town. So that's something that's also going  
6 on. The nice thing about that program is that it  
7 allows property owners, as well as tenants, to be  
8 able to take advantage of that program and get  
9 work done. Thank you.

10 MR. JENSEN: We have a question that came  
11 in through Chat, this is from Deborah Little, she  
12 is asking regarding Initiative 9 under Strategy  
13 6.2, that initiative reads: "Promote underwriting  
14 guidelines that support the State's building  
15 energy performance policies, mandates and goals."  
16 Deborah's question is: "To what extent can  
17 California override the Code of Federal  
18 Regulations, federally-based mandated  
19 Underwriting Guidelines?" Do we have anyone who  
20 wants to answer to that?

21 MR. ASHUCKIAN: Yeah, actually we don't  
22 have the staff here that can answer that  
23 question, unfortunately, so we will get your  
24 information and get back with you, and we'll  
25 include that in our reply comments.

1           MS. CLINTON: This is Jeanne Clinton. I  
2 just thought it might be helpful to clarify for  
3 the conversation and for where the Energy  
4 Commission staff go next with this financing  
5 piece, when we talk about comparing, say, PACE  
6 mechanisms to what Jean Lamming was presenting  
7 and what the ARRA programs are presenting with  
8 pilot activities, there's a fundamental  
9 difference, and I just want to make sure this is  
10 clear. The PUC pilots that are under  
11 consideration now and the ARRA pilots are all  
12 unsecured loans. The PACE assessments are not  
13 only secured and carry with the property, but  
14 they actually get paid ahead of the mortgage in  
15 the event of a default. So these are not apples  
16 to apples comparisons, and I think what you see  
17 with this sort of mushrooming of pilot activities  
18 of different kinds is because we don't have the  
19 PACE mechanism available, and we're struggling  
20 with trying to figure out alternative instruments  
21 to which we can get the capital markets to play,  
22 but unsecured loans have a fundamentally  
23 different risk profile than a PACE lien. So I  
24 just want to make sure that's clear.

25           COMMISSIONER MCALLISTER: Thanks, Jeanne.

1 I don't know how many people in the room were  
2 around for the sort of from the bitter beginning  
3 when the letter came out from FHFA, and we were  
4 all kind of assuming that PACE was going to be  
5 the golden goose that gets a lot of our customers  
6 and potential upgrade clients motivated, and when  
7 that went away I think everybody, including from  
8 DOE, Department of Energy with its ARRA funding,  
9 all the way down to every reach in the state and  
10 across the country with local governments,  
11 immediately started scrambling, "Oh, my God, what  
12 are we going to do because we have all these  
13 goals that we've adopted when we thought PACE was  
14 going to be there, and now it's not there?"  
15 Well, I think we've learned a couple of things,  
16 one is that there is no silver bullet here and  
17 that there are lots of different ways of getting  
18 -- it depends on the sector, it depends on the  
19 place, it depends on the particular structure of  
20 the building ownership, lots of different things,  
21 and, sure, I think we all think that PACE, all  
22 else equal, it would trump a lot of the other  
23 options, but actually all else isn't equal, and  
24 also it turns out PACE really isn't -- it's not a  
25 one-size-fits-all, it's going to hit some sectors

1 well, and it's going to hit other sectors not so  
2 well. So you know, I think it would be great if  
3 PACE came back, but it also doesn't eliminate the  
4 need for these other options, and so I think all  
5 this work has not been in vain at all. And, in  
6 fact, we're still learning how to make each one  
7 of them succeed. So I would love to hear  
8 specific comments about how we can do things  
9 better.

10 MS. HARO: I just wanted to clarify the  
11 question that Initiative 9 is about integrating  
12 energy efficiency into the guidelines, it's not  
13 about overriding Federal Guidelines.

14 MS. GOODHILL ROSEN: Hi. This is Gina  
15 Goodhill Rosen with Global Green USA again. This  
16 is a little bit of a step back from the comments  
17 people have been saying, but when I was reading  
18 the financing section, I thought it was a really  
19 good overview of the financing mechanisms, I  
20 didn't really get a sense -- and I actually have  
21 gotten a sense better in this workshop and in the  
22 Plan about what the CEC saw its role in, of what  
23 its role as in the financing, and I think just  
24 clarifying that would be helpful. There's  
25 clearly a lot of programs out there right now, in

1 particular we have Proposition 39 and we have the  
2 cap-in-trade monies that are coming up, and both  
3 of those programs have specific goals for energy  
4 efficiency, and it would be great to see this  
5 action plan align a little bit with those to get  
6 a sense of how -- what are we doing to meet the  
7 goals of some of the funded programs that are out  
8 there, and kind of tying it to things that are  
9 already happening in the state that have pools of  
10 funding behind them, seeing some sort of nexus or  
11 overlap and acknowledgement of what the  
12 Commission is planning to do to meet those goals  
13 would be really helpful, I think.

14 MS. COLLOPY: Are there anymore comments  
15 regarding financing mechanisms either in the room  
16 or on the Web? All right, thank you very much.

17 MR. ASHUCKIAN: So on our agenda now we  
18 have a break and so let's reconvene at 3:15, and  
19 then we will actually open it up to comments on  
20 any part of the Action Plan, any subject.

21 (Break at 2:57 p.m.)

22 (Reconvene at 3:17 p.m.)

23 MR. ASHUCKIAN: Okay, if we could have you  
24 take your seats, please? Okay, thank you very  
25 much for staying, it's been a long day. And we

1 have some time now to open it up to general  
2 questions. At this point, we will be accepting  
3 questions, we can't guarantee that we'll have the  
4 answers, but we at least will do our best to  
5 answer those questions. The staff that are still  
6 in the audience from the group, if they want to  
7 come up here, Martha, so you might be available  
8 to answer questions? Also, again, we're taking  
9 comments on any part of the Action Plan if you  
10 can't make it or you don't want to participate in  
11 the next two days. So with that, I'll open it up  
12 to the questions and comments.

13 MS. WINN: Good afternoon. Valerie Winn  
14 with Pacific Gas & Electric Company. And I  
15 actually don't have any specific questions at  
16 this point, but I did want to add our thanks to  
17 those of other parties and to the Energy  
18 Commission team for their very thoughtful and  
19 well written Draft Action Plan. We will be  
20 participating, obviously we're here today, and  
21 will be in Fresno tomorrow, and also have some  
22 representatives in LA on Friday for the third  
23 workshop, and we're busily reviewing and  
24 preparing our formal comments that we'll be  
25 submitting on July 12th, so I just wanted to say

1 thank you and we look forward to continuing to  
2 work with you on this important issue.

3 MR. ASHUCKIAN: Thank you.

4 MR. HARRISON: Good afternoon. Anthony  
5 Harrison, I'm with the California Energy  
6 Efficiency Industry Council, and really just  
7 wanted to echo very similar comments. We are a  
8 trade association that represents over 70 energy  
9 service companies and energy consultants, and  
10 really those firms that design, implement and  
11 evaluate energy efficiency programs in the State  
12 of California, and we just want to first and  
13 foremost thank the Commission and the staff of  
14 both the CPUC and CEC for the work that they did  
15 on this plan. I think that it presents a great  
16 opportunity to really get at one of the biggest  
17 challenges, which is driving demand for energy  
18 efficiency upgrades in the state. So we'll be  
19 working on more formal comments and looking  
20 forward to continued participation in the  
21 process. And thanks again for having this forum.  
22 And I guess if there was one question, it was  
23 raised a little bit earlier, is how is the work  
24 that is being done here relative to AB 758 going  
25 to overlap with some of the other larger energy

1 efficiency initiatives like Prop. 39 that the  
2 Energy Commission is going to be on, it would be  
3 great to hear some feedback on that. Thank you.

4 MR. ASHUCKIAN: I'll just make some  
5 general comments. Prop. 39 was actually -- just  
6 some background and, Commissioners, if you want  
7 to jump in, actually you're probably a little  
8 more close to this than I am, but as you may  
9 know, the Governor in his original budget had the  
10 Prop. 39 program being funded and handled by the  
11 school districts, the Superintendent of Schools.  
12 And as it went through the Legislature, a lot of  
13 that got shifted over to the Energy Commission,  
14 and so we've been scrambling over the last couple  
15 weeks to help get that program off the ground  
16 and, yes, we do see a significant nexus between  
17 Prop. 39 funding and the development of energy  
18 efficiency in schools with AB 758 work. The data  
19 collection part is very much copasetic with AB  
20 758 in that schools will be required to provide  
21 us data, we will be setting up like a public data  
22 clearinghouse for that information, and we're  
23 hoping that that can actually become part of the  
24 whole 758 data collection process, as well. And  
25 then I'll let the Commissioners add any comments

1 to that.

2 CHAIRMAN WEISENMILLER: Well, I mean,  
3 obviously we at the Energy Commission are  
4 preparing a report with recommendations. At the  
5 same time, the Legislature and the Governor have  
6 spoken, although I'm trying to figure out if the  
7 budget is really through, and if it's really  
8 signed and everything else on Prop. 39, and we  
9 will be implementing that, although, again,  
10 that's the decision of the Governor and the  
11 Legislature, and certainly the features in that  
12 are fairly explicit on what we will do. As part  
13 of that, and for people's recollection on cap-  
14 and-trade, the ARB adopted a plan, it was not in  
15 the Governor's Budget, the Governor instead  
16 loaned that money for the General Fund, and we'll  
17 see what happens next year. But again, certainly  
18 the two of us on the dais are not going to be  
19 determining that decision, that's going to be the  
20 Governor and the Legislature.

21 COMMISSIONER MCALLISTER: Yeah, and just  
22 to add, the Budget discussion that just happened  
23 regarding Prop. 39 funds was really for the first  
24 year, so that discussion will happen in the  
25 appropriate budget cycle. And there is, I think,

1 a general feeling that it would be good -- we're  
2 one of the small number of agency partners in  
3 implementing Prop. 39, developing Eligibility  
4 Guidelines, a couple of other things that we're  
5 called out to do, and we're going to do that as  
6 directed; and I think there's an appreciation of  
7 the overlap between energy efficiency and schools  
8 and energy efficiency in existing buildings, they  
9 obviously are related, and the schools are one of  
10 the sectors that we want to hit under 758. So  
11 there's, I think, a feeling that through  
12 implementation of Prop. 39, which by the way has  
13 some actual resources attached to it, where 758  
14 really does not, that to the extent that we're  
15 building sort of tools and infrastructure to  
16 support the Prop. 39 effort, that those at least  
17 ought to be made with an eye towards the broader  
18 existing building stock, and so what that exactly  
19 looks like we'll have to see as we go forward,  
20 but you know, obviously there's potential  
21 synergies here that we want to keep in mind. And  
22 then hopefully those can grow in the second,  
23 third, fourth, and fifth year of the Prop. 39  
24 funding. Cap-and-Trade, I would say, is much  
25 less -- there's less certainty about where that's

1 going to go in the near term.

2 MR. ASHUCKIAN: Any other comments?

3 MR. SCHMIDT: Steve Schmidt from ATA  
4 again. I won't be able to make it to Fresno  
5 tomorrow. I wanted to comment and support the  
6 notion that's in the -- I think it's called  
7 Multiple Pathways for Residential Properties.  
8 And what we've seen from analyzing a couple  
9 thousand homes worth of Smart Meter data is that  
10 it's pretty easy to tell from House A that has a  
11 high percentage of their energy use going to  
12 heating and cooling loads, and House B could be  
13 right next door that has a high percentage of  
14 their energy use going to plug loads, to House C  
15 that has a high percentage of its energy use  
16 going to behavioral issues. It's very easy to  
17 tell that from Smart Meter data and, in the past,  
18 most of the ECA Program has been focused on a  
19 single hammer just focusing on the heating and  
20 cooling stuff, and I think it's very very  
21 important to give anybody that starts down the  
22 path of residential energy efficiency, give them  
23 options appropriate to their home, so I want to  
24 support that notion of Multiple Pathways. Thank  
25 you.

1           COMMISSIONER MCALLISTER: Let's see, I  
2 guess I wanted to put out another issue there  
3 that it would be great to hear people's ideas  
4 about. You know, as our intro said, as Christine  
5 said in the intro at the beginning of today, both  
6 Commissions really have spent a few years trying  
7 to get our heads around and really get traction  
8 on whole building performance. And you know, at  
9 the same time, we see that the vast majority of  
10 projects out there, you know, whether they be  
11 HVAC replacements, or lighting projects, or  
12 insulation, or whatever they are, they're one  
13 off, or maybe just -- they're not comprehensive,  
14 and they're done by a contractor who maybe has no  
15 energy efficiency practice, they don't see  
16 themselves -- they see themselves as a  
17 contractor, plugging and chugging, getting the  
18 jobs out, filling the pipeline, and just doing  
19 it. So what I think we realize, I certainly  
20 realized, is that we have to actually figure out  
21 a way to engage those projects and touch them in  
22 some way, even if it's just to educate the  
23 homeowner, or educate that contractor, get in  
24 there somehow, and the permitting process is one  
25 way that we can sort of have some touch with that

1 project. Now, we want to make that a positive  
2 touch, if possible, not a negative touch. But we  
3 have to figure out a way to be relevant for this  
4 broader universe of projects so that there is an  
5 opportunity to be an onramp, okay? So let's say  
6 we're successful at that and, you know, HVAC goes  
7 out first day of summer, homeowner says, "Oop,  
8 got it replaced, had a great contractor, the  
9 contractor got me thinking about energy  
10 efficiency, and then, gosh, a couple years from  
11 now, maybe I'll have enough money to do a kitchen  
12 remodel." So how do we keep track of that? How  
13 do we enable -- if it's not going to be a onetime  
14 whole house, you know, a gut and rehab, or just  
15 every measure that could possibly be cost-  
16 effective in that house, how do we keep that ball  
17 rolling forward? Is there some resource that's  
18 needed? Is the contractor responsible for that?  
19 Is there some model for the contractor pinging  
20 that homeowner and saying, "Hey, you mentioned  
21 that you're going to be doing a kitchen remodel,  
22 put it on the mailing list to keep them coming,"  
23 you know, it could be from the very low brow all  
24 the way to some centralized resource that sort of  
25 keeps track of that. I mean, I don't want to

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1 necessarily go there, but if you're buying a car,  
2 you can look up the Vin number on CARFAX and you  
3 know exactly what the history of that car was,  
4 you know when it was in a wreck, when it got --  
5 you know, if it's a total, you know, you know a  
6 lot of things about that car. So there are ways  
7 to -- there are ideas out there to kind of,  
8 "Look, how can we help manage this flow of  
9 projects?" If it could be a whole house  
10 endeavor, it just wouldn't be happening all at  
11 once, it would be happening over time, and that's  
12 in fact the way a lot of people have their  
13 budgeting, right? So you know, again, there's a  
14 lot of potential ideas up there, some of them are  
15 probably more workable than others, you know,  
16 many of you probably have better ideas than I do  
17 about this stuff, but what can help the energy  
18 efficiency ecosystem take deeper root, I think,  
19 is the question, and what resources are not going  
20 to happen in the marketplace on its own and that  
21 are needed to help that happen? So just broadly,  
22 you know, I would invite you to again put on your  
23 thinking caps and chat and figure out what might  
24 have legs, and it doesn't really matter whether  
25 you know it does or not, but just put it in the

1 record and we can have it in there and suss it  
2 out.

3 MR. NESBITT: George Nesbitt, HERS Rater.  
4 So to get to our carbon reduction goals, our  
5 Strategic Plan goal of 40 percent reduction in  
6 residential and all the other goals, we're not  
7 going to get there voluntarily. There's a lot of  
8 emphasis in this plan on voluntary, voluntary,  
9 voluntary; it's not going to happen unless  
10 somehow we come up with a miracle -- Tenaya  
11 figures out how to shame everyone into using  
12 social media and social pressure to do the right  
13 thing, for the right reasons. So I'm a big  
14 believer in Codes and Standards and Regulations,  
15 I mean, the truth is we have to have them. Now,  
16 granted, we've got poor compliance, they're not  
17 perfect, but I think the absence of them would be  
18 even worse. If we didn't have Codes, if  
19 manufacturers didn't have requirements, didn't  
20 have packages showing you how to install it,  
21 things would be far worse than they are. So you  
22 know, yes, there are some of us that would do it  
23 good because that's what we believe in, so we  
24 need far more requirements, Standards, Codes to  
25 get there. There's a lot going on, you know, we

1 talk about scale, and the thing is most of us  
2 that are in this industry, we are in a very  
3 little niche, especially those of us in the whole  
4 house, we are a niche of a niche of a niche of a  
5 niche, yet there are major remodels, additions  
6 going on every day, you've got a lot of single  
7 trade installs going on every day, and we know  
8 that they don't perform at what they could. LBNL  
9 has studied a lot of purposeful deep energy  
10 retrofits and there's a big variation in the  
11 results. The projects that had enough key people  
12 that actually knew what they did performed  
13 better. It's not that we aren't making progress,  
14 we're not making the progress we need to make.

15 I think to partly address your question,  
16 Andrew, and part of what I talked about earlier,  
17 there's people painting houses every day, how  
18 many of those painters ask the client, "Well,  
19 gosh, are your walls insulated?" How many times  
20 have I walked into a house and they've just  
21 painted and, "Damn it, I really need to drill a  
22 couple hundred holes in your walls, patch them,  
23 and paint them"? That's a harder sell. They  
24 just put in a new HVAC system, I can't tell you  
25 how many rebated -- I did M&V early in my career,

1 you know, all the ducts are leaky, all the  
2 airflow is low, all the air conditioners are  
3 charged wrong, and thousands and thousands of  
4 dollars are thrown at it. We're throwing good  
5 money at bad work. So for one, we've got to just  
6 quit throwing money in rebates, at insulation, at  
7 HVAC equipment, anything that is install  
8 dependent, the CPUC just has to quit rebating it.  
9 If we're going to give people money, we're going  
10 to have to give them money and they're going to  
11 have to meet some standard, and there has to be  
12 some QA. But we need to train the roofer, new  
13 roof going on, well, I just re-roofed my house  
14 last fall, I put five inches of Polyiso foam on  
15 the roof deck, right? It's the perfect time, the  
16 roof leaked, needed to be done, it solves a lot  
17 of problems, so the roofer needs to be trained to  
18 see opportunities that, gosh, this is an  
19 opportunity for you to insulate in this way, or  
20 sometimes you have cavities that, rather than  
21 having to drill, right, or maybe radiant  
22 barriers, how many re-roofs do people actually  
23 put a radiant barrier in, or push cool roofs? So  
24 the whole idea there's a lot of electricians, you  
25 know, recessed can lights, how many times do we

1 go in the attic only to find that the insulation  
2 has been rat tracked because the electrician had  
3 to crawl through it to install those hundred  
4 recessed can lights that the customer wanted,  
5 right? So just -- we have to train the whole  
6 industry to spot opportunities, to understand how  
7 what they do relates the whole. And I think part  
8 it we really need to think about a whole house  
9 audit rating, you know, requires them every five  
10 years, I think it is. A lot of local  
11 jurisdictions are trying to require HERS 2  
12 ratings with certain additions and remodeling  
13 work, you know, someone needs to get in to the  
14 customer and say, you know, these are your  
15 possibilities, these are your opportunities,  
16 whether they stage it, or whether it's part of a  
17 big job and they can afford and are willing to go  
18 the whole way or not. And that probably can't  
19 happen at the individual contractor level because  
20 their interest is in selling their box, or  
21 they're going to be afraid of losing their box  
22 over something else, and so looking at whole  
23 house ratings audits periodically, various  
24 trigger points, you have to make it required. A  
25 requirement does not necessarily mean it's going

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1 to be successful, you know, and I think Europe  
2 has had a wide range of success with those  
3 requirements, and a lot of it depends on the  
4 individual raters, programs, outreach, how it's  
5 done. And I know it's not popular with certain  
6 people, it's oddly enough -- I'm a conservative,  
7 but I believe in regulations, yes, I believe in  
8 conserving energy.

9 MR. ASHUCKIAN: Thank you.

10 MR. NESBITT: So, thanks.

11 MR. ASHUCKIAN: Matt.

12 COMMISSIONER MCALLISTER: So just to  
13 remind everybody that the Permitting and  
14 Potential Mandatory approaches are both tomorrow  
15 in Fresno, so if you can't make it in person, you  
16 can call in, and I think those will be really  
17 good discussions, both of them.

18 MR. GOLDEN: Last time for the day, I  
19 promise. I'm just up here again because I'm not  
20 going to be able to join you in Fresno tomorrow,  
21 so I apologize for my multiple comments. Matt  
22 Golden, Efficiency.org. But I did want to just  
23 say my peace and kind of build onto what you were  
24 talking about, that I do think there needs to be  
25 a lot of innovation on all fronts, business

1 models, technology, deployment plans, there's a  
2 whole range of innovation that needs to occur in  
3 this industry. And what I would encourage as we  
4 look especially in the back of the last three or  
5 four years of Recovery Act programs and the  
6 Energy Upgrade Program and everything we learned  
7 from that program, that we recognize  
8 fundamentally that the Government's role, the  
9 idea from a public policy standpoint, from a  
10 regulatory standpoint, of solving these problems,  
11 of designing the business model, of specifying  
12 the software tools and the requirements, has not  
13 only not been very successful here in California,  
14 but it hasn't been successful virtually anywhere.  
15 And fundamentally, we need to solve a problem  
16 that works for energy efficiency as a resource  
17 for the state, but also enables contractors to be  
18 profitable, and delivers solutions to customers  
19 in a way that they want to buy them. And  
20 especially on those last two points, that's not  
21 something that's easily figured out in a room.  
22 And when I was a contractor for many years, on my  
23 best given day, nine out of 10 of my ideas  
24 failed, and so we need to have feedback loops and  
25 innovation and allow the private sector

1 fundamentally to innovate. And I'm a big  
2 believer that companies will do what is  
3 profitable to them, and I think a net and a big  
4 enough hole, and consumers are a little less  
5 rational, but will also do what's in their  
6 interest ultimately, and the kernel that is in  
7 the power of this Commission -- both of these  
8 Commissions, quite frankly -- to measure and  
9 reward is energy savings that can be calculated  
10 and tracked and third-party verified, and that's  
11 ultimately the thing that we're trading in. And  
12 by really focusing on that, and saying that it's  
13 actually a pretty easy problem, we're investing  
14 in predicted results, just like any project  
15 finance question you're looking at making an  
16 investment today for some future return, we can  
17 establish how likely that return is to be there,  
18 and on the back of that dataset we can look at  
19 private capital at scale coming into this market  
20 because we can securitize that flow of savings.  
21 And helping us move to that energy efficiency as  
22 a resource marketplace where the role of the  
23 regulator really becomes health and safety and  
24 protecting the customer, things that markets  
25 don't do terribly well, or lots of people have to

1 die first, right, and avoid that, and on the back  
2 end making sure that this resource that's being  
3 generated is reliable, measurable, accountable,  
4 and holding industry accountable to those savings  
5 actually being there, that's the thing that frees  
6 us up from having to, or attempting to,  
7 micromanage every step in the process, and we  
8 should not get confused. The advanced path of  
9 Energy Upgrade California and the simulation  
10 model is not performance-based, it's just very  
11 complicated. Fundamentally, it's a bunch of  
12 algorithms and, in my view, performance is when  
13 you actually become accountable for what happens  
14 at the meter, not how you get there. So I  
15 actually believe deep savings and simulation  
16 models and regression models, and however --  
17 iPhone apps, whatever drives savings, those are  
18 tactics, and that's where industry can do a  
19 really good job innovating, and it's delivering  
20 that savings to market and figuring out how we  
21 buy those savings in a way that makes it  
22 lucrative for contractors and customers to do  
23 this work, when one out of 12 HVAC systems fail  
24 and there's billions of dollars of HVAC happening  
25 every year in California, regardless of anything

1 that we need to say about it, that it becomes a  
2 positive value proposition for that contractor  
3 and for the customer to go a little further, put  
4 in some attic insulation, seal the ducts a little  
5 better, because they're creating this value  
6 stream that can be monetized, and it makes the  
7 regulatory role a lot easier, and that can tell  
8 you pretty much for sure that it makes us look  
9 like other markets, and that's the gold standard.  
10 I think we need to give up on making everybody  
11 buy into the religion of energy efficiency and  
12 start to make energy efficiency look like the way  
13 we buy and sell other commodities and, heck, the  
14 way we buy and sell energy fundamentally. And so  
15 I would just encourage you to use that filter and  
16 really think about how we can make this a lot  
17 simpler and really focus on that underlying  
18 resource and incent -- and we have enough money  
19 in the system, that's the beautiful thing, we're  
20 spending so much money, if we can just direct a  
21 little bit more of it towards the actual thing  
22 we're trying to produce, which is energy savings,  
23 we can make it profitable for everybody. So  
24 thank you very much and I appreciate all of the  
25 efforts.

1           MR. ASHUCKIAN: Thank you. Anybody else?  
2 Okay, let me just again kind of give an overview  
3 of the next two days, and then I'll put it up for  
4 closing remarks from the Commissioners.

5           So tomorrow we'll be in Fresno and we'll  
6 talk about Residential Upgrades, the Energy  
7 Efficiency and Property Valuation, Potential  
8 Mandatory Ratings and Basic Upgrades, and then  
9 Standards Compliance and Enforcement.

10           And then on Friday in Los Angeles, it will  
11 be Non-Residential Standardized Tools, Small,  
12 Medium and Commercial Building Upgrades, Public  
13 Sector Leadership, and then Potential Mandatory  
14 Statewide Energy Use Disclosure for the largest  
15 commercial and public buildings. With that, I  
16 will turn it over to final comments from the  
17 Commissioners.

18           COMMISSIONER MCALLISTER: I appreciate  
19 everybody being here. A big chunk of the people  
20 who were here at the beginning are still here, so  
21 kudos to you. And I hope the coffee was good and  
22 sufficient. So I think this was a good day. I  
23 really hope that many of you who spoke see fit to  
24 submit your comments, your written comments on  
25 the record and to the Docket, and they will get

1 read, they will get digested, you know, I myself  
2 read many of them, maybe not all of them, but  
3 will read many of them -- the best ones I'll  
4 read, so make them really good. And tomorrow, as  
5 Dave said, we're in Fresno, on Friday we're in  
6 LA, really trying to get a good cross section of  
7 the state and get as much input as possible. I  
8 think maybe we have some additional outreach to  
9 do, you know, the different specialties of  
10 contractors, you know, the performance  
11 contractors absolutely are here and we really  
12 appreciate them being here. At the same time, if  
13 we're talking about reaching out to specialty  
14 contractors, we need to go figure out who the  
15 roofers are and talk with them. We need to  
16 figure out who the specialty contractors are that  
17 we're trying to influence and see whether this is  
18 even beginning to be, you know, a twinkle in  
19 their eye, which I kind of gather that in many  
20 cases it won't be. And figure out, you know, as  
21 we really start getting into the details of  
22 practically speaking what are the highest  
23 priorities, you know, in this document right now  
24 there are a good number of strategies and within  
25 them there are a whole bunch of actions, of

1 initiatives, and part of what I think we need to  
2 get out of this process and hearing what  
3 everybody has to say and doing further analysis  
4 to figure out where the actual savings are, which  
5 of these initiatives is likely to produce the  
6 most savings, or really is the biggest gap in the  
7 marketplace, etc., we need to come out with a  
8 relatively smaller group of initiatives that are  
9 really the higher priorities. We always say we  
10 have a lot of money in California to do things,  
11 but at the end of the day the resources are  
12 limited and the money that we do have from  
13 ratepayers and the public is really a drop in the  
14 bucket as compared to the capital that's  
15 necessary to really get this done. So we need to  
16 make sure we're investing it wisely and in the  
17 right places, and it may be that all those  
18 initiatives that are listed in there aren't going  
19 to make the cut, you know, we need to hear from  
20 folks who know about these things from their  
21 particular perspectives. So, again, I would  
22 really just encourage everyone to give it some  
23 thought and it doesn't even have to be  
24 immediately formally -- you know, pick up the  
25 phone and call the contact that is the specialty,

1 you know, if it's about financing, call Adrian,  
2 call Christine, she can tell you who -- raise  
3 your hand, Christine, she says don't call me now,  
4 but do. This is really an outward-looking effort  
5 for us in a way that I think many of the things  
6 we do are not. And so we need to -- we want to  
7 get it right.

8           So with that, I just want to again thank  
9 staff and thank the PUC for hosting this, it's  
10 really been a good day and appreciate everybody  
11 sticking it out with us. And I want to see if  
12 the Chair has some closing comments.

13           CHAIRMAN WEISENMILLER: Yeah, a couple  
14 comments. Again, I sort of would like to echo  
15 what you said, adding something different,  
16 following up a little bit better on the Prop. 39  
17 question, is that one of the things to think  
18 about is what's really missing from the report in  
19 terms of topics or areas, and we may or may not  
20 around the gaps have a workshop in the near  
21 future, and one potential thing is, if you look  
22 at Prop. 39, I think it's pretty clear there is  
23 going to be a very strong low income component  
24 there and that one of the potential ways we might  
25 address that, again, we've got all the classic

1 issues of, you know, is any bank really going to  
2 jump into that type of market if we split  
3 incentives and everything else, it might be  
4 direct install. And so essentially at this point  
5 we really haven't dug into that issue, perhaps we  
6 shouldn't, but again trying to think of the types  
7 of things that might come out next year in the  
8 Prop. 39 context. As I said, I would expect the  
9 programs that will be targeted at low income and  
10 perhaps direct install would be one way to  
11 address that. But again, that's an example of  
12 the types of things that -- we have pretty  
13 limited resources, but again trying to figure out  
14 what we missed and, similarly, there are other  
15 things that frankly might be more appropriate at  
16 either the local or the federal level, and  
17 something which again we may not be -- there may  
18 be some suggestions on things that we just drop  
19 off the agenda because they're not really things  
20 that we're going to be able to address at a state  
21 level. So, again, the more we can think about  
22 how what we're doing can -- ideally, we're  
23 looking for -- I mean, the bottom line is that  
24 there's lots of capital out there and we're  
25 trying to figure out ways of trying to redirect

1 some of that funding, or at least to facilitate  
2 that. And again, yeah, if you're talking \$4  
3 billion, the state does not have \$4 billion a  
4 year to invest in this, it might be a high  
5 priority for a lot of us, particularly the  
6 Governor, but that's not going to happen, so  
7 you're back to how do we provide the incentives  
8 to get that type of flow of capital. So, anyway,  
9 think about, you know, when we say what's  
10 missing, think about things that maybe we should  
11 drop out of the mix here.

12 But I certainly appreciate everyone being  
13 here today and I think this is going to be a  
14 solid week. And again, we would like this report  
15 to help us set the vision for where we're heading  
16 here. So thanks again.

17 MS. COLLOPY: So thank you very much for  
18 attending today, and those on the Web, thank you  
19 very much. This concludes our workshop for Day  
20 One. Thank you.

21 (Thereupon, the Workshop was adjourned at

22 3:49 p.m.)

23 --oOo--

24

25