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CALIFORNIA STATE ALLOCATION BOARD  
INFORMATIONAL MEETING RE: SOLAR ENERGY  
AND ENERGY EFFICIENT PROJECT OPTIONS  
FOR CALIFORNIA SCHOOLS

CALIFORNIA STATE CAPITOL  
ROOM 4202  
SACRAMENTO, CALIFORNIA 95814

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APPEARANCES

MEMBERS OF THE BOARD PRESENT:

PEDRO REYES, Chief Deputy Director, Policy, designated representative for Ana Matosantos, Director, Department of Finance

ESTEBAN ALMANZA, Chief Deputy Director, Department of General Services, designated representative for Fred Klass, Director, Department of General Services

KATHLEEN MOORE, Director, School Facilities Planning Division, California Department of Education, designated representative for Tom Torlakson, Superintendent of Public Instruction.

REPRESENTATIVES OF THE STATE ALLOCATION BOARD PRESENT:

LISA SILVERMAN, Acting Executive Officer

P R O C E E D I N G S

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CHAIRPERSON REYES: So why don't we go ahead and get this hearing going. I know that some Senators are going to try to join us. Closer to the mic? There we go. How's that. Oh, thank you. My voice carries, so I assume everybody heard me.

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Good afternoon. It's past 3:00 o'clock, so why don't we go ahead and get started. I know that some Senators are going to try to make it. There are some hearings in the building today.

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Senator Hancock who had requested this hearing unfortunately will not be able to join us. So we will go ahead and -- I did not want to reschedule. We had too many other folks already on the calendar, so we wanted to move forward.

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This is an area of interest to all of us on the Board and also to the administration. So without further ado unless members of the Board up here want to make any kind of opening remarks --

21

MS. MOORE: Okay.

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CHAIRPERSON REYES: -- why don't we go ahead and get started. We have the first panelist. We have Karen Douglas with the California Energy Commission, Commissioner. We have from a utility company, Mark R. Johnson with PG&E,

1 and then we have Katrina Morton with the California Center  
2 for Sustainable Energy.

3 Ms. Silverman --

4 MS. SILVERMAN: Yes.

5 CHAIRPERSON REYES: -- would you join us up here  
6 for a second just so that you can direct some of this since  
7 you were intimately involved in setting up the agenda, make  
8 sure that we got the right folks up. You can take that  
9 corner seat there, that'd be great.

10 Commissioner.

11 MS. DOUGLAS: Good afternoon, Board members. It's  
12 an honor to be here and this is an important topic to me, so  
13 I'm glad to be here to talk about school energy efficiency  
14 and what we can do to increasingly improve efforts to reach  
15 California schools which can benefit so greatly from energy  
16 efficiency improvements and renewable energy improvements.

17 Just a couple high-level comments. Obviously  
18 reducing school energy bills increases funding that's  
19 available for other purposes. It also provides an enhanced  
20 learning environment for students, greater comfort, better  
21 lighting, better air quality, and a lot of other  
22 improvements that make schools more effective.

23 As the Energy Commission see things, the first  
24 economical step to take to lower electricity bills is to  
25 look at energy efficiency improvements and reduce the

1 inefficient use of energy through seeking out cost effective  
2 energy efficiency improvements.

3           And after we have taken care of the most cost  
4 effective energy efficiency improvements at schools, then we  
5 recommend looking at solar energy or other forms of  
6 self-generation in order to further reduce electricity  
7 bills.

8           Typical energy efficiency improvements with  
9 programs that we have worked with schools in bring schools  
10 an average of 15 to 20 percent savings with a simple payback  
11 of less than ten years.

12           There are a number of programs that either  
13 currently exist or in one case is a past program that we  
14 have put on temporary suspension directed at schools. Of  
15 course there are utility funds available from both the  
16 investor-owned utilities and the public utilities. Some of  
17 the utility representatives will be here to speak to that  
18 now.

19           The best way to approach the utilities is to check  
20 the websites, call account representatives, talk to them  
21 about what programs are available for schools.

22           The Energy Commission has administered a program  
23 called the Bright Schools Program. That program provided  
24 technical assistance up to \$20,000 of free technical  
25 assistance to school districts, comprehensive audits, new

1 construction design assistance, proposal review assistance,  
2 and bid specification assistance.

3           It's been a good program. We've heard from a  
4 number of people who work with schools that they'd like to  
5 see us return to active grade school program participation.

6           We are currently just looking at our resources and  
7 seeing if we -- if and when we'll have the ability to do  
8 that again. We've also at the moment suspended technical  
9 assistance for another program, the ECAA program that I'll  
10 speak to right now, and that was largely a result of the  
11 responsibilities from the American Recovery and Reinvestment  
12 Act implementation. And those projects are coming to an end  
13 primarily this spring, some later this summer.

14           So I think that we're going to have some more  
15 capability to provide technical assistance in the future.

16           There is -- of course there are rebate programs  
17 available from utilities. There's a self-generative  
18 incentive through public goods charge funds at the Public  
19 Utilities Commission and there are financing programs  
20 available.

21           The program that I'll speak the most about is the  
22 Energy Conservation Assistance Act, the ECAA -- widely known  
23 as the ECAA program. And this program, the Energy  
24 Commission offers loans through a revolving fund. That fund  
25 is currently fully allocated, but there are \$25 million

1 coming in in January 2012 and we will have one year to  
2 expend those funds.

3           So we will have funds and we are currently  
4 accepting applications for ECAA loans. In the past, schools  
5 in the K through 12 -- K through 12 schools have received  
6 319 out of 760 total loans under the ECAA program, received  
7 about \$42 million in loans which is about 16 percent of the  
8 funding we've offered under that program.

9           So it's a fairly substantial amount of loans under  
10 that program have gone to K through 12 schools. The program  
11 offers up to 100 percent financing for energy efficiency and  
12 sometimes solar or installations in schools and it requires  
13 an 11-year simple payback. So the projects have to come in  
14 under that 11-year payback.

15           The program also requires that energy bills go  
16 down, in other words, the savings be greater than the  
17 repayment over the life of the loan.

18           We for a brief period of time when we had Recovery  
19 Act money experimented with offering 1 percent loans. That  
20 was at the height of the recession when we were concerned  
21 about the willingness of local jurisdictions, including  
22 schools, to take on any more debt even at very favorable  
23 terms.

24           We found that we were able to get through all of  
25 the Recovery Act money we had allocated to that program. We

1 ultimately have changed the interest rate back to 3 percent  
2 and it's currently at 3 percent. It's a first come, first  
3 serve program and typically we have a four to six week  
4 review and approval process.

5           So again if schools have projects that they're  
6 thinking about that would qualify, you know, you can get  
7 your application in literally today and we're building up  
8 our pipeline of applications.

9           An example of an ECAA loan that includes both  
10 efficiency and solar is the Antelope High School. It  
11 included lighting -- new lighting, lighting controls, a  
12 chiller for the AC system, recommissioning the energy  
13 management system for the HVAC, and a 245 kilowatt  
14 photovoltaic project. So \$2 million with an \$858,000  
15 utility rebate, 3 percent loan, simple payback -- and that's  
16 just an example, but our staff will work with schools to  
17 fund the best opportunities.

18           CHAIRPERSON REYES: And is that program first  
19 come, first serve also?

20           MS. DOUGLAS: That program -- that's the ECAA  
21 program. It's first come, first serve. And so I think that  
22 in conclusion I'll just offer a few thoughts.

23           We recognize substantial opportunities in schools  
24 to improve energy efficiency and I've been interested for a  
25 number of reasons. I've just accepted a membership or board

1 seat on the Collaborative for High Performance Schools, so  
2 that's one opportunity to assist schools -- both new and  
3 existing schools with improving their energy and comfort  
4 performance.

5           And I would be really interested in working with  
6 the State Allocation Board and just having a dialogue about  
7 what kinds of programs are most effective at reaching  
8 schools and are there financial and other opportunities that  
9 will allow us to leverage our resources and get further in  
10 terms of the improvements we can make in energy efficiency  
11 in schools.

12           I think that there's a lot of potential and, you  
13 know, I've also got one child in a California public school,  
14 another one coming, so I have a lot of interest and desire  
15 to make (indiscernible-coughing) in this area.

16           So those are my comments. I'd be happy to take  
17 any questions and I really look forward to working with you  
18 in the future.

19           CHAIRPERSON REYES: Thank you. We look forward to  
20 working with you too. There's clearly an interest, like I  
21 said, by this Board and this administration to work towards  
22 energy efficiency and of course the school districts too as  
23 their energy bills go down, they're able to dedicate those  
24 resources to the classroom or other activities where they're  
25 sorely needed.

1           You talked about looking at the most effective  
2 means of providing energy efficiency and it seems to me the  
3 most effective means varies by our geographic area and the  
4 different areas. Do you have a program -- does your program  
5 of auditing provide for those kinds of information gathering  
6 and technical assistance?

7           MS. DOUGLAS: That's right. So when we offer  
8 technical assistance, which we're hoping to restore in the  
9 near future, we will look at measures that are most  
10 effective for the climate zones of the school in question.  
11 We also think it's very important for schools to look at  
12 their bills, have a realistic assessment of how much they  
13 will save and one of the benefits of the ECAA program is  
14 that schools have the benefit of an independent third-party  
15 assessment of what they will save, so they have more  
16 certainty in their projected energy savings.

17           The ECAA program's been going for a long time.  
18 We've got a I think almost unsurpassed or unsurpassed record  
19 of repayments. The programs have worked and the schools  
20 have benefitted from the programs. So we've had accurate  
21 estimates of savings.

22           CHAIRPERSON REYES: Under the Bright Schools  
23 Program, any sense of how many schools were actually able to  
24 participate?

25           MS. DOUGLAS: Under the Bright Schools, I don't

1 have numbers for you. I could get them.

2 CHAIRPERSON REYES: Yeah, I'm just curious because  
3 obviously we need resources to continue the program like  
4 that, but that kind of interests me because it was just more  
5 isolated pockets of money for potential very specific  
6 purposes.

7 MS. DOUGLAS: We liked the Bright Schools Program.  
8 You know, I never had a lot of direct involvement with it  
9 and it was suspended as the Recovery Act workload really  
10 mounted for Energy Commission.

11 But my understanding of it is that it was a very  
12 strong program. It was targeted to schools. It offered  
13 substantial assistance for schools in developing energy  
14 efficiency proposals and I do think that something like that  
15 is necessary for schools to get to scale and efficiency  
16 improvements because schools typically are not themselves  
17 experts in energy efficiency improvements.

18 They'll have a crew that does maintenance, but  
19 those people may not really be the people who can tell  
20 schools what optimal improvements to make and how to  
21 estimate payback and that sort of thing. So I do think some  
22 kind of technical assistance and targeted technical  
23 assistance is important.

24 CHAIRPERSON REYES: Thank you. Ms. Moore, you  
25 have question.

1 MS. MOORE: I had a follow-up question on the  
2 Bright Schools. So was it just administratively that it was  
3 suspended or is it -- and do you see any possibility of it  
4 in the future?

5 MS. DOUGLAS: It was an administrative decision.  
6 We went through with the additional workload that hit the  
7 Energy Commission. We went through literally everything  
8 that we did, that either, you know, (A) wasn't specifically  
9 statutorily required or not required by an imminent deadline  
10 or, you know, the list went on from there in order to get  
11 through workloads.

12 So I was unable to extract from our staff a  
13 commitment for this meeting that we would open it by a  
14 certain date, but I was able to extract the commitment that  
15 we would look at it.

16 The staff who worked on the Bright Schools Program  
17 overlapped considerably with the staff doing the ECAA  
18 technical assistance and right now we've got literally  
19 hundreds of Recovery Act programs that are along these  
20 lines. These were -- with local jurisdictions for the most  
21 part and doing efficiency improvements.

22 So I think that as we get through this bump in  
23 workload, we may have more capability to provide technical  
24 assistance.

25 MS. MOORE: My other question is we hear a lot in

1 the school community that the resources are sometimes not  
2 known or they're very scattered and I was wondering if  
3 you -- at the Energy Commission if you have a place or a  
4 webpage that has the programs that are targeted to schools  
5 all in one location or if you anticipate that we might be  
6 able to do something to that effect.

7 MS. DOUGLAS: That's actually a great question and  
8 that's one of the most important market barriers to not only  
9 schools but individuals and commercial -- small commercial  
10 entities face in trying to improve their energy efficiency.  
11 It's a good thing to do. It's a no-brainer when you're  
12 given -- you know, you could have your high bill or you  
13 could have lower bills even with the repayment. It's a  
14 no-brainer, but getting to that no-brainer is not easy and  
15 it's a lot of work.

16 In the residential and to some degree in the  
17 commercial sphere, the Energy Commission has worked with  
18 utilities, the Public Utilities Commission, both IOUs and  
19 the public utilities and a number of stakeholders to  
20 assemble the exact kind of information that you're asking  
21 about for particularly residential consumers, so that we  
22 have a created web portal where you can go as a residential  
23 consumer.

24 You can type in your zip code. You can get  
25 information on approved contractors and energy efficiency

1 auditing. You can get immediate access to rebates you're  
2 qualified for, whether it's a city or a utility or a state  
3 program.

4           And so we've begun -- we've actually made a  
5 substantial step forward to creating that infrastructure on  
6 the residential side. We haven't done it for schools. It's  
7 a great idea. So, you know, I could certainly talk to some  
8 of the people involved in this effort and get a sense of  
9 what's involved and what it takes.

10           CHAIRPERSON REYES: That'd be great. If you can  
11 work with our staff, the State Allocation Board folks, and  
12 also the Division of State Architect would be very  
13 interested in this.

14           MS. DOUGLAS: Great.

15           CHAIRPERSON REYES: I know that again going back  
16 to our -- the administration's interest in greening and  
17 putting -- saving energy wherever we can, I think that'd be  
18 great to go there.

19           MS. DOUGLAS: It's important -- excuse me -- just  
20 because it's -- it is a barrier and it's also an extra cost  
21 and one of the things that we have done on the residential  
22 side is even coordinating quality assurance --

23           CHAIRPERSON REYES: Um-hmm.

24           MS. DOUGLAS: -- so rather than having both kind  
25 of quality assurance auditor from your gas and your electric

1 side and maybe from different programs, getting that to be  
2 one person who's qualified -- just making it easier is  
3 really helpful.

4 CHAIRPERSON REYES: Right. And also that it's  
5 valid, you know --

6 MS. DOUGLAS: Exactly.

7 CHAIRPERSON REYES: -- not a cottage industry out  
8 there, that just, hey, for a few bucks I can do this.

9 I'm sorry that Senator Hancock's not here because  
10 she would have been excited to hear that you're involved  
11 with the high performance schools. That's also an area that  
12 she's very, very interested in. So we will definitely  
13 continue to work with you.

14 Thank you very, very much for your presentation  
15 today and I hope that this is one of several conversations  
16 we'll continue to have in the future.

17 MS. DOUGLAS: Great. Thank you. I really look  
18 forward to those conversations.

19 CHAIRPERSON REYES: Thank you.

20 MS. MOORE: Can I just make a final comment. I  
21 think it would be important as we move forward -- perhaps  
22 this is the first step, but to have a multi-sector approach  
23 in that we have High Performance Program and other programs  
24 and that affect -- that can affect energy efficiency in  
25 schools and leveraging them with other programs is not

1 always easy and maybe that's something that we could also  
2 work on so that the dollars that are expended here and the  
3 dollars that are expended or the loans that are expended in  
4 your program work together better for energy efficiency of  
5 our schools.

6 MS. DOUGLAS: I agree. I couldn't agree more. I  
7 think it's critical to leverage the existing resources and  
8 programs and we've gone as far in other spaces as, you know,  
9 marketing and brand and outreach efforts so that what we  
10 have is -- we maximize our resources and we maximize the  
11 benefits of our efforts.

12 CHAIRPERSON REYES: Thank you. Ms. Silverman.

13 MS. DOUGLAS: Thank you.

14 MS. SILVERMAN: Yes. We would be more than happy  
15 to work with you (indiscernible-away from microphone)  
16 workshops in the future, speaking to your programs.

17 MS. DOUGLAS: That'd be great.

18 MS. SILVERMAN: So we'd be happy to work --

19 MS. DOUGLAS: That'd be great. Thank you.

20 CHAIRPERSON REYES: Thank you. Okay. The next  
21 speaker I have is Mark Johnson with Pacific Gas & Electric.

22 Hi. Thank you.

23 MR. JOHNSON: Good afternoon.

24 CHAIRPERSON REYES: Good afternoon.

25 MR. JOHNSON: I do have some handouts that did not

1 come in your packet.

2 MR. YOUNG: Would you push the button for the  
3 microphone.

4 MR. JOHNSON: Oh, I'm sorry. Is that better?

5 CHAIRPERSON REYES: Yes.

6 MR. JOHNSON: I do have some handouts that were  
7 not included in your packets, if I could --

8 CHAIRPERSON REYES: Okay. Juan. Thanks.

9 MR. JOHNSON: -- bring those forward.

10 CHAIRPERSON REYES: Thank you.

11 MR. JOHNSON: My name is Mark Johnson. I'm with  
12 Pacific Gas & Electric Company as an Energy Solutions  
13 Manager for the schools market, for the schools segment.  
14 And we also have Kim Ngo today who is our Program Manager  
15 for the solar and customer generation group.

16 For the utility energy efficiency is one pocket of  
17 money, if you will, and solar is wholly separate. So both  
18 of us are teaming up today to bring to you the information  
19 that we hope that will get you the answers that you're  
20 looking for.

21 I wanted to refer to the handout that we put  
22 together and kind of run through this and then we can answer  
23 some questions at the end if you wish.

24 I wanted to go through -- if you look at slide 2  
25 it'll say where the savings come from. This slide is

1 courtesy of the California Energy Commission and it  
2 essentially has the time frame of 1975 to 2001 across the  
3 bottom and units going up -- of gigawatt hours going at the  
4 top and how much the savings are over time of energy  
5 efficiency programs.

6           And we're talking energy efficiency at this point  
7 not solar. So everything that I'll address today will be  
8 energy efficiency. Kim will address the solar side.

9           So just to give you a broad picture idea, this is  
10 where the savings come from, utility programs, building  
11 standards, and appliance standards, and how that affects the  
12 market.

13           On the next slide, slide 3, this is our  
14 progressive energy policy. It is modeled and follows the  
15 State of California's energy plan and as you'll see and as  
16 it was mentioned earlier by our speaker from the Energy  
17 Commission, the energy efficiency and demand response is the  
18 number one -- the first place to go in loading order of how  
19 to best achieve energy savings.

20           New renewable and distributed generation would be  
21 the next place to go and then clean fired gas plants would  
22 be the next thing to do, in that order.

23           Slide 4 shows you the impact of energy efficiency  
24 programs on the schools market segment in 2010 and nine  
25 months of 2011 which is about 17 million at this point for

1 the grand total of 2010 and nine months of 2011.

2 So it is our energy efficiency rebates and  
3 incentives come in a variety of ways and I'll explain those  
4 coming up, but these incentive programs really we believe  
5 help drive the market to actually install energy efficiency  
6 measure.

7 CHAIRPERSON REYES: So I just want to make sure.  
8 There's 17.8 million is incentives already paid to schools.

9 MR. JOHNSON: Yes. This is just schools. It is  
10 using -- it specifically is using buildings with the NAICS  
11 codes which assigns that building type --

12 CHAIRPERSON REYES: Um-hmm.

13 MR. JOHNSON: -- to the schools segment. So it  
14 can also include higher education, private schools --

15 CHAIRPERSON REYES: Oh.

16 MR. JOHNSON: -- those things as well. But it has  
17 to be an educational building -- related building to qualify  
18 for that.

19 Slide 5 is -- this gives you -- first of all, it  
20 gives you a visual of energy efficiency would be the first  
21 thing. The demand response which is -- demand response is  
22 essentially eliminating and -- in both shifting load from  
23 the peak times of day to other times when it's less  
24 expensive.

25 Then self-generation and carbon offsets would be

1 the next thing that would occur. Solar typically takes two  
2 to three times longer in payback versus energy efficiency  
3 projects and we heard that earlier from the Commission. So  
4 that we wholeheartedly agree with that.

5 The -- we suggest that looking at the blended  
6 financials of energy efficiency and solar typically result  
7 in making solar more affordable when it's looked at as an  
8 integrated project and it's really important to drive that  
9 point home.

10 I believe in my experience in working with the  
11 schools is that if you can look at the bigger picture and  
12 dedicate some of that resource to energy efficiency, you  
13 then can have a much more efficient solar array and solar  
14 system designed and utilized and it's smaller. Therefore  
15 it's cheaper and you can do more solar, you know, in other  
16 places.

17 So it is a much more effective way when you blend  
18 paybacks. Because one is much smaller than the other, your  
19 overall project payback will be much lower.

20 So -- in fact a few years ago we did some  
21 collaborative projects with the Energy Commission's Bright  
22 School Program. Even they didn't have money dedicated just  
23 for solar, when they were blended projects, they could fit  
24 under that 15-year umbrella and customers were able to  
25 finance the entire project and it was wonderful. It was a

1 great way to go for the customer. So that's how that is.

2 Solar --

3 CHAIRPERSON REYES: Before you leave that concept,  
4 if I may, do you have a sense of what percentage can be done  
5 through efficiency before you get down to running the solar?

6 MR. JOHNSON: Yeah. Obviously it'll depend from  
7 site to site, but it would not be uncommon to be able to get  
8 20 to 30 percent of a site's --

9 CHAIRPERSON REYES: Reduction --

10 MR. JOHNSON: -- reduction and --

11 CHAIRPERSON REYES: Yeah. Okay.

12 MR. JOHNSON: -- without getting real aggressive.

13 CHAIRPERSON REYES: Uh-huh.

14 MR. JOHNSON: You know, obviously you can get  
15 aggressive and get very exotic, but --

16 CHAIRPERSON REYES: So I want to make sure I  
17 understand. So just look at this for a hundred being the  
18 number. So you can go down to 70 by just doing efficiencies  
19 and then you can then put a solar system to address the  
20 remaining 70.

21 MR. JOHNSON: I believe that would be plenty safe  
22 to say, yes.

23 CHAIRPERSON REYES: Okay.

24 MR. JOHNSON: I do.

25 CHAIRPERSON REYES: Thank you.

1 MR. JOHNSON: Again it's going to vary.

2 CHAIRPERSON REYES: Yeah. It's all going to  
3 depend on where -- you know, how old the school is and where  
4 it's located and all that. Yeah.

5 MR. JOHNSON: Yeah. But my experience -- yeah.  
6 Yeah. My experience is that's very achievable.

7 Solar and -- and there's another piece to that too  
8 I might add too is that one of the things that are happening  
9 in schools -- I want to get this out -- is that controls are  
10 a huge problem for schools because if you can imagine every  
11 school site is built at a different time, with a different  
12 contract, with a different control system. We're talking  
13 about the building energy control systems that run the heat  
14 and the lights and everything.

15 And today in a perfect world those are web enabled  
16 and you can run it off a laptop and one person can affect  
17 and change the temperature in a classroom, you know, on the  
18 other side of town and we have many schools that are doing  
19 this.

20 Controls are one of the biggest things that we  
21 need in energy efficiency for school districts and that  
22 affects demand response. It affects how you use solar. It  
23 affects how you use just your energy in general. So -- and  
24 energy efficiency.

25 So I just throw that out there to keep that --

1           MR. ALMANZA: And how much would retrofitting a  
2 school building cost to --

3           MR. JOHNSON: It runs the gambit. It really does  
4 on how much -- what we typically do is we will do some  
5 auditing and we'll go over how -- what auditing programs we  
6 have, but we would go through some auditing, find out what  
7 the cost effective way to -- and there's going to be some  
8 things that are cost effective in one school that are not  
9 going to be cost effective in another.

10           But we look at what's the most cost effective  
11 things to improve with under a ten-year payback or so and we  
12 try to help the customers move to get those implemented.

13           So -- you know, it's really going to run the  
14 gambit depending on what's already there.

15           There are schools out there that don't have any  
16 EMS systems at all and you literally have people flipping  
17 switches and trying to, you know, keep up with that and  
18 that's just not effective these days -- marketplace, so --

19           CHAIRPERSON REYES: Hold on a second. Ms. Moore.

20           MS. MOORE: Can you also talk a minute about the  
21 combination of both having individual control because we are  
22 working in learning situations, classroom situations where  
23 comfort is important to the learning outcomes. And  
24 oftentimes we see a conflict of a master schedule versus an  
25 individual schedule and needs of the occupants.

1           Have you arrived at a management and control  
2 system that can address both concerns -- both a centrally  
3 located and administered energy management system and one  
4 that provides for individual variation?

5           MR. JOHNSON: Yes. The best way for me to answer  
6 that is in the last probably eight years -- eight to ten  
7 years, I've really seen remarkable -- as technology has  
8 moved forward, I've seen remarkable changes in that.

9           Probably one of our biggest stumbling blocks to  
10 deal with with customers is they have that in their mindset  
11 of what it was like 15 years ago when they couldn't control  
12 anything except for the automated schedule that was already  
13 in place.

14           And it -- there's so much out there now that is  
15 even remotely controlled, doesn't even take wiring anymore.  
16 I mean it's just phenomenal at what is out there and  
17 solutions absolutely exist that would prevent those types of  
18 problems from occurring.

19           MS. MOORE: Well, I just was in a project that you  
20 could control the room with your iPhone --

21           MR. JOHNSON: Um-hmm.

22           MS. MOORE: -- docked into the lighting system.  
23 So obviously we have advanced quite extensively and I was  
24 just wondering how that advancement is benefiting, you know,  
25 the learning spaces, classrooms, and, you know, maybe that's

1 more of a micro question, but it's one that we deal with in  
2 the school industry all the time.

3 MR. JOHNSON: I have some school districts that  
4 have gone -- completely have gone to -- I've got one school  
5 district that's done 50 some sites and gone to a web-enabled  
6 platform that's also wireless and does much of what you say.  
7 I mean just with a BlackBerry. Their energy manager can  
8 control all kinds of things.

9 And there's several things that happen with that  
10 is you have improved diagnostics. If you have a problem don  
11 a site, that person can do some diagnostic work. That can  
12 maybe prevent somebody going out to the site. So we have a  
13 reduced maintenance and operations component that comes from  
14 that.

15 You have of course the comfort and the teachers  
16 and the students being much more comfortable and that aspect  
17 of it and also of course the efficiency comes with that and  
18 the ease of operation of just being able to have -- they  
19 have -- the district likes to have that one person that they  
20 can go to and say we've got a problem, let's fix it, and  
21 they can attack it.

22 So several things result when that happens and  
23 it's just -- it is a costly thing to do. It takes, you  
24 know, a district that has the resources to pony up to do  
25 that and we're working towards trying to help them get in

1 that place with our programs.

2           So the other -- the solar -- going back to  
3 slide 5, the solar and distributed generation which is DG,  
4 size and cost can be reduced when you blend those financials  
5 and have that blended project which results in lower  
6 operating cost, greater comfort, and better financials.

7           Moving to slide 6, I've got a slide here on just  
8 kind of an overview of our retrofit programs. These are  
9 just our retrofit programs. We do have new construction  
10 programs which is the handout I handed out to you.

11           But on the retrofit side, these are statewide  
12 programs, so all the investor-owned utilities will have  
13 programs that mirror this and follow under the same  
14 guidelines. So we are united and it's investor-owned  
15 utilities with the others to bring these programs to our  
16 customers.

17           The energy savings rebates are the unit for unit.  
18 It's a, you know, \$5.00 for a light that you install and no  
19 matter how many -- it could be one or you could do a  
20 hundred -- it's an easy rebate that's just a -- the simplest  
21 form of a rebate that we have.

22           Then we have the -- and we have the catalogs with  
23 many different products that are offered from lights to HVAC  
24 equipment to all kinds of different equipment that fits  
25 under that umbrella.

1           Those savings are precalculated and predetermined  
2 what the savings will be. So they're using a -- you know,  
3 a -- not a variable, but a constant if you will of what the  
4 average customer will save for that.

5           The other way to go is our customized incentive  
6 program and that is a calculated customized retrofit that we  
7 design with the school or with a customer to exactly find  
8 out how much savings is going to be there on that project  
9 and incent them on a per kilowatt hour saved and per therm  
10 saved as well as kW on the kW side.

11           Retrocommissioning is a program that we have that  
12 focuses on just tuning that energy management system. We  
13 were talking about the energy management systems before.  
14 This program is designed to work with tuning up the existing  
15 ones and do a -- not so much change it all out, but do -- go  
16 back and retrocommission it and get it running like it was  
17 meant to run from the beginning.

18           We find that over 15 years or 10 years that system  
19 has gotten so out of whack and nobody's really maintained  
20 it. People don't understand it anymore. The folks that  
21 were there when it was first commissioned are no longer  
22 around. So we do staff training as a component of that as  
23 well as all types of measures.

24           Then we have over 80 select third-party programs  
25 that we utilize to bring expertise in either the schools or

1 other market segments as well as technology.

2           So we have ones that are focused on just lighting,  
3 just HVAC, and we have ones that are focused on just school  
4 segments. So they can bring specialized programs. We have  
5 that does for schools that does energy auditing and then an  
6 incentive program just for schools, so --

7           MR. ALMANZA: Does the school have to pay for  
8 that?

9           MR. JOHNSON: No. No, they do not. They have to  
10 pay for -- they don't pay for the -- they pay for the work  
11 that would be done. They don't pay for the energy auditing  
12 and they get an incentive for saving some energy. But they  
13 would hire their own contractor to do the work.

14           So energy efficiency supporting programs would  
15 include -- we have an energy efficiency what we call on-bill  
16 financing and this is a zero interest loan for schools and  
17 government. It's up to ten years at zero interest up to  
18 \$250,000 a meter and the interesting is, is that we say up  
19 to ten years because the loan term is set by the savings  
20 that are on the project. So that the savings and the loan  
21 payment is the same so that the customer will not be out of  
22 pocket.

23           So it is adjusted so that the savings that would  
24 have -- what you would have paid in an energy bill will be  
25 what you're paying on a loan and it's on bill, so you really

1 don't see that as a separate item. It started off bill, but  
2 it is on bill now. So that's one of the best tools that  
3 I've used with schools to get this through -- to get, you  
4 know, projects going and in the field.

5           We support that with an integrated energy audit  
6 program that does large-scale energy audits. So we're  
7 talking about high schools, middle schools. The elementary  
8 schools are hard to get with this programs because it's --  
9 they're so small that it doesn't make sense financially for  
10 us to hire. These are third-party hired investment-grade  
11 energy audits, so they're quite lengthy and they publish a  
12 natural document of all the savings and everything that's  
13 there.

14           So we work closely with our -- we have local  
15 engineers in every area and we work closely with them to  
16 help tap some of the smaller schools. We've also in the  
17 past worked with the Energy Commission's Bright Schools  
18 Program to work -- and hand in hand work energy auditing.

19           We get some of the big ones sometimes and they'll  
20 take the smaller ones and find solutions for the customers  
21 that way, but between our third-party programs, between our  
22 large integrated audit, and our engineering calculation  
23 assistance that's locally available, we don't find that --  
24 we usually find that we can solve our customer's energy  
25 auditing needs.

1           CHAIRPERSON REYES: So how do we connect schools  
2 with you or with the other investor-owned utilities? I mean  
3 do you go out and -- what's your outreach like so --

4           MR. JOHNSON: Yeah. Our -- the way we operate is  
5 I am an internal resource to our over 200 account reps that  
6 have accounts in the field and they -- for most of the  
7 schools, they have a designated account rep.

8           CHAIRPERSON REYES: Um-hmm.

9           MR. JOHNSON: If it's a real small school  
10 district, they may not, but we also roving -- other account  
11 reps that take all those assignments. And so those folks  
12 are all aware of our programs. They go out and they work  
13 with our customers on these programs. They have goals that  
14 they hit, you know, and they need to hit -- to hit these  
15 programs and so do I, so it's very close to my heart to make  
16 sure we get these done.

17           And then they come to me internally as a school  
18 segment resource to actually work with the schools on a  
19 one-on-one basis when needed.

20           CHAIRPERSON REYES: Okay. Ms. Moore.

21           MS. MOORE: What do you see if anything  
22 impediments to schools participating in these programs?

23           MR. JOHNSON: Boy. Money, funding, in a nutshell.  
24 Even schools -- I've got a lot of schools that, you know, we  
25 share with them the energy efficiency financing. It sounds

1 like a no-brainer. It should be a no-brainer. For some  
2 schools, I've had them call me back in five minutes and say  
3 I want you down here tomorrow and let's get it going. I  
4 mean it's been that hot to them.

5 Other school districts are like, you know, our  
6 board does not want anything to do with a loan. We don't  
7 want anything to do with a loan. We don't want -- no, it  
8 doesn't matter if it sounds good.

9 So there are very -- you know, I think that  
10 there's still that element of risk and we have boards that  
11 are very, very cautious as well they should be with the  
12 money that's available to them and I think that that's one  
13 of -- that is the probably biggest stumbling block is being  
14 able to get these -- get the money to push these projects  
15 forward.

16 The other thing I would add is our incentives can  
17 easily work with other programs. So the one thing I didn't  
18 touch on is the new construction program that I gave you the  
19 handout on.

20 For new construction projects, if, for instance,  
21 it's a CHPS, high performance school, project, if it's a new  
22 construction project, our Savings by Design Program works  
23 very -- we've developed it to work very hand in hand with  
24 CHPS and all of these programs can work together so that  
25 there can be a multi-effect of incentives so -- that aid the

1 district.

2           And we work with primarily the design community  
3 when it comes to the new construction because we find school  
4 districts give that to the design community and the  
5 designers are the ones that start pulling all that together.

6           But when they start adding CHPS and Savings by  
7 Design and some other things, maybe some solar generation,  
8 then it -- and they get credits from different places,  
9 that's when it starts to add up, so -- I'm going to defer to  
10 Kim Ngo, our solar expert here and thank you.

11           CHAIRPERSON REYES: Thank you.

12           MS. NGO: Thanks, Mark. Hi, my name is Kim Ngo.  
13 I manage the California Solar Initiative focus of the gas  
14 and electric company. I'm here today to provide you  
15 information about the California Solar Initiative Program.

16           So the program was created by Senate Bill 1 and it  
17 started in 2007. That's when the program administrators  
18 started administering the program. So that includes Pacific  
19 Gas & Electric Company, Southern California Edison, and as  
20 well as Center for Sustainable Energy which they administer  
21 the program for San Diego Gas & Electric.

22           So more specifically for PG&E, we have over a  
23 billion dollars in incentives that we're administering and  
24 the program has a total of \$2.3 billion for incentives and  
25 which was increased by Senate Bill 585 recently.

1           The statewide objective is to install 3,000  
2 megawatts of solar. PG&E's goal specifically is  
3 764.8 megawatts.

4           One of the requirements is customers that  
5 participate in the California Solar Initiative Program must  
6 conduct an energy efficiency audit. So I'm the third person  
7 to say this, but California's loading order encourages the  
8 energy efficiency be implemented prior to DG.

9           So that's why we require customers to take an  
10 energy efficiency audit to make sure that they've exhausted  
11 all the energy efficiency options before installing solar.  
12 Why? Because it's more cost effective and for schools the  
13 capital investment on energy efficiency projects are  
14 typically a lot less and easier to implement than a  
15 large-scale solar deployment.

16           We've had many school districts participate in the  
17 California Solar Initiative Program. Most districts will  
18 actually install solar for all solar feasible sites and I'll  
19 give you some data on that later today.

20           So so far since 2007 for PG&E, we've had over  
21 39,000 applications. So that's equivalent to 39,000 sites  
22 since 2007. It's been a very popular program and so far  
23 over 33,000 projects have been completed. That's  
24 365 megawatts of capacity.

25           So PG&E's a little bit over halfway through our

1 goals, but there's still much more for us to meet.

2           If you go onto slide 11, you can see that that's  
3 the step level. So the program is a ten-step program and  
4 right now we are in step nine. So as you can see the  
5 program has been very successful.

6           The program is designed where initially incentives  
7 are a lot larger, the megawatts to meet in each step is  
8 smaller, but as we go down in steps, the megawatts are  
9 greater in each step, but the incentive levels decrease.

10           So today the incentives are about 25 cents a watt.  
11 That's the up-front payment and if it's a large system,  
12 30 kW or greater, it's based on performance and it's paid  
13 over five years based on the production. And as you can see  
14 for commercial, it's .032 cents per kilowatt hour as amended  
15 by SB585 and then for government/non-profit, the incentives  
16 are a little bit higher which is .114 cents.

17           That's only if the government or public entity  
18 owns a system. If it's third-party owned, then that entity  
19 does not get the government/non-profit rate.

20           CHAIRPERSON REYES: So that own is that when  
21 they -- the company goes out there, sets it up, and then  
22 leases it back to the school; right?

23           MS. NGO: Yeah. So that's third-party owned;  
24 correct. It can be in the form of a lease or more commonly  
25 known as a power purchase agreement. So we do have some

1 schools that go through power purchase agreements. It's  
2 around 30 percent of school districts that take the PPA  
3 route -- power purchase agreement route.

4 Slide 12, this is Senate Bill 585. Last year the  
5 administrators ran into some budget constraints. So SB585  
6 increased the total cost of the CSI program funded by  
7 customers by \$200 million.

8 The bill passed I believe in October and on  
9 December 1st, the CPUC implemented the 585 program  
10 guidelines. So it increased our budget, but at the same  
11 time, it decreased the incentive rates for the California  
12 Solar Initiative Program specifically for the performance  
13 based incentive program.

14 So slide 13 is -- this is specifically for K to 12  
15 participation. In terms of the number of projects -- so  
16 when I'm saying projects, this is the number of sites.  
17 There are overall about 900 sites within PG&E's territory  
18 K to 12 schools that have solar.

19 738 of those projects have been completed. I'm  
20 sorry. 214 have been completed and 738 are active. So that  
21 means that they're in the process of installing the system  
22 or they have applied for an incentive.

23 And then in terms of capacity overall, if all  
24 these schools do complete their projects, we have about a  
25 hundred megawatts of capacity and in terms of incentives, so

1 far we've paid \$73.33 million in incentives to school  
2 districts K to 12 and we have \$211 more million that have  
3 been reserved.

4 Most of these schools, we have a large number of  
5 projects on our wait list because we ran into budget  
6 constraints last year. We have I want to say over a hundred  
7 project sites that are K to 12 waiting for incentives.

8 So there's still a lot of opportunity, but what I  
9 wanted to stress today is still the energy efficiency,  
10 making sure that schools follow the loading order as best as  
11 they can before implementing solar because it's more cost  
12 effective.

13 Any questions?

14 CHAIRPERSON REYES: Thank you.

15 MS. MOORE: I have a question.

16 CHAIRPERSON REYES: Ms. Moore.

17 MS. MOORE: So the additional funding that came  
18 forward for the solar initiative, how will that impact the  
19 waiting list of school projects?

20 MS. NGO: Great question. So out of the  
21 \$200 million, that \$200 million is statewide. That includes  
22 PG&E, SCE, and California Center for Sustainability and PG&E  
23 has \$114 million of that \$200 million share. It is going to  
24 help us meet our megawatt goal, so it will allow us to fund  
25 all the projects on the wait list plus more, meaning that

1 we'll be able to meet our megawatt goal.

2 MS. MOORE: So those school projects on the  
3 waiting list will be funded through the new infusion of  
4 initiative funding?

5 MS. NGO: Correct. Those schools will receive  
6 funding. Of course they still need to meet their milestones  
7 and do their energy efficiency audit, but funding will be  
8 set aside.

9 MS. MOORE: So if I was a school district now and  
10 I had not taken advantage of the solar initiative  
11 heretofore, would you counsel us to apply and wait for a new  
12 round of funding or what would you counsel?

13 MS. NGO: Well, the \$114 million will allow us to  
14 meet our megawatt goal. So on our wait list, we have about  
15 70 megawatts of projects, but we have over 300 more  
16 megawatts to meet. So the \$114 million will allow us to  
17 fund all the projects on the wait list plus more.

18 So if you're a school and you're interested in  
19 applying, you can apply today. The only thing you need to  
20 be aware of is which rate you would fall into, if it's going  
21 to be step 9 or step 10.

22 If you apply today, it's likely going to be step 9  
23 as you can see on the step table on slide 11. But if you  
24 apply let's say next year or late next year, there's no  
25 guarantee that you will get that rate. You may be locked in

1 at the lower rate which is step 10.

2 MR. ALMANZA: Do you know how many schools are in  
3 your service area?

4 MS. NGO: I don't know, but Mark, do you know how  
5 many schools?

6 MR. JOHNSON: About 1,100.

7 MS. NGO: 1,100 schools. Is that districts or  
8 schools.

9 MR. JOHNSON: No. That's districts. That's for  
10 the state, I believe, so --

11 MS. NGO: 1,100.

12 MR. JOHNSON: Yeah, that's for the state.

13 MS. NGO: For the state -- districts.

14 MR. JOHNSON: So -- yeah. I don't know how many  
15 schools. I'm --

16 MS. MOORE: It's probably 1,100 schools.

17 CHAIRPERSON REYES: Yes.

18 MR. JOHNSON: Yeah.

19 MS. NGO: 1,100 schools?

20 MS. MOORE: If it were 1,100 districts, you would  
21 be covering the State of California.

22 MR. JOHNSON: Yeah. Right. That is the state.  
23 Yeah.

24 MS. MOORE: So you're in every district?

25 MR. JOHNSON: No, no, no, no. That's what I'm

1 saying is I don't have a number for our territory. I do  
2 know the state --

3 MR. ALMANZA: So the 900 total that are  
4 participating right now, are those --

5 MS. NGO: There's about 900 that -- overall. So  
6 the number of projects completed is 214 and 738 are active  
7 projects, so that means that they're in the process of  
8 installing a system or they have funding set aside for them.

9 MR. JOHNSON: I think there's about 400 districts  
10 that we actually have in our territory.

11 MS. MOORE: Okay. Yeah, that makes more sense.

12 MR. ALMANZA: Okay.

13 CHAIRPERSON REYES: Yeah. That makes sense, yeah.

14 MR. JOHNSON: Districts, yeah.

15 MR. ALMANZA: Yeah.

16 MS. NGO: Any other questions?

17 MS. MOORE: Do you see more solar initiative  
18 funding coming your way in the future?

19 MS. NGO: No, I'm not a hundred percent sure.  
20 Senate Bill 1 only allowed us to spend a certain amount of  
21 dollars for the program and that's why SB585 passed to allow  
22 us to collect more funding.

23 And the intent of the program to create  
24 self-sustaining PV industry and I'm not sure we're there  
25 yet, but I think we're on our way there. I think the prices

1 of solar definitely has dropped.

2           If there's another program, then it may be an  
3 amendment to SB1. So we need to meet our 3,000 megawatt  
4 goal and then after that I guess it depends on legislation  
5 or if there are other programs that will be created.

6           But we're nearing the end, step 9 out of 10, but  
7 there's still a long ways to go because if you look at the  
8 step table, we have 285 megawatts to fulfill in step 9 and  
9 after we allocate all the funding in step 9, we move to  
10 step 10 which is going to be even more challenging,  
11 350 megawatts, and we're paying incentives at .08 cents for  
12 government/non-profit or .025 cents per kilowatt hour.

13           So hopefully we'll still have, you know, success  
14 in the program as we did in the prior years. Definitely for  
15 the commercial sector, it has been a little more  
16 challenging, but the residential sector, we haven't seen a  
17 slowdown.

18           So hopefully now that we have money that has been  
19 approved for the commercial side of the program, maybe there  
20 will be more participation.

21           CHAIRPERSON REYES: Okay.

22           MS. MOORE: I have one other question and then  
23 I'll be done. Since each of the speakers has said that the  
24 first step that districts should take is energy efficiency  
25 projects, in your solar initiative, do you require that

1 linkage or how -- or is it simply a standalone?

2 MS. NGO: We don't require that customers can  
3 follow through energy efficiency. We recommend it. We --  
4 they do have to conduct an energy efficiency audit. Now  
5 that's for retrofit.

6 For new construction, there are energy efficiency  
7 standards. So if it's a new construction school, they are  
8 required to exceed Title 24 by 15 percent in order to be  
9 eligible for incentives.

10 MS. MOORE: And then just my final comment would  
11 be the same before, Lisa, is that if there's any kind of  
12 leveraging that we can do with the solar initiative projects  
13 and projects that are funded by the State Allocation Board  
14 in terms of leveraging the funding to benefit schools, I  
15 think we would want to see that happen.

16 MS. SILVERMAN: We would be happy to work with  
17 PG&E.

18 CHAIRPERSON REYES: Thank you very much.

19 MS. NGO: Thank you.

20 MR. JOHNSON: Thank you.

21 CHAIRPERSON REYES: Appreciate you coming. With  
22 the non-profit organization representing the California  
23 Center for Sustainable Energy, Katrina Morton. Welcome.

24 MS. MORTON: Thank you. Thank you for inviting  
25 me. I hate to be redundant. I do also -- I work for the

1 California Center for Sustainable Energy and we're a  
2 non-profit organization that fosters clean energy future.  
3 We're located in San Diego, so those would be projects that  
4 I mainly deal with. I also with Ms. Ngo on the California  
5 Solar Initiative Program and she really explained a lot of  
6 the program which were my first two slides.

7           So I will encourage you to ask me any questions as  
8 well.

9           In addition to energy efficiency and the loading  
10 order, I would also encourage the school districts to have  
11 an analysis done on their loads to ensure that the solar  
12 system is sized properly. Since, you know, utility rate  
13 schedules are complex animals, it's good to understand where  
14 that financial benefit can be gained by the district so  
15 that, you know, you don't oversize the system since their  
16 load profiles are so unique.

17           Currently in San Diego Gas & Electric territory,  
18 we have 80 school districts -- or 80 projects with school  
19 districts that are in progress and that have applied for the  
20 CSI incentive. Eight are in payment. Then we currently  
21 have a budget shortfall where now ten projects are on our  
22 waiting list. So we're quite smaller than PG&E. It sounds  
23 like we have much less projects, but we're only, you know,  
24 10 percent of that utility customer base.

25           Any questions on the CSI program that I can answer

1 for you that haven't already been answered?

2 CHAIRPERSON REYES: I think the question that just  
3 keeps popping in my head is how do we create a repository of  
4 this information so the school districts can have access to  
5 what's out there, whether they're up in Redding or in San  
6 Diego or they're in Fresno or Bakersfield. I mean how do we  
7 make it so that it is readily available to folks.

8 MS. MORTON: You know, there isn't a place  
9 specifically for school districts, but I did provide on my  
10 last slide a database -- a list of links and one of the  
11 links, the very last one actually, is the database of state  
12 and federal incentives for renewable and energy. This is  
13 dsireusa.org. And what it is is it's all federal, state,  
14 and energy efficiency and renewables incentives and  
15 programs.

16 So it doesn't -- you know, it's not specific to  
17 schools, but, you know, for those solar programs that exist  
18 outside of the three major IOU territories and that are in  
19 municipalities and the smaller IOUs such as Pacific Power  
20 territory, they're all listed on that website.

21 CHAIRPERSON REYES: Before I lose this thought,  
22 Ms. Silverman, what are the rules for us to put such a link  
23 on a state webpage? Probably --

24 MS. SILVERMAN: There is no rules. We can  
25 actually add it (indiscernible).

1           CHAIRPERSON REYES: Okay.

2           MS. SILVERMAN: I think it would be useful for a  
3 lot of folks to (indiscernible) where the resources are  
4 (indiscernible).

5           CHAIRPERSON REYES: Okay.

6           MS. MORTON: I'm also happy to work with you to,  
7 you know, find the different areas throughout the state that  
8 can benefit the schools and maybe we can consolidate on your  
9 webpage.

10          MS. SILVERMAN: That sounds great.

11          CHAIRPERSON REYES: That'd be great. Thank you.  
12 Sorry I interrupted. Go ahead.

13          MS. MORTON: No. That's okay. So we've kind of  
14 exhausted the California Solar Initiative Solar Program.  
15 I'm happy to answer any questions. So I'll move onto  
16 programs that I'm not familiar with at all, which are --  
17 that I know is out there.

18                 California's Solar Initiative Thermal Program  
19 which, you know, could be beneficial for schools that have  
20 any use for hot water heating with the exception of pools.  
21 So for showers or school cafeterias, there are incentives  
22 available. There is a \$280 million budget. 60 percent is  
23 reserved for the multi-family and commercial solar water  
24 heating systems.

25                 There's currently the rebate in all three IOU

1 territories is at \$12.82 per therm for natural gas  
2 displacing systems and then 37 cents per kilowatt hour for  
3 displaced electrical systems.

4 And you can see that in the fourth slide. You  
5 have the incentives available.

6 MS. MOORE: Who runs this program?

7 MS. MORTON: So it is also under the California  
8 Solar Initiative blanket.

9 MS. MOORE: Okay.

10 MS. MORTON: The three -- well, the three program  
11 administrators for CSI, PG&E, SCE, as well as CCSE, run the  
12 program.

13 The last program is the Self-Generation Incentive  
14 Program. This is a complex one. This provides incentives  
15 for various distributed generation technologies. It was  
16 extensively changed in September of 2011 as a result of  
17 SB412.

18 So basically what SB412 did was change the goal of  
19 the program from peak load reduction to greenhouse gas  
20 emissions reduction per the Greenhouse Gas Emissions  
21 Reduction by 2020 Program.

22 But as a result, it added combined heat and power  
23 technologies and incentives to the program.

24 So the funding is a little bit complex. It's  
25 annual. Funding is approved until -- for the rest of 2011

1 and it's likely that funding will be available for 2012, but  
2 right now there is a process to extend the funding through  
3 2014.

4           What is incentivized through that program? I will  
5 break it down for you on the sixth slide.

6           The technologies -- the new technologies that have  
7 just been introduced in this program are combined heat and  
8 power which is also known as co-generation. This is any  
9 gas-fired turbine that uses the waste heat produced by the  
10 engine to then heat and cool the building as well.

11           Also advanced energy storage, standalone, and  
12 combined solar or wind is also available for incentives.  
13 Biogas which is not a generation technology but a fuel  
14 source is also used as an adder to gas turbines and fuel  
15 cells.

16           So it's divided into two buckets. You know, if  
17 you get a gas turbine, you'll get 50 cents per watt  
18 installed. If you couple that with biogas, then you get an  
19 extra \$2.

20           So the budgets are divided into two buckets, as I  
21 said. For CCSE the -- we have enough applications to fully  
22 subscribe under the nonrenewable technologies. However, we  
23 still have incentives available for 2011 under the  
24 renewable.

25           For PG&E and SCE, they received enough

1 applications to incentivize the renewable technologies.  
2 However, they are not fully subscribed for the nonrenewable.

3 Any other questions?

4 MS. MOORE: And school districts are eligible.

5 MS. MORTON: Correct. But unlike the CSI program,  
6 the CSI solar, there is no additional higher incentive for  
7 being a nontaxable entity.

8 CHAIRPERSON REYES: Okay. Just to clarify, SCE is  
9 Southern California Edison.

10 MS. MORTON: Correct.

11 CHAIRPERSON REYES: And we all know PG&E because  
12 it's our service provider.

13 MS. MORTON: Yes.

14 CHAIRPERSON REYES: And then you have -- what was  
15 the other one?

16 MS. MORTON: San Diego Gas & Electric.

17 CHAIRPERSON REYES: Okay.

18 MS. MORTON: Which is administered -- their  
19 programs for the CSI, SCIP (ph), and CSI Thermal are all  
20 administered by CCSE, my organization.

21 CHAIRPERSON REYES: Are the municipal utilities  
22 involved at all, the MUDs?

23 MS. MORTON: They're not involved under this  
24 pocket of money. However, they are mandated by SB1 to have  
25 solar programs as well.

1           CHAIRPERSON REYES: So they'll have them -- within  
2 the service footprint, they will have a similar program.

3           MS. MORTON: Correct. Maybe not SGIP necessarily,  
4 but many of them have solar programs. L&DWP, for example,  
5 has a great solar program as well as IID.

6           CHAIRPERSON REYES: Okay.

7           MS. MORTON: Very successful one.

8           CHAIRPERSON REYES: Any other questions? No.  
9 Great. Thank you.

10          MS. MORTON: Thank you.

11          CHAIRPERSON REYES: Thank you very much. Now from  
12 the school site who have actually done some of this work,  
13 Elizabeth McManus from San Mateo Unified School District and  
14 I apologize for butchering your last name.

15          MS. McMANUS: No problem. I wanted to thank you  
16 for inviting me here because we really are excited about  
17 sharing San Mateo Union High School District's success story  
18 with their solar PV installation.

19          As you can see, my presentation was a little long  
20 and so I'm going to give you, you know, a condensed  
21 version -- the Cliff Note version. If you have any  
22 questions along the way, just let me know.

23          CHAIRPERSON REYES: Thank you.

24          MS. McMANUS: San Mateo Union High School District  
25 took 14 months to really drill down and do a complete

1 analysis about the solar industry because there is a lot of  
2 moving parts when you do solar and energy efficiencies and  
3 there's a lot of expense.

4           And when we started going into the process, the  
5 board of trustees really weren't all that supportive of it.  
6 They wanted to know the facts. They wanted to know why this  
7 wasn't a -- you know, the next pet rock project. They  
8 wanted to know that this was here to stay and that the  
9 technology was going to evolve and the costs weren't going to  
10 come down.

11           And by the end of our due diligence process, the  
12 board completely embraced this project because they realized  
13 it's going to have horrendous cost savings to the district  
14 which means we're going to take money that was used for  
15 utility expense and put it right into the classroom.

16           And during the last couple years of dire economic  
17 times, you know, we're all about saving educational programs  
18 and providing services to kids and this is one of the ways  
19 that we were able to accomplish it.

20           School districts can do two things to finance a  
21 solar PV system. One of them is, is you can enter into a  
22 third-party agreement with an outside vendor. They lease  
23 your roofs for 25 years. They're the ones who will be doing  
24 the construction project. So you don't know if they're  
25 going to be cost efficient or what they're going to do with

1 it.

2           They actually developed the models based on  
3 different utility escalations which districts will assume  
4 the risk because that's what you'll be paying them. The  
5 PPAs provide -- you know, earn the PG&I, CSI tax credits as  
6 well as any type of renewable energy recs (ph).

7           And it really is a risk to school districts  
8 because in the first five years you're having kind of a  
9 suppressed cost and then the sixth year, you know, school  
10 districts could incur rather large utility bills through the  
11 solar that they're not going to be ready for.

12           The other strategy is an acquisition strategy and  
13 that is when you use either COPs, general obligation bonds,  
14 or renewable energy bonds. And we looked at all of the  
15 options and, you know, the federal renewable energy bonds  
16 was an alternative, but the real bang wasn't going to come  
17 to the school district's financial statements for 15 years  
18 and I couldn't get real excited about that.

19           So the more I looked at it, the more I said if we  
20 can do GO bonds, this is the way to do it because we would  
21 have immediate release -- I mean relief into our general  
22 fund and it really is the most cost effective option for  
23 school districts.

24           So there are other, you know, revenue  
25 opportunities in doing solar. One of them is the California

1 Solar Initiative and the PBIs and these are absolutely  
2 essential.

3           We were able to apply for applications and be  
4 placed on step 6 which I think we're getting 28 cents per  
5 kilowatt hour of generation factor, and if we had gotten in  
6 at step 1, we would have gotten 50 cents. So at the end,  
7 we're going to receive \$6.5 million from PG&E which will  
8 offset the cost of this capital project by about 22 percent.

9           And these are really critical because if you look  
10 at the financing, without the PBIs, it's really difficult to  
11 get a lot of times these solar projects to pencil and it's  
12 really important that we go in this direction and they renew  
13 these PBIs. I mean I just can't say it enough. It's  
14 really, really critical.

15           The other revenue opportunity is the renewable  
16 energy recs that are coming forth, but really there hasn't  
17 been a market for them yet. At some point, there will be  
18 and at that time, that will provide more revenue sources to  
19 school districts.

20           I don't think I really need to go into too much of  
21 the educational benefits. When we were -- at San Mateo  
22 Union High School District, we did a design-build RFP and in  
23 the proposal, we asked for -- I mean we asked the proposers  
24 to submit to provide a curriculum, office supplies, all the  
25 equipment so that not only would we have solar on top of the

1 roofs but we'd have it in the classrooms and educate our  
2 students to this is the new green energy. This is a CDE  
3 opportunity for students and the community and use this as a  
4 learning opportunity.

5           And so each site has kiosks. The entire community  
6 can sign on and look at when are we generating electricity,  
7 how does it work, what does it mean, and really use this as  
8 a opportunity to comingle a capital facilities project with  
9 an educational need.

10           And we also have this year at one of our high  
11 schools at solar green class going on and they're learning  
12 all about green technology. They're learning about  
13 electricity. They're learning about solar PV systems which  
14 I think is, you know, kind of putting -- you know,  
15 comingling two important things.

16           As you heard from everybody else, part of our  
17 comprehensive analysis, we included doing an energy audit as  
18 well as, you know, looking at the solar PV and that's  
19 really, really critical because you have to look at ways to  
20 reduce your utility usage but to size the solar PV system.

21           And so you kind of go hand in hand and combine  
22 them to see what the district actually needs and how you can  
23 maximize the financial opportunities for a school district.

24           After doing the audit, we implemented an energy  
25 efficiency plan. We actually adopted the CHPS standards

1 throughout the district for all of our capital facilities  
2 project.

3           This, you know, encompassed everything. I mean  
4 CHPS looks at using energy efficiency heating systems,  
5 roofing, lighting, the whole enchilada. So you look at ways  
6 to reduce costs throughout the district.

7           And the part that we're working on right now and I  
8 think it's a really critical part with schools is the  
9 behavior changes because, you know, it's really difficult to  
10 get -- people want a classroom in a certain way. They  
11 want -- I mean a temperature. They want fresh air, but they  
12 want warm heat inside.

13           And so the other thing we're finding in schools is  
14 every classroom there is a refrigerator. Everybody has a  
15 hotplate and that will drive your utility usage.

16           And so through the energy audit, we're able -- or  
17 we're trying to educate the students and make the  
18 information go from the students to the teachers up so that  
19 we can impact the culture of education. And I think that  
20 may be a slow process, but it's one of the ways we're  
21 looking at being effective at it.

22           CHAIRPERSON REYES: How much were you able to  
23 reduce your project by those efficiencies; do you know?

24           MS. McMANUS: You know, offhand I would think, you  
25 know, like 20 percent -- 20 to 30 percent because we're

1 replacing old -- 30-year-old boilers with much more energy  
2 efficiency equipment.

3 CHAIRPERSON REYES: Ms. Moore.

4 MS. MOORE: Ms. McManus, when you did your energy  
5 audit, did you do it internally or did you have an external  
6 group do it?

7 MS. McMANUS: We actually did it through the -- we  
8 had an external organization look at it and I also had a  
9 solar consultant, you know, working with me. So we looked  
10 at everything and --

11 MS. MOORE: Do you think -- I mean if we had  
12 funding available to districts to do -- because this is the  
13 entry piece --

14 MS. McMANUS: Right.

15 MS. MOORE: -- right -- for all the credits and  
16 such that you availed yourselves -- your district to. Do  
17 you think that entrée is cost prohibitive to some districts  
18 or is that a place that perhaps government can -- or, you  
19 know, state government can assist districts and being able  
20 to do those audits?

21 MS. McMANUS: I think it's very important. I  
22 think that in public education, the needs for the capital  
23 improvements are so great, to be frank with you, putting in  
24 a CTE classroom is going to educate kids versus putting in a  
25 cost-effective HVAC system.

1           You're putting different departments against each  
2 other. And, you know, if you serve the students by  
3 providing them with 21st century education or do you kind  
4 of, you know, let the other kind of stay there until we have  
5 the money which that day may never come.

6           I think that if -- at the end of my presentation,  
7 I think if you can provide the information to boards and to  
8 CBOs that make it cost -- you know, like through the PBIs,  
9 through aggregate metering, you could actually make people  
10 look in that direction and go -- and help out on the general  
11 fund relief and through that be able to develop the  
12 educational side of their budgets.

13           I hope I answered the question.

14           Then as you all know, there's a lot of  
15 environmental benefits when you do (indiscernible-coughing).  
16 So the biggest topic that -- one of the biggest issues that  
17 I've been waiting for to come to fruition is the aggregate  
18 net metering.

19           And what that means is in our school district we  
20 put three huge installations on three of our high schools.  
21 And in fact it's offsetting a hundred percent of the utility  
22 cost. It's -- we're not going to be getting a bill on those  
23 high schools.

24           But if you had net aggregate metering, I could  
25 have had more solar put on those rooftops and be applied to

1 the schools that I can't put solar on because their  
2 location, the structural roof wouldn't hold it, there's  
3 environmental -- you know, there's too many trees that we --  
4 you know, we couldn't address and it could defray the cost  
5 of the entire district.

6           And that's something that the PUC was looking at.  
7 I don't think it's moved forward, but being able to do net  
8 aggregate metering district-wide is absolutely critical for  
9 the financial relief for school districts and in this time  
10 when everybody's being cut by 20 percent, this is critical.

11           There's a lot of different criteria used to size a  
12 solar system and, you know, I think you can see that in the  
13 presentation, but what we actually ended up doing is we have  
14 four PV systems in place, three mega systems that are  
15 offsetting a hundred percent of the utility expense and then  
16 we put two educational systems in place so that all the  
17 schools would have access to how solar works. They'd have a  
18 kiosk. They could monitor what was being generated and they  
19 could have access to green technology.

20           And so what we -- you know, when we finally came  
21 up with a recommendation, our first and foremost was  
22 providing general fund relief and we wanted to maximize  
23 everything that we could to do so.

24           And we felt that with the budget we had that we  
25 could apply to the PV. This was probably the most

1 efficient.

2           It allowed us to submit our applications to CSI  
3 PBIs at step 6 which is 26 cents a kilowatt hour. I think  
4 the step right now is at what, 2 cents at step 9. I'm not  
5 sure. But it's substantially less. I mean those PBIs are  
6 very, very important.

7           We are offsetting 72 percent of our electric bills  
8 and we were able to do the construction so that we're  
9 combining it with our Measure M and Measure O construction  
10 projects to minimize the disruption to the schools.

11           And then I have some pictures of all the systems  
12 throughout and I think the key points at San Mateo Union  
13 High School District is our utility bill was \$1.5 million a  
14 year and that's going up every year.

15           With escalation it's anticipated that the utility  
16 bill will be \$2.6 million in 2019-'20 and 4.4, 2029-'30.

17           So overall in 25 years, our PG&E bill would be  
18 \$77.3 million. We're installing a 3.7 megawatt PV system.  
19 The project cost is about 28 million. Originally it was  
20 thought to be about 31- or 32-.

21           We used the general obligation bonds. We were  
22 able to defer the costs because of the CSI PBIs. We're  
23 receiving I think \$6.5 million because of that. And we're  
24 reducing the utility bill by 72 percent.

25           So the 25-year general fund savings is

1 \$58 million. When everything is fully implemented, we  
2 should be saving \$1.2 million annually. That means we will  
3 have 12 more teachers, 60 more courses. Those teachers will  
4 have 2,100 student contacts and that's what this is all  
5 about.

6           This is using the money and getting something.  
7 It's a gift that keeps on giving and really critical to the  
8 district.

9           The next graph shows the -- kind of how the solar  
10 works and the utility usage in schools and this is just  
11 taking one day. Schools use electricity during the  
12 part-peak and peak hours and then if you look at the next  
13 graph, it shows that with the solar PV system, it also  
14 generates the electricity at the part-peak and the peak  
15 hours, meaning you're going to be reimbursed at the highest  
16 rates.

17           And that's really important. The other thing is,  
18 you know, schools aren't operating seven days a week.  
19 They're only there five days a week and when the maximum  
20 generation factor is, a lot of times the schools aren't even  
21 operational which is in the summer. So this is really a  
22 system that benefits a lot of parties here.

23           And if you look at the one that shows the net  
24 metering at the Aragon High School site, you can see the  
25 meter actually goes backwards when we're in full -- at the

1 peak generation period.

2           And Aragon again, they will be -- their utility  
3 bill will be completely offset by the solar PV system in  
4 place.

5           I also show the example of Mills High School.  
6 That's another system that will be paying fully for the  
7 utility bill. It costs \$3.1 million. It is -- it will be,  
8 you know, paying -- I mean we will not have any utility bill  
9 at Mills High School.

10           And I think that the baseline models is a critical  
11 page because it shows that if a district did not do  
12 anything, we would be -- in the next 25 years, we'd incur  
13 \$77.3 million of expense in electric use.

14           However, with the solar, we're going to be able to  
15 reduce that by \$54.4 million. We will be receiving  
16 \$6.5 million in the PBI. Even when I take into  
17 consideration the capital cost, which is really being paid  
18 for by the taxpayers, it shows the overall savings to the  
19 district is \$9.8 million.

20           And I think this is very, very important. It  
21 really states that using general obligation bonds is  
22 probably the most -- makes the most impact to school  
23 districts, but you'll have to be in a community where people  
24 support the schools and bonds are an option.

25           The other thing that I think was really important

1 is the district did a modified design-build and that is  
2 really important because with the PV panels and the systems  
3 out there, there's a lot of sole sourcing. So to get the  
4 biggest cost and the most responsible provider, doing a  
5 design-build provided the district the opportunity to blend  
6 the two and come forward with a very cost-effective  
7 construction model.

8           And it was a system that really, really worked I  
9 have to say and give accolades to our attorney because it  
10 was a very comprehensive RFP that he put forward. It had a  
11 lot of requirements. It required, you know, generation  
12 factors, in other words, if the system does not produce, the  
13 provider/proposer would have to pay back the district the  
14 difference in their utility bill from what was said that  
15 would be, you know, produced.

16           It guaranteed the inverters for ten years. It had  
17 a lot of safeguards against the district and it's good for  
18 school districts to take on their own capital projects  
19 because going forward you are going to assume the risk and  
20 knowing that you have a very, very tight contract and  
21 design-build gives you the flexibility allowed us to achieve  
22 very good pricing and a very responsible system.

23           And the last thing that I would like to state is  
24 lessons learned from a school district. There is no easy  
25 button with solar. There's a lot of people out there and

1 there's a lot of opportunists out there and I think I've met  
2 a lot them.

3           You have to do your homework. You have to get the  
4 information. You have to drill down and validate every  
5 piece of information that is provided to the district for  
6 accuracy and reasonableness.

7           If they're using projections, go back and see are  
8 these historically accurate. Do they make sense because if  
9 they don't, you could be signing on the line for something  
10 that's going to cost the district rather than save money in  
11 the future.

12           And as I said, there's plenty of opportunists in  
13 the field of solar. It's a relatively new segment.

14           The -- we used a three-prong approach. I had a  
15 team with an architect, a construction manager, a solar  
16 expert, and an attorney and so when we were going through  
17 this, we had a team that looked and vetted out everything  
18 and, you know, kind of moved forward so that we knew  
19 coming -- we entered this with our eyes wide open.

20           We also had to realize that when you go into solar  
21 you don't get monthly utility bills. You're going to get --  
22 at the end, you're going to get one bill a year. So it's  
23 kind of like school districts have to be prepared for that  
24 because otherwise you're going to get let's say a \$200,000  
25 bill or a \$300,000 bill and you're trending your budgets and

1 you're not going to be prepared for it. And so you just  
2 have to be prepared for what the -- the changes that will  
3 take place in the procedures.

4           And lastly what I want to say is solar is a  
5 relatively new market. I was disappointed by the lack of  
6 sophistication and integrity demonstrated by the intergrator  
7 quite strong contractual language and I think it's really,  
8 really important that you have due diligence and you know  
9 that it's a relative new market because the -- I ran a lot  
10 of construction and I've had a lot of problems on this  
11 project.

12           And last thing I want to say without the PBIs net  
13 aggregate metering, I'm wondering what the long-term  
14 viability is for solar with schools because to make it  
15 really worth the while, these have to be in place.

16           CHAIRPERSON REYES: Well, thank you. You  
17 certainly have a success story, a lesson learned. There are  
18 a lot of lessons that are learned in projects like this.

19           I wish there were a way so that we could share  
20 those experiences so folks don't have to relive them and we  
21 can replicate your success throughout the state.

22           Again I go back to this repository of, you know,  
23 best practices learned by hands on and best practices  
24 learned in terms of things to look for, things to make sure  
25 you include. I mean the call-back provisions that you

1 talked about I think they're integral when people are  
2 projecting.

3 MS. McMANUS: Um-hmm.

4 CHAIRPERSON REYES: And then also given the  
5 weather in San Mateo. You know, I think your point is well  
6 taken in terms of net metering so that you could take  
7 advantage of those areas where you have significant sunlight  
8 and other places where you're still protect the big trees in  
9 other areas.

10 But congratulations on a nice project. Ms. Moore,  
11 did you have a --

12 MS. MOORE: Yes. Well, the -- obviously the  
13 superintendent strongly supported the district and chose the  
14 Aragon High School flipping of the switch to put forth the  
15 schools of the future report --

16 MS. McMANUS: Um-hmm.

17 MS. MOORE: -- which actually has a lot of the  
18 quantification of some of the issues that you raised today  
19 about net metering, about best practices, and about  
20 long-term viability --

21 MS. McMANUS: Um-hmm.

22 MS. MOORE: -- that I think that we all need to  
23 work on. That's my comment.

24 I think you've done a fabulous job of paving the  
25 way for many to be able to model from.

1 MS. McMANUS: Um-hmm.

2 MS. MOORE: My concern is this in that San Mateo  
3 was very able to pass a bond measure for this piece, but  
4 many school districts have to pas their bond measures to  
5 deal with their growth and/or their modernization and it's  
6 very tough in these times to have additional projects even  
7 when they save money to the general fund.

8 MS. McMANUS: Um-hmm.

9 MS. MOORE: How did you manage your community  
10 around that as well and what can districts learn from you?

11 MS. McMANUS: It's very -- it's really kind of  
12 hard to describe that one because San Mateo is very  
13 supportive of the educational process. I mean they work --  
14 they embraced -- the community embraced green technology,  
15 embraced solar.

16 But if you were in a school district where, you  
17 know, your AD's (ph) not growing and they're not embracing  
18 any more debt, it will be problematic and there's got to be  
19 ways for those school districts to access money so that they  
20 can make these improvements because in the end of the day,  
21 they are going to -- they need the money for their  
22 educational program and there's been too many cutbacks in  
23 education and this is one way to give a gift that will  
24 continue to give by using solar.

25 And I don't know how somebody could clone this or

1 what the opportunities are, but by getting rid of the PBIs  
2 and also not fully addressing from the PUC the net aggregate  
3 metering, we're not doing our schools justice and we need to  
4 really on it and jump on this one and look at other funding  
5 available for school districts that are challenged with  
6 getting bond measures passed.

7 MS. MOORE: Thank you.

8 CHAIRPERSON REYES: Thank you. Thank you sharing  
9 with us. Our last presenter, Bill Kelly with SunPower.

10 MR. KELLY: Yes, and I have a presentation that  
11 wasn't in the handout, so I'd like to provide copies of that  
12 if I could.

13 CHAIRPERSON REYES: Thank you. Welcome.

14 MR. KELLY: Thank you. Again my name is Bill  
15 Kelly. I am a Manager at SunPower Corporation in charge of  
16 our California businesses.

17 And I had about nine slides and you'll be relieved  
18 to know that six of those I picked are photos. So we'll  
19 make this fairly quick for you.

20 I want to just talk at the outset about the  
21 opportunity for schools and these are probably numbers  
22 you're familiar with, but California has a little over a  
23 thousand school districts and 6.2 million students.

24 I think a question came up earlier about the  
25 number of school sites and I think there are about 10,000

1 school sites and I think about 60 percent or about 5,500 of  
2 those are elementary schools, the balance being middle, high  
3 school, and other for adult ed and those types of  
4 facilities.

5           So in those school districts, we estimate the  
6 potential for solar -- distributed generation solar of about  
7 2.2 gigawatts of electricity of capacity and if the state  
8 were to install all of that capacity, that would yield in  
9 our estimate about 550 million in annual electric savings or  
10 over a 30-year life, about 16.2 billion in savings to  
11 schools.

12           Couple other things to note, these are just  
13 approximations based primarily on data that we've gotten  
14 from the California Solar Initiative -- is that  
15 approximately 20 percent of the top 100 school districts in  
16 California have started solar projects -- they have  
17 completed or started solar projects.

18           And when I say the top 100, I'm talking about in  
19 terms of the enrollment in school districts.

20           And then of those that have completed projects,  
21 about 5 percent of the potential is completed in those  
22 districts. So I should qualify that. That would be  
23 25 percent of the capacity on average at the top districts.  
24 It's, if you will, 5 percent of the total capacity in the  
25 top 100 school districts.

1           The next slide is basically a couple sample  
2 economic slides for school districts. One is a project that  
3 was just completed by San Ramon Valley Unified School  
4 District.

5           And in this case, the school district is repaying  
6 for the investment in solar using its general fund. So in  
7 other words, it's saving money from its general fund and  
8 then repaying the investment back from the same -- from its  
9 operating budget or general fund.

10           In the case of San Ramon, they were able to secure  
11 qualified school construction bonds, QSCBs, that were  
12 available -- as you're familiar with, made available through  
13 the federal stimulus.

14           That project will generate 48.6 million in savings  
15 and rebates to San Ramon. The repayment of the bonds is  
16 22 million, so their net savings to their general fund is  
17 \$26.2 million. Some of the assumptions into those calcs are  
18 at the bottom of that sheet.

19           And the next slide is referencing a project that's  
20 underway at Mount Diablo Unified School District, this  
21 similar to Ms. McManus's project at San Mateo Union High  
22 School District, is a project that's being paid for from a  
23 general obligation bond.

24           So in this case, the utility savings and the CSI  
25 rebates will all benefit 100 percent -- benefit the general

1 fund or throughout the savings to the general fund.

2           And in this case, Mount Diablo will achieve 176-  
3 in energy savings over a 30-year period and 16.1 million in  
4 CSI rebates, totaling just about -- just a little over  
5 190 million in savings over a 30-year period.

6           So again I would echo what Ms. McManus said. This  
7 was really a meaningful contribution, really made a  
8 difference to the district in their general -- will make a  
9 difference to the district in their general fund in  
10 keeping -- meeting of budget constraints.

11           And the following, just a few photographs of  
12 installations that were completed. This is the -- the Mount  
13 Diablo is using fixed parking shades, also shade structures  
14 in hardscape and play areas as well as parking lots. You  
15 can take a look at what that structure looks like.

16           The next slide is an aerial view of a rooftop  
17 system and a parking lot system also installed at San Ramon  
18 High School. And the last picture is an elevated tracker  
19 system installed in the high school parking lot. That's  
20 also at San Ramon.

21           Then I'll have a -- I've got a slide that's got a  
22 table of the impact of net energy metering and the CSI  
23 program on California schools and I bring this forward  
24 because I think it's really important that the school is --  
25 the education benefits are known as the state considers

1 policy around net energy metering and rate design in  
2 California.

3           So this is a table that basically I'll just  
4 summarize the numbers that -- of all of the projects that  
5 are being built under the California Solar Initiative, as  
6 the representative from PG&E mentioned, started in 2007;  
7 that the net savings to all public agencies will be  
8 \$2.5 billion in savings from education, public utilities,  
9 their water agencies, federal government, state and local  
10 government, and a little bit more than half of that is going  
11 to school districts.

12           So I guess the point is that net energy metering,  
13 the policy around that has been really meaningful to help  
14 schools and to implement solar and real life savings from  
15 that.

16           And then finally just a few considerations or  
17 recommendations that might be considered by schools and the  
18 educational leaders.

19           One is that what we believe there's an opportunity  
20 to really improve the implementation of solar in DSA by  
21 reducing costs associated with securing permits and fees  
22 associated with inspections.

23           We are also limited in -- by DSA in what  
24 rooftop -- how we can install solar on rooftops and this is  
25 I think known and being debated right now at DSA, but just

1 to highlight that that's a really big opportunity. This is  
2 particularly important for urban schools that don't have  
3 parking lots to be able to install on flat rooftops.

4 Another recommendation is looking at ways to  
5 facilitate low-cost financing with solar investments but  
6 still capture the federal tax credit. And there is -- as we  
7 mentioned, general obligation bonds provide a really low  
8 interest payment for the investment costs for that and there  
9 are some models that are in place that will enable public  
10 agencies to capture federal tax credits with those  
11 investments.

12 And then the final recommendation was just that  
13 the state continue to support net energy metering policies  
14 and with rate designs that would encourage both energy  
15 efficiency implementation, and solar projects at schools on  
16 a distribute basis.

17 Thank you.

18 CHAIRPERSON REYES: Well, thank you. I think  
19 the -- we're trying to move forward with the Department of  
20 General Services and the State Architect's office to  
21 streamline that process and still protect our kids, which  
22 is, you know, is always the issue for us, kind of the filter  
23 that we look at that there are different issues going on  
24 right now in terms of the use of the roofs for these  
25 purposes.

1           And we want to continue to encourage the State  
2 Architect to look at that and there's an engineering issue  
3 more than a state allocation issue, but we certainly want to  
4 continue to work with folks as yourself and others to try to  
5 get that engineering done to streamline the process.

6           In terms of the net metering, that was also  
7 brought up earlier. I think there is something there that  
8 folks may want to consider looking forward. I'm sorry that  
9 there are no legislators here so we can kind of -- you know,  
10 buzz their ear for a few seconds on that and see what their  
11 interest is.

12           To be perfectly honest with you, I don't know much  
13 about -- I just know that it -- you know, when the  
14 photovoltaic cells generate more electrons than necessary,  
15 they go into the grid, but then that gets netted out and I  
16 think the interest is for more facilities to get taken into  
17 one account rather than individual meters. At least that's  
18 my understanding of what folks will like to consider.

19           And I'm sure that the utilities have their own  
20 reasons why they like to keep the individual meters. It's a  
21 lot easier to manage or I'm not really sure, but that's a  
22 policy discussion that should be had in these hallways in  
23 this building.

24           So but thank you for bringing it up again.

25           MS. MOORE: Thank you. I actually believe there's

1 a piece of legislation that is pending about net metering  
2 with Assembly Member Wolk.

3 CHAIRPERSON REYES: Senator Wolk.

4 MS. MOORE: I mean Senator Wolk that has -- that  
5 is a two-year bill. So they'll have that policy discussion  
6 I think at the legislative level for this as well.

7 CHAIRPERSON REYES: Thank you. Any additional  
8 questions/comments? No.

9 MR. ALMANZA: Just in regard to the DSA, we are  
10 looking at streamlining the permitting process, but  
11 afterwards I'd be happy to listen to your concerns and ideas  
12 that you might have.

13 MR. KELLY: Yes. I'll just note that my  
14 impression is that it's been a healthy dialogue between the  
15 industry and DSA, but I think that we've got to acknowledge  
16 that the safety of the school sites is paramount, but we  
17 feel that working with DSA we can come up with ways to  
18 really not compromise that at all, but improve the  
19 performance of the systems on the campuses from a cost  
20 perspective.

21 CHAIRPERSON REYES: Great. Thank you. Thank you.  
22 Is there anybody from the audience that would like to make a  
23 comment or two on what we've heard today? It's about  
24 quarter to 5:00. We have the room until 5:00.

25 Okay. Hearing none, I think -- I'd like to thank

1 our speakers and our audience and the Board members who were  
2 able to join us. Clearly as we look as energy efficiency  
3 sounds to be the number for the first step in doing the  
4 analysis or the auditing in terms of what the actual --  
5 where we can reduce energy needs and then to look -- take  
6 the next step and that's looking for green energy.

7 Like I said earlier, this is an important issue  
8 for this administration. It's important for schools.

9 As we move forward and we try to reduce our carbon  
10 footprint, this is clearly a way we have to go. I know  
11 we're trying to do this at state agencies, state buildings,  
12 and clearly folks have an interest in doing this at the  
13 school level, particularly the diversity of schools that we  
14 have.

15 Any other closing remarks by any Board members?

16 MS. MOORE: Well, I would say because we are the  
17 State Allocation Board and a representative of them that in  
18 my mind in order for the issue to have meaning that it is  
19 brought before the State Allocation Board in that are there  
20 ways that we can leverage what the testifiers today said  
21 about the energy efficiency and solar and other renewables  
22 in the program.

23 And I think that would be maybe the next step. We  
24 can consult with Senator Hancock who couldn't be here today,  
25 but I know wanted the hearing, is how are we as a State

1 Allocation Board and staff addressing these issues within  
2 our program.

3           And I heard also today it appears there's  
4 scattered information out there and that if -- one of the  
5 things that perhaps we could do as state agencies and State  
6 Allocation Board or others if there are the resources is to  
7 bring that information more readily available to the -- to  
8 school districts and others constituents of the issue in  
9 order to have more projects be energy efficient.

10           So I would say that I think I'd like to see it  
11 also be something that we summarize maybe for the State  
12 Allocation Board or in some way bring it into our work as a  
13 board.

14           CHAIRPERSON REYES: Yeah. We talked about, you  
15 know, simple things like the link. We talked about, you  
16 know, how can we work with the Energy Commission, with PG&E,  
17 and to see how we can make that information serve as a  
18 repository.

19           You know, almost in my mind -- and again this is  
20 just one Board member speaking. I almost want to invite  
21 school districts if they have successful programs to submit  
22 them and put them in a webpage someplace.

23           You know, the San Mateo success story ought to be  
24 made available other folks. And I think we're sort of in  
25 the infancy. This is an informational hearing. These kind



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