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CALIFORNIA ENERGY COMMISSION

COMMISSION WORKSHOP

In the Matter of:	) Docket No.
	) 16-OIR-02
	)
Senate Bill 350 Study on Barriers	)
to Low Income Customers to	)
Renewable Technologies and Energy	) WORKSHOP RE:
Efficiency and Investment	) Senate Bill 350
________________________________	) Barriers Study

Energy Commission Workshop Regarding Barriers of Low-Income and Disadvantaged Communities to Energy Efficiency and Renewable Energy

CALIFORNIA ENERGY COMMISSION

THE WARREN-ALQUIST STATE ENERGY BUILDING

ART ROSENFELD HEARING ROOM

FIRST FLOOR

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

FRIDAY, AUGUST 12, 2016

9:00 A.M.

Reported by:
Peter Petty

APPEARANCES

Commissioners

Robert B. Weisenmiller, Commission Chair
Karen Douglas, Commissioner
David Hochschild, Commissioner
Andrew McAllister, Commissioner
Janea Scott, Commissioner

Agency Partners

Richard Corey, Air Resources Board, ARB
Thomas Doughty, California ISO, CAISO
Saul Gomez, Natural Resources Agency, NRA

CEC Staff

Kevin Barker, Advisor to Chair Weisenmiller
Rosemary Avalos, Public Adviser's Office
Erik Jensen, Appliances and Existing Buildings Office

Presenters

Ashley Dunn, Air Resources Board
Drew Bohan, California Energy Commission

Panel Presenters (* Via telephone and/or WebEx)

Jeanne Clinton, California Public Utilities Commission
Chuck Belk, California Community Services Development, CSD
Robert Castaneda, Low Income Oversight Board
Hazlyn Fortune, California Public Utilities Commission, CPUC
David Jacot, Los Angeles Department of Water & Power, LADWP
Shannon O'Rourke, CPUC
Elizabeth Kelly, Marin Clean Energy
Maria Stamas, Natural Resources Defense Council, NRDC
Allison Joe, Strategic Growth Council
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Sophia Hartkopf, TRC Energy Services

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Panel Presenters (* Via telephone and/or WebEx)(Cont.)

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Phoebe Seaton, Leadership Counsel for Justice and Accountability
Cynthia Bruno, Richard Heath & Associates, RHA
Martin Bond, Community Energy Services Corporation
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Allan Rago, Energy Efficiency Council
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Public Comment (* Via telephone and/or WebEx)

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*Holmes Hummel, Clean Energy Works
Nehemiah Stone, Stone Energy Associates
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I N D E X

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P R O C E E D I N G S

AUGUST 12, 2016 9:04 A.M.

MR. BARKER: So, before we get started, we have a few housekeeping remarks. Thanks everyone for joining us at the SB 350 Barrier Study Workshop. To let everyone know, the workshop is being recorded and webcast.

This is the second of three planned workshops we're conducting regarding the study. The intention of this workshop is to gather more information beyond the literature review that we've completed to feed into the study. We'll hold the second workshop, or excuse me, the third workshop on the draft study, in September.

Today on the dais, as you can see, we have a full dais there. We have representation from the Energy Commission and a number of other agencies. We have Chair Bob Weisenmiller, Commissioner Scott, Commissioner McAllister, we have Commissioner Hochschild. We also have Richard Corey from the Air Resources Board and Tom Doughty from the California Independent Systems Operator. We likely will be joined by other members of the dais later.

Hopefully folks were able to get the materials in the front of the auditorium, and for those online, on the website. We did have the notice translated into Spanish and Chinese. We also have fact sheets talking about the public outreach meetings that we have and what this workshop's about. Those have also been translated into a number of languages including Hmong, Vietnamese, Korean, Tagalog, Spanish and Chinese.

We have a few changes to the agenda today. Unfortunately, for the panel right after lunch, Nick Dirr will not be able to join us today. He's got good news; he's welcoming a baby. So we also have a change in the last panel. The Jobs and Clean Energy Services in Low Income Communities, Bill McNamara will not be able to join us, and thanks to Stan Greschner for helping moderate that panel last minute.

We also have been welcomed by Commissioner Douglas here on the dais.

So if you'd like to make comments during the workshop please fill out a blue card. And the blue cards are located in the back, with our Public Adviser's Office. Hopefully, I think Rosemary is working with our translators now, but she will be there.

We have two comment periods. One is before lunch. And then one is at the tail end of the workshop in the afternoon. For those that can't stay all day and wish to make comments in the morning section please indicate that on the blue card. If you wish to make comments during both, please indicate that as well. And if you'd like to make comments just at the end of the day, indicate that.

That'll help us take comments.

We'll start with comments within the room here and then we'll move to WebEx. If you'd like to make a comment on WebEx, please use the raised hand option or send Colin, who is our host, a message that you'd like to make a comment.

The comments will be limited to three minutes per party. Also, note that if you're in the room and you come up to microphone please either turn your cell phone off or leave your phone at your chair. We've received feedback in the past.

We also have translators for those in the room that would like translation. This is for Spanish only. They have headphones in the back. They can also help assist if we take any comments during the public comment period on WebEx.

So with that I would turn it over to Chair Weisenmiller.

CHAIRMAN WEISENMILLER: Thank you. I'd like to thank everyone for being here today. We really appreciate your involvement in this topic.

I would like to remind everyone that when Governor Brown gave his State of the State he talked about the need to address the challenge of climate and how that's affecting all of us. And indeed it's probably affecting our lower-income population more than the rest of us. I mean, you look at the impacts, certainly look at the paper on encyclical. Certainly that's looking at how climate change is, on a global scale, really affecting low-income disadvantaged communities very heavily.

And as part of the State of the State the Governor pointed out to really address these issues, we're going to have to transform our communities and many of the ways we do things: work, drive basically. And we're trying to harness our researchers in venture capital to help us in this transformation. The transformation will involve really doubling down on energy efficiency, certainly also renewables and shifting to basically electrify our transportation system, so these are huge changes.

And the reality is that we're putting a lot of money into those, certainly on incentives. And most of those incentives now are going to, I would say, the higher-income folks who tend to be more first movers on stuff. And so I think that one of the things that 350 really called out is how do we really reach beyond that? How do we really reach into the low-income population disadvantaged communities and bring them into this transformation.

And so it's a pretty challenging issue. I think all of us for decades have been struggling with the gap in incentives between rented space, be it housing or office buildings, and owner-occupied. And the reality is, I think, many of our low-income folks reside in or work in rented space.

But we really need to do a lot better than we are now and we really need to make sure that these programs benefit all Californians. So again it's a huge challenge to figure out how we're going to do that. But we've got the responsibility to work through that this year. And this is a critical moment for us to get people's input and have a dialogue on how to address these issues.

So again, thanks for being here today and I'd like to thank my colleagues for participating in this conversation.

MR. BARKER: So we are going to move to our first speakers. The SB 350, there are requirements for both the California Air Resources Board and the Energy Commission, and so we'll hear first from Ashley Dunn from the ARB about their plans on looking at similar issues that we're talking about today but for the clean vehicle sector.

So please.

MS. DUNN: Thank you.

Good morning and thank you and many thanks to the Commission for having us here today. My name is Ashley Dunn and I'm from the Mobile Source Control Division at the

Air Resources Board.

So I'm here today to discuss an effort the ARB has been tasked with as a result of Senate Bill 350 being passed last year, and as mentioned earlier, in support of increased transportation electrification across the state. Also, to allow for a better understanding of some of the challenges that low-income residents and disadvantaged communities are facing when it comes to accessing transportation, but particularly clean transportation options.

So ARB is developing a study by January 1, 2017, of low-income residents in disadvantaged communities in terms of the barriers that they're facing to access zero and near zero emission transportation options. So we're kind of framing this effort as more of a guidance document.

And the significance of that is it would include what are the barriers that they're facing, what are the main barriers? As well as what are the opportunities, which is equally as important. In addition to that would be some of the recommendations from ARB as well, specific to helping inform policies and investments across the state.

So this effort's being done in really close coordination with CEC -- which has been a wonderful partnership -- and other state, local, metropolitan planning organizations, air districts, environmental organizations and advocacy groups. So we tried to stretch across the state as much as we can across multiple organizations. So we had discussions regularly with Alana Mathews and also the Zero Emission Vehicle and Infrastructure Office on the infrastructure barriers, as well as some of the folks in the Energy Demand Office of the Energy Commission as well, so those discussions are ongoing.

So we know that low-income residents face a lot of unique barriers when it comes to accessing transportation including clean transportation, obviously funding is one specific issue, the current cost of advanced technology is still pretty high, but we're hoping that will go down over time.

Access to clean transportation is a really important transportation option within these communities. But it's also important to provide more of a comprehensive review of what transportation looks like across the state currently. So we're not just looking at vehicles, so new and used vehicles, but also other options like public transit, active transportation, and ride-sharing options, which critical, particularly when you're looking at rural areas and tribal communities as well.

So we're characterizing zero and near zero emission transportation options in this fashion to include multiple modes of transportation. And we're continuing to explore barriers across those modes. We want to shed light on the main hurdles that low-income residents are facing and particularly with the clean portion of the transportation. In addition, we want to continue to look at the infrastructure in place, or what needs to be in place, in order to support clean technologies within these communities.

So the goal of this effort is to pave the way for further research on clean transportation options. And we acknowledge that just based on the timing in and of itself, this may be a stepping stone, but we really see this as an ongoing effort, even past the statutory deadline. Because it's critical that we take some of the lessons learned from existing ARB and other programs and incorporate those into our work.

So we are currently in the community-based meeting phase of the project, which has been really exciting. We're working directly with low-income residents through the channel of community-based organizations and talking directly to folks about some of the main challenges they face day-to-day when it comes to transportation access. So as part of that process, we've been working really closely with CEC and giving them any of the findings related to energy efficiency or renewables, because a lot of the communities we're talking to have those concerns as well.

So we're planning for additional meetings through the fall in support of this effort including a round table, which we're anticipating will be sometime in October, during which we would present our findings on the barriers, opportunities, and some of the recommendations.

So in addition to our public meeting, we also want to continue with one-on-one meetings as best we can to support continued stakeholder input.

Last month we had the pleasure of doing an Informational Update to our Board. Alana was able to attend that meeting, which was wonderful, because it allowed her the opportunity to talk about what CEC is doing with their Barriers Report. And the Board Members are definitely seeing the connection between the energy efficiency side and the transportation side. So we're excited in this effort and continuing to work with CEC, not just as I mentioned earlier in the short term, but in the longer term of this project.

And again, I just really appreciate the opportunity to be here today and speak to all of you about this and look forward to hearing any questions that you may have. Thank you.

CHAIRMAN WEISENMILLER: Yeah, I was just going to ask you in terms of your work so far, have there been any real surprises in terms of the barriers?

MS. DUNN: I don't think so. I think so far, what we've categorized, there's five main barrier categories that we're looking at this year: So there's accessibility and convenience of transportation, reliability and affordability; also because we're looking statewide at low-income residents there's a lot of community-based needs that might be very unique depending on where you are in the state; also education and outreach, so a lot of folks aren't aware of clean transportation options within their communities; and then also the infrastructure, planning, and investment.

So those are the main areas where we're seeing the barriers. And we're going to continue to identify specific characteristics within those barriers. But so far no real surprises, but we really are happy about the fact that we get to hear directly from the residents who are most impacted by lack of access.

CHAIRMAN WEISENMILLER: Yeah, no that's very important. I think certainly we really would want to work together with you as we try to come up with creative solutions in this space. Thank you.

MS. DUNN: Definitely. Thank you so much.

COMMISSIONER SCOTT: I just wanted to also add thank you so much for the collaboration and the close work with Alana Mathews and with the folks on our transportation team, because as you can imagine, we at the Energy Commissioner are also very interested in the barriers and understanding what you're learning and if you are finding any solutions. And I was going to ask if the flip side of the surprises question is have there been any kind of really cool solutions that you have heard so far? Or is a lot of it more kind of fitting into all five of those barriers and we really do need to think through strategically how we kind of cut across those barriers?

MS. DUNN: I think it's more the latter, but we're still kind of going through our public process, so we're not entirely sure of all of the potential opportunities. We do have a round table coming up at the end of August in the tribal community of the North, for example. And they may have some very specific concerns related to transportation access, so I think it's a little too early to say. But we're continuing to look at innovative and creative opportunities within these communities. Thank you.

MR. BARKER: Great, thank you. Thank you, Ashley.

Next up we have Drew Bohan, our Chief Deputy here at the Energy Commission.

MR. BOHAN: Thank you, good morning everyone. It's great to see all five of our Commissioners here this morning as well as partners from the Air Resources Board and California ISO. My name is Drew Bohan and I'm and I'm delighted to be here this morning to present to you.

As you all know, Senate Bill 350 charged us with a number of significant responsibilities. This morning, I just want to focus on one, which is what we're calling the Barriers Report. The findings in SB 350 stated that there's an insufficient understanding of the barriers. And that's really what our charge has been in this exercise, to find out what those barriers are in low-income and disadvantaged communities and come up with recommendations as to how we can solve them.

The bill specifically directed us to conduct a study looking at three areas. The first is barriers to low-income residents with regards to solar and other renewables, chiefly solar; a second barrier is to energy efficiency adoption; and third, a little different, looking at small businesses in disadvantaged communities and the barriers that they face in trying to enjoy some of the benefits of this clean energy revolution that California's taking part in.

Chair, I think you articulated well the problem very clearly. We have as a group sitting here today, and others have been looking at these challenges for quite some time, I don't know that we've done a comprehensive evaluation though of what's out there and what we can be doing to do a better job.

When Governor Brown signed SB 350 last October, we quickly moved into action. We assembled a multi-divisional team to tackle this assignment. And our Public Adviser Alana Mathews, who has been mentioned earlier, has taken the lead and she's really our leader on this. But she's not been doing it without help. She would be presenting this morning, but she's out of town today.

But she's gotten a lot of help from folks in our building too numerous to mention, but I'm going to mention three anyway. Jordan Scavo isn't here today. He's also on vacation, but he has been one of our chief drafters. We also have Esteban Guerrero sitting in the back here who's been spending an awful lot of time working on this. And I can't not mention Kevin Barker, who's been kind of the glue helping pull together so many different pieces on this. But that's really just a few of the folks doing it.

The first thing we did, the first thing Alana did, is to do is reach out to our partners. There are others who have been looking at these issues for a lot longer than we have and we wanted to first say, "Hey, look.

Here's our assignment. Here's what we're thinking. What do you think?" So we got some basic feedback.

And we constructed an approach to how to deal with the situation. The first thing we did then was to do a literature review. And we looked at over 100 different studies that had been done around the country and elsewhere, and we're not the first to have looked at this, so this provided a lot of guidance. That's done.

Our report has been -- there's a draft that's being worked on as we speak. We acknowledge in the report that there may be other studies out there that we haven't found, but we did our level best to find all of them, look at them very carefully, and see what we could learn from them. We have an appendix at the back of the document that identifies each of the 100 plus studies that we've looked at. This task is done.

Next we looked at a Gap Analysis. So we said, "All right. We've got a good idea from this literature review of what others have looked at. What haven't they looked? Or what have they looked and found we really need to look a little deeper or we need more research on."

From that our team has developed a list of questions and we're using those questions in part to inform today's discussion, and all the public outreach that we're doing, to push these questions back at folks and get their opinions. Of course, we're asking questions about what we've also learned as well and vetting these ideas and getting a sense of whether we're on the right track from the folks we engage with as well. But the Gap Analysis has been very helpful with that.

I also want to just talk about public engagement, because this has really been the key to making this a success. The last thing we want is a report that's 100 pages that sits on a shelf somewhere and collects dust. We want this thing to be a guiding document that helps our efforts, it should look at recommendations for what the Legislature might do, what we as the Energy Commission might do, what other Executive Branch agencies might do, and others around the state. So we're really hoping it can be a working document.

I want to just articulate quickly the public engagement we've done to date. We've had three advocate and organizational stakeholder meetings. We've had two EJAC community meetings, that's the Environmental Justice Advisory Committee, established by AB 32. We have had seven community stakeholder meetings and three public workshops. This is the second of those three public workshops. The third takes place after we publish the draft report. We want to get feedback on that, but this is the second of those three.

In everything that we've done so far we've been very pleased with the participation we've had. I met and didn't get a count of how many folks we have on the line, but we've got a room full of folks. And I think this speaks to how important this speaks to others beyond us.

We do outreach very well here at the Energy Commission, I'm proud to say. But we sure as heck couldn't have done the job we did with this particular topic without all the help we received from others. And we owe a great debt of gratitude, and I want to mention by name at the risk of leaving some folks off, those who have been extremely helpful to us.

The California Environmental Justice Alliance has been critical and their community partners as well. And those include -- and I'm going to list six of them here: The Greenlining Institute from Berkeley, the Asian Pacific Environmental Network, APEN, from Oakland, Communities for a Better Environment from Huntington Park in Los Angeles, the Leadership Alliance for Environmental Justice from Fresno, California Community Advocates for Environmental Justice from Riverside-San Bernardino, and Strategic Concepts in Organizing Policy and Education and RePower LA from Los Angeles.

In addition, Alana has done a lot of outreach around other parts of the state. She's attended meetings that we haven't necessarily formally been a part of, but she's been there listening and taking notes and she's brought her staff and others in the Commission to join her. So we're learning a lot from other events where we're not necessarily -- our issues aren't necessarily the focus.

She's also reached out to the Sierra Business Council and Sierra Camp, who will host community stakeholder meetings to discuss the unique barriers faced by the folks in our mountain communities. And we expect we'll learn some things that are a little different perhaps from urban and other areas around the state what we've also done outreach to.

She's also working with the Strategic Growth Council and Ashley referred to our work with some of the Native American tribes in California. We have an upcoming workshop that will take place up near Ukiah and Alana's going to be chief in running that. North Star Tribal Housing Authority is one our key partners on that effort.

We also sent a letter to the 184 recognized tribes in the State of California to participate in the meetings we've had, including this one. And we hope some have joined and that about rounds it out.

Back to the public workshops briefly again, there were three. The first one was on June 3rd. It had about 20 people in the room and 100 on the line as I mentioned. And that was to refine the scope of what we're doing and do a reality check on what we had planned to date. We did that.

This one here is to drill down a little bit more into some of the policy ideas that you'll hear about, get your feedback as to which things we ought to most focus on.

And again, the third one will really be about getting feedback on the report we put out. We think it's in good shape and it's coming together, but you don't know until you put it out there and you hear from folks who get a chance to react to it.

We'll then have time between then and our proposed adoption date to propose to you, Commissioners, for a vote, which is on December 14th. We'll have a couple of months to get feedback. Some we'll get orally at the third public workshop, but we'll also invite written comments and we expect to get some. These, as you know, take time to evaluate and sift through and find out where there's commonalities and so forth. And then put together a Final Draft Report again that we'll present to you for the December 14th meeting.

The statute requires that we then share the document with the Legislature come January 1 of next year. We think we're on track to do that, but that's our timing.

Finally, I just want to say this is a really big lift for our organization. And I'm very proud to say I think we're doing a really good job with it. But it's not really anything categorically new for us. This isn't some brand-new idea that we've been confronted with and we're struggling to figure out and get our bearings. We've established a Diversity Committee quite some time ago, and Alana leads that as well, so she was a natural for this effort.

And we look at all sorts of things. We look at siting and how do we make sure the communities we go into, or where we're contemplating approvals with power plants, that the folks there are able to a) understand us, because sometimes there are language barriers. And the Adviser's job is to hear from folks that don't necessarily understand, sometimes prosaic proceedings in their hometown, and help guide folks as to how they can meaningfully participate in the conversation.

I won't go through everything, but we've also got through AB 865, a direction by the Legislature to boost -- and the Governor who signed the bill -- to boost our efforts in looking at how can we make sure folks that contract with us, and we let a fairly large amount of money out every year, how do all Californians get the benefit from this?

And last I would just mention diversity in hiring. We're making sure we're reaching out to a wide variety of universities and small businesses and other places around the state to make sure we attract the best possible people to our organization.

So with that, I'd invite you to ask any questions and thank you very much for your time.

CHAIRMAN WEISENMILLER: I think one of the major things we need to do again, is to make sure that on the communication side that as we do this effort -- and so far we've done that as we go through the arc between now and adoption -- that again we have to remain focused on making sure that we're reaching out to the major languages in California in a way that will bring them into the process.

MR. BOHAN: Absolutely.

CHAIRMAN WEISENMILLER: You don't want just a 100-page report sitting on the shelf, but one that's only in English, for example.

COMMISSIONER MCALLISTER: Can I say a little something? So thanks Drew, and I agree with your assessment that there's a lot of chefs in the kitchen, but so far the soup tastes pretty good. So that's good.

So just a comment actually, I think historically there have been actually quite a resources that have gone to low-income. And I think there's kind of a carve-out of the ratepayer-funded programs. And then there's also the CARE program itself. So there is a pretty significant kind of flow of resources. Now, is it enough? No, of course, it's not, right? Certainly that's a conversation that we should have in terms in terms of just resource levels. But my interest in having sort of been involved on and off in low-income issues and energy efficiency over the last couple of a few decades now really now, how can we do these programs better? The people in the room, and the people who are participating hopefully in all the stakeholder interactions, really sort of the nitty-gritty stuff like what can really work better on the ground? How can communities engage?

I mean, let's try to just keep it real as much as we possibly can. You know, and we're in a position to actually impact what happens on the ground. And you know, at the state government level that's not always the case. You know, there are a lot of degrees of separation between the ground and the state. And this is an area where I think we're actually linking up the links of the chain, sort of almost from top to bottom, and we have a good opportunity. So really it's sort of palpable.

And so let's see -- well, I'll leave it there for not. But I'm really looking forward to the discussion and really figuring out practical ways. And I know that many of you are in touch on the ground with what's going on and we just want to hear what you have to say. We really,

really do, so thanks.

MR. DOUGHTY: Chair Weisenmiller, thank you for including us today. I'm Tom Doughty with the California Independent System Operator.

Some of you might say, "Well, what's the Grid operator doing here?" We're talking about energy efficiency and consumer participation at the retail meter level. We too have gone through a very comprehensive effort as part of a study we've just recently wrapped up around our share of SB 350. Our effort has looked at the impacts to disadvantaged communities of moving towards a Regional Grid and we've worked with a number of you in this room to complete those studies. Thank you for the inputs you've provided.

We're a 501(c)(3) public benefit corporation and our role here today, is both to listen and understand the interplay between the conversations that'll be had here, and our work. But also, to represent to this community, our commitment to incorporating the disadvantaged communities into this Master Energy Plan that is taking shape for the energy supply sectors.

So my commitment today, on behalf of the organization, is to listen and be prepared to engage you either collectively or individually in further discussions on how we can be more aware of the issues affecting disadvantaged communities. Thank you.

CHAIRMAN WEISENMILLER: Well, that's very good. Also Tom is going to encourage the ISO, now that there's more time, to spend a little more time with some of the NGOs going through the studies that have been done.

MR. DOUGHTY: Yes. For those who have not yet heard we've extended our timeframe for conversations on our program, probably into spring. And that gives us more time for dialogue with this community as well, so glad to do that, Mr. Chairman. Thank you.

COMMISSIONER DOUGLAS: I'll just briefly note that I appreciate the significant effort that's gone into outreach around this report. And I think it definitely helps us bring in a lot of perspectives that are really valuable for us to hear as we look at this material. And as we think about to make our programs more accessible and just better suited and better designed to help serve disadvantaged communities.

MR. BARKER: Great. Thank you, Drew.

MR. DOUGHTY: Thank you.

MR. BARKER: So we're going to move on to our first panel. This panel is Improving Low-Income Participation in Current Programs.

And for the folks who are on this panel, if you can come up, we have them in alphabetical order. And when you join, please switch your name tags around.

So this panel is exploring barriers to low-income participation and opportunities for improvement and delivery of services to low-income communities in state, utility, and local energy efficiency and renewable programs.

This will be moderated by Jeanne Clinton, from the Public Utilities Commission. Thanks, Jeanne, for this.

And we're also joined by Chuck Belk from the California Community Services Development, Robert Castaneda from the Low Income Oversight Board, Hazlyn Fortune from the PUC, David Jacot from LADWP, Sara Kamins from the PUC, although I think we have someone stepping in for Sara?

MS. O'ROURKE: Shannon O'Rourke.

MR. BARKER: Okay, great. Thank you.

We have Elizabeth Kelly from Marin Clean Energy, and then Maria Stamas from NRDC.

Go ahead, Jeanne.

MS. CLINTON: Good morning, everyone. Just for the benefit of making sure we're -- I know, one more thing -- the program descriptions that people provided, are those going to be made available or distributed in some way?

MR. BARKER: So Brian, if you want to come up to the microphone? So we did have a number of program descriptions that we have. We have them on the dais and we can make them available if folks would like for everyone to attend, so we can put them up on our website.

MS. CLINTON: I think it would be terrific if they were publicly available and accessible.

MR. BARKER: Sure, okay.

MS. CLINTON: So good morning everyone, I'm Jeanne Clinton. I'm going to be moderating the panel. Most of you know I am the Governor's appointed Energy Efficiency Advisor at the PUC, with permission to work broadly with government agencies and everyone in California, to try to advance the aim of achieving lots of energy efficiency.

We have a big panel today, seven members. And we have a bit of a structured, I guess, sequence of questions that we've asked the panel members to be prepared for. So just in terms of logistics and process for the most part we're going to pose one or two questions and then give everybody who wants to, a chance to respond. And then go to the next question, so they're sort of stacked or sequenced.

And because of that I might suggest that in terms of questions from the dais, if you want to ask a clarifying question of something that anybody has said, I would encourage you to jump in, in real time, and sort of make sure you understand that, because we're going to be building through the series of questions. And then we'll hopefully have ample time at the end for more give-and-take.

I also -- to keep the minutes that we have available as focused as possible on useful conversation to inform the study and the thought process -- we ask people to prepare ahead of time their program descriptions to give to you, so we don't have to spend time covering the basics of what folks do. But they will have a chance to give you the gist of what they do.

I also thought it might be helpful, since we don't have the benefit of the literature search stage of the report in hand yet, to just say a couple of characterizing things about the population of low-income and disadvantaged communities in California.

And conveniently, the statistics that I have access to are more from an investor owned utility perspective, so having said that I'm not by any means trying to cover the same turf that SMUD or the Los Angeles Department of Water and Power and the Southern California and Northern California public agencies who deliver electricity and gas might also say.

But in round numbers one-third of California households qualify for CARE utility bill discounts and receipt of the investor owned utility energy efficiency programs -- one-third. That's a big number. In terms of distinct numbers of households it's over four million. In terms of customers, because we have some electric-only or gas-only utilities it actually measures up to five million or more customers. But some of those customers are served by two utilities, so there's overlap. But the point is, it is a huge number.

And I also want to acknowledge as we go into this, that depending on the funding sources: state, Cap and Trade, federal money, solar money, we use different definitions of who qualifies or who's eligible for receipt and then benefit from these sort of targeted services that you'll be hearing about. And I'd like to encourage each of the panelists to tell us what definition you use, just so we're clear, and we have that in context.

I also want to acknowledge that the study targets small businesses and particularly small businesses in disadvantaged communities. And we know from the work that the Air Resources Board had done on the CalEnviroScreen that they have done a terrific job of pulling together different kinds of metrics in terms of not only income and traditional demographics, but also environmental health and air quality, to define disadvantaged communities. And in those situations it's not necessarily matched with income, yet important metrics for us to be paying attention to as we're trying to bring clean energy solutions.

So I think that's enough from me.

CHAIRMAN WEISENMILLER: Okay. Jeanne, I have two clarifying questions.

MS. CLINTON: Great.

CHAIRMAN WEISENMILLER: First is do you have a sense of the trends, so when you talk about four or five million if we look back five years, is the number going up or down?

MS. CLINTON: The simple answer is the number is going up for probably three reasons. A, the population is growing. B, at some point in recent history the PUC upgraded or changed its definition of "eligibility" for the ESAP and CARE programs allowing more households to qualify. And thirdly, because of economic conditions at least in recent five years or so, more people have fallen in income and therefore have become newly eligible due to unemployment or things like that.

So I'll leave it at that, but the bottom line is the number is getting bigger.

CHAIRMAN WEISENMILLER: Yeah, I thought again for context it would be good to -- assuming again it's getting worse -- so at least get that on the table.

The other is obviously when you look at CARE you're looking at people who have some connection to essential energy services. And I think a few months ago you, and Mark, and I were having a dialogue about the portion of Californians that don't have access to basic energy services and that seemed more in the hundreds of thousands.

I mean, what's your sense -- and again, that seems to be an area where we really need to be focused on too, today. Do you remember those statistics?

MS. CLINTON: I actually don't. I tend to deal with people who are on the Grid.

CHAIRMAN WEISENMILLER: Yeah. These are the ones that don't have a gas service, in particular. There was that bill a couple of years ago to look at propane carriers.

MS. CLINTON: Well there's certainly households in rural areas where their primary heating source is propane or wood. But most of them do have electricity, so they're on the Grid usually with an electricity utility, unless they're totally off the grid and generating their own power. But maybe let me just stop and ask if any one of our panelists happens to know the answer to the question.

(No audible response.)

It looks like one of us will have to dig that out.

CHAIRMAN WEISENMILLER: Great, thanks.

MS. CLINTON: Okay, any other starting questions?

(No audible response.)

Okay. So panelists, we'll proceed.

So what I'd -- first round is I'd like to each one of us, and Chuck I'll start with you, to just take a few minutes to briefly for the benefit of the audience identify yourself, tell us the kind of program or service that you're involved with, no details. And if you could also how do you or your organization define low-income or disadvantaged communities as you use the term. Chuck?

MR. BELK: Sure.

Good morning, Commissioners. My name is Chuck Belk. And I work for the Department of Community Services and Development.

MS. CLINTON: Could you bring the microphone a little closer?

MR. BELK: Oh, sorry. Okay, is that better?

Okay. I manage a department for the -- actually I manage several units for the Department of Community Services and Development. Units are defined as the Program and Policy Development Unit and also Climate Investment Unit. And I'll take a few moments as Jeanne said, to provide just a brief overview, maybe put a little flesh on the bones of what we provided in terms of our overview that you've received in your folder to describe what CSD's low-income programs do.

For more than 40 years CSD has administered federal programs that provide energy assistance and weatherization to low-income households. These programs are those such as the U.S. Department of Health and Human Services Low Income Home Energy Assistance Program or LIHEAP -- it's a mouthful -- and also the Department of Energy's WAP or Weatherization Assistance Program.

Both LIHEAP and DOE programs help low-income families manage their energy expenditures by providing energy efficiency and health and safety improvements to their residential housing, whether it's -- either its being rented or owned, either way. And, of course, all people who qualify for these services must meet certain income standards.

The income eligibility within our programs, they vary a little bit, but I'll just give you a rough assumption that they're close to or they approximate 200 percent of federal poverty guidelines, so I'll speak to it in a little more detail when I think we speak about that a little bit in a few more questions.

The funding amounts vary for the weatherization, federal weatherization programs and during 2014, which is the most recent year we've closed out, we received $44.5 million across both programs to do weatherization services. LIHEAP is by far the larger of the two. And that program itself had approximately the lion's share, which is $38.2 million out of the $44 million.

LIHEAP and DOE services are administered by a network of private, non-profit, community-based organizations and local government agencies that provide services state-wide while CSD is responsible for state oversight.

Both programs, they vary, but they also embrace and approach that as one of comprehensive assessment that utilizes both visual and diagnostic tools to identify importantly health and safety concerns, as well as energy efficiency opportunities.

This approach encompasses a wide array of energy services that include diagnostic assessment tools, for example, that measure the leakage in the building envelope, evaluating combustion appliances for safety, determining operational conditions of appliances within the home and also identifying opportunities for efficiencies gains.

CSD also manages the state's Low Income Weatherization Program or LIWP. And in the state fiscal years 2014-'15 and also '15-'16 CSD was appropriated $154 million from the Greenhouse Gas Reduction Fund to expand existing Low Income Weatherization Programs and also to establish a Low Income Rent Renewable Energy Program within defined disadvantaged communities or DACs or D-A-Cs; however you want to refer to them. These DACs are defined by CalEPA CalEnviroScreen tool, which I think we'll probably be talking about a little bit later today, so I won't go into that detail.

But using these GGRF Funds or Greenhouse Gas Funds, CSD established the Low Income Weatherization Program with three subprograms.

MS. CLINTON: Chuck, I'm going to interrupt, we're getting way too wordy.

MR. BELK: Okay.

MS. CLINTON: This is not a brief introduction of your programs, but so if you could just accelerate.

MR. BELK: Okay. That's fine. The bottom line here, the three subcomponents are a single-family weatherization, which also encompasses small multi-family weatherization. We have a large multi-family weatherization program and a Solar PV Program that installs solar on homes that are owned by low-income families. There we go.

MS. CLINTON: So just to clarify, you mentioned that you use the definition of 200 percent of federal poverty level. And do you use that across all the different programs?

MR. BELK: Actually the Department of Energy's Weatherization Program is the only one that absolutely uses that definition. The LIHEAP Program uses 60 percent of SMI and a couple of other variables as well, but it's roughly approximate to 200 percent of federal poverty, but it does vary depending on the household size. And the LIWP Program utilizes two standards, which I can go into more detail or I can cover that later, whatever you like.

MS. CLINTON: I think for the panel members, just to give a sense of what you're grappling with in terms of definitions.

MR. BELK: Sure, yes. For the LIWP program or the Low Income Weatherization Program it's a tiered requirement. So the first tier is that a household needs to reside within one of the disadvantaged communities as identified by CalEnviroScreen. And then secondly for the single-family and small multi-family program we use 60 percent of SMI, which aligns with our LIHEAP program, so the thought there was to allow for leveraging opportunities. And our large multi-family and Solar PV programs use an 80 percent of AMI standard and again that was also the thought was to help it align with other state programs where they could potentially leverage.

MS. CLINTON: And SMI and AMI are?

MR. BELK: State Median Income is SMI and AMI is Area Median Income. I'm sorry, acronym city.

MS. CLINTON: Okay, so just a reminder to all of us to try to at least spell out the acronyms before we use them too often. Thank you.

MR. BELK: Sure

MS. CLINTON: Okay, Robert? A brief introduction, what you're up to, and how you define the population that you're serving.

MR. CASTANEDA: Hi, Robert Castaneda. I'm the Chair of the Low Income Oversight Board for the California Public Utilities Commission.

In a former life I used to be Deputy Director at CSD. And one of the great things about CSD is clearly not only the programs that they service, but again they've been tasked with again a limited amount of resources to serve a huge eligibility community in California. CSD has been extremely talented and skillful in developing formulas in connection with the neediest of the needy. I think all of us, including the PUC and the utilities could benefit from that insight.

So having said that I am the Chair of the Low Income Oversight Board; we meet about four to five times a year. We're codified in statute. The Legislature saw fit to have this representation of not only community, but basically service providers, right, within the constraint of the programs in a contribuatory assistance capacity with the Commission. So I'm privileged and honored to provide that service.

On the other side of what I do to pay the bills, is historically after my service with the state, I am an advocate and a consultant to farm worker human service agencies across California, so there's a number of them that I have worked with for years including transportation services. That's a very unique sort of need those communities have. They face very interesting challenges, dynamics and dangers, when it comes to accessible affordable transportation. So I look to try to assist with information. There are many studies that we've been part of and that we've done for the Department of Transportation. There are models that exist out there that could truly benefit from collaboration with you folks.

In terms of the Federal Poverty Guidelines yes, we do use the -- the standard would be either federal at 200 percent. Again, I defer to CSD in connection with other funding formulas that they do to maximize and leverage existing resources that are limited to serve a growing needy and eligible population.

And then again the CPUC has seen fit to expand their eligibility based on categorical eligibility. And I believe there are seven, eight, or nine pieces of criteria in that regard that expand the universe in terms of services.

You know, frankly we're falling short. We could do much better. The decision in terms of implementing CARE and ESA is almost two years behind. You know, we're working diligently on the Board to do a couple of things. We think that we need a decision, but we think we need an appropriate decision.

MS. CLINTON: Robert? Robert, could you keep the opening remarks focused on what your activity is and also you've already covered definitions, so thank you.

MR. CASTANEDA: Right, the one last thing that I would contribute to this discussion is we as the LIOB also are in a working partnership with the Commission, based on Low Income Needs Assessment Report, which is a statewide study that you too might benefit from. Thank you.

MS. CLINTON: Thanks, we'll get into challenges and solutions in a bit.

Okay, Hazlyn?

MS. FORTUNE: Good morning, Commissioners. My name is Hazlyn Fortune. I'm the Supervisor of the Energy Efficiency Residential Programs and Portfolio Approval for Energy Efficiency at the Commission. My staff and the Commission oversees the Energy Savings Assistance Program, which provides at no cost to renters and single-family homes, weatherization services very similar to what you just heard about by Mr. Belk.

We also administer the California Alternative Rates for Energy Program, the CARE program, which provides a 20 to 35-percent discount on energy rates for income-qualifying Californians.

We also started the Family Energy Rate Assistance Program or FERA. It uses a slightly higher income guideline to qualify participants. And also the utilities run, what we call the medical baseline, where folks who have a need for equipment and their energy usage is going to be higher because of the need for that equipment, a doctor's note and application will qualify them for that. That one is not income-based.

All of the three programs: the FARA, the CARE, and the ESAP, the weatherization programs that I described earlier briefly, we use the 200 percent of the Federal Poverty Guidelines as the standard for getting people eligible and on the programs.

And as Mr. Castenada mentioned we also had expanded to include categorical eligibility, which means that if an applicant is already enrolled in a program like WIC, where they had to have shown income eligibility in order to access and be approved for that program, they can be automatically enrolled in the ESA Program or CARE Program, so that's what categorical eligibility defines. Thank you.

MS. CLINTON: Thank you.

David?

MR. JACOT: Good morning, Commissioners. I'm David Jacot, Director of Efficiency Solutions for the Los Angeles Department of Water and Power. We run a comprehensive portfolio of energy and water efficiency programs serving all customer segments. We also have an extensive 20-program partnership and growing, 20 programs and growing, partnership with SoCalGas, through which we have extended our reach into all the customer segments, including low income. We have our own Home Energy Improvement Program, which is a comprehensive weatherization program that is administered by DWP staff. We have a Low-Income Refrigerator Exchange Program, very successful.

And recently, within the last year, one of those partnership programs with SoCalGas is that we brought ESA into the City of Los Angeles. And the version of ESA we're doing, we believe is more comprehensive than the statewide version, because not only do we jointly do all the ESA measures in-unit we're also serving the landlords common areas with a direct install model for the lighting. And a lot of those building owners, property managers, are affordable housing developers.

As for income qualification, we do. We have a City-chartered formula that is somewhat opaque, but it generally results in about between 200 and 300 percent federal poverty level is the cutoff for our own programs, things like our Lifeline rate. Lifeline is like CARE, what the IOUs have is CARE, we have a Lifeline rate. However, where we're partnered with an entity that has regulatorily adopted eligibility criteria such as ESA, it's the 200 percent that goes with the statewide program.

The only other thing I would mention as far as disadvantaged communities we use CalEnviroScreen; that's our typical way of identifying those communities.

MS. CLINTON: David, going back to a question that Chair Weisenmiller asked, do you have a feel for what portion of your residential base may qualify and/or how that's evolved?

MR. JACOT: Yeah. Yeah, 40 percent, so if we say rule of thumb it's a third statewide, it's 40 percent is the floor in Los Angeles; it's quite high.

Is it getting bigger or smaller as a share? In absolute numbers yes, it's getting bigger, because we've got growth as well. But as far as the share I think that's been pretty flat, but it's high. And it's higher than the statewide average.

MS. CLINTON: Great.

Shannon?

MS. O'ROURKE: Good morning, Commissioners. I'm Shannon O'Rourke. I'm a Senior Analyst on the Customer Generation Programs Team at the California Public Utilities Commission.

Our team oversees incentive programs for customers to install renewable generation on their properties including Solar PV under the California Solar Initiative. We also oversee low-income specific incentive programs for single-family properties. It's the Single-Family Affordable Solar Homes Program or SASH. For multi-family properties it's the Multi-family Affordable Solar Housing Program or MASH.

We also pursuant to Assembly Bill 327 are working on defining and looking into alternatives to the net energy metering successor tariff, specifically to drive adoption of Solar PV by residential customers in disadvantaged communities.

For the MASH and SASH programs the eligibility requirements are income and property specific and they're statutorily defined. For income, it's 80 percent of Area Median Income. And for the property requirement it's to have either a deed restriction or a regulatory agreement setting aside a certain percentage of the tenant spaces for low-income tenants.

For disadvantaged communities, for the non-successor tariff, we're still working with stakeholders on defining what the eligibility requirements would be and what a definition of "disadvantaged communities" would be. I do want to point out that the Commission, across different programs is implementing different programs specifically for disadvantaged communities with different definitions at this time of what a disadvantaged community is, so this is something that we're grappling with.

And I think a lot is often driven by what the statutory guidance is there, so for the Green Tariff Shared Renewables Program it's 20 percent top CalEnviroScreen by investor owned utility service territory. And for the Electric Vehicles Grid Integration Pilots it's the top 25 percent of CalEnviroScreen, either statewide or by investor owned utility, whatever yields the largest participation.

MS. CLINTON: Lots of complexity there.

MS. O'ROURKE: Definitely.

MS. CLINTON: Thank you.

Beth?

MS. KELLY: Hi, my name is Beth Kelly. I'm with Marin Clean Energy or MCE Clean Energy. We serve Contra Costa, Marin, Napa and Solano Counties.

First, I'll give you a quick overview on the energy efficiency that we provide and also a pilot that we have out. The ones that we're currently administering, the programs, are multi-family, single-family, financing and small commercial. And the only item that I'd like to note is there is a one-pager in your binder that has a lot of useful metrics in it. And it highlights that for our multi-family program, which is not a low-income program, 77 percent of the customers served under that program are low income. So that's very relevant to this conversation today.

We also have a pilot out that we're asking the CPUC to approve that relates to low-income energy efficiency, so we do not run specifically low-income energy efficiency programs yet, but that would be for multi-family and single family programs that would leverage existing non-EE programs in breaking down those silos. Also on your one-pager, you'll note that we have solar and workforce offerings that serve low-income communities quite effectively.

So with regards to definitions for low income, like I said we aren't yet administering those programs, but we plan on using the energy savings assistance definition. But however we are introducing in our pilot some recommendations for further ways to define subcategories of folks that may otherwise be overlooked, so we support the categorical eligibility requirements that are discussed by Hazlyn earlier.

But otherwise, for example, CalEnviroScreen overlooks many of our lowest-income communities within our service territory and so we look to more granular information than not. So for example in Marin County, we have the Canal District, which is a heavily Latino community. We have Marin City, which is a heavily black community and those are overlooked by that existing tool.

So that is the overview, and certainly look at the one-pager that we provided in your binders, thank you.

MS. CLINTON: Thanks, very much.

Maria?

MS. STAMAS: Hi, good morning, Commissioners. Maria Stamas with the Natural Resources Defense Council and I'm also speaking on behalf of the Energy Efficiency for All Initiative, which is a national initiative that NRDC is part of, but we have partners in housing, National Housing Trust, as well as program implementers, elevate energy and energy foundation. We work in 12 states and California is one of those states. We also have local partners on the ground.

And the goal of Energy Efficiency for All is to really collaborate with housing groups and tenants to vastly improve clean energy offerings for low-income communities. And we focus on multi-family housing, because it's been underserved in the past and it's a little bit more difficult with the landlord-tenant relationships to really get programs that work for that sector.

And then in terms of programs, I don't run my own program or Energy Efficiency for All doesn't, but we do monitor and provide recommendations for the vast majority of low-income programs in the state. So everything that you've heard already mentioned where participating and proceedings or evaluating or covering, we are for the most part somewhat involved in.

And then in terms of defining low-income and disadvantaged communities I just wanted to highlight a couple of fact that we found, in terms of the different programs. And one is, that we've learned in partnering affordable housing groups, is that state housing programs all use Area Median Income as their eligibility guideline. And so something we've supported is kind of, also on the energy side, making sure that it aligns with affordable housing guidelines. So we support kind of Area Median Income eligibility requirements.

And then on the disadvantaged communities metric, two notes there. One is as D. (phonetic) mentioned, that low-income and income levels are one input, but it also has a vast majority of inputs. And as a result a lot of low-income housing falls outside of disadvantaged communities. So particularly subsidized affordable multi-family housing, 80 percent of that housing falls outside of disadvantaged communities, so just something that kind of keep in mind.

And then I guess lastly another thing we've seen in implementation of programs that serve disadvantaged communities, is that there will often be properties or buildings that are just across the street from a borderline that have the same level of income in the housing. And the provider is serving one building and then across the street there's another one that just missed the mark by very little, that they're getting left out of the program. So we've been thinking about -- there are some programs that have adopted and now have a two-to-five mile radiuses on the boundary line. And that's also something we support.

MS. CLINTON: Thanks very much, Maria.

So for the next round of questions, just to shake up the order, I'm going to start adjacent to me with you David, go this way, and then come to Shannon and go this way. Just so you don't get too bored with the sequence.

So the second question, and I apologize for the fact that a little of this is foundational and we'll get to the real fun questions soon, but the second round question is, "How do you measure success in your own organizations?

Do you have target values, specific objectives, do you have metrics?" So if you could tell us how you measure success and if you have any sense of how well you're doing.

MR. JACOT: Yes, thank you.

We do have substantial metrics that we track. It depends on which program and what the goals of the program are. For our low-income efforts, like I said if we're 40 percent -- 40 percent of our residential base is low-income or income-qualified. That's millions of people. We've got one-and-a-half million residential customer accounts, so that's 600,000.

So when you look at it that way then you set goals around the program about penetration of the programs, and you want to serve everybody, but there's only so much you can do. So when you set the metrics and the goals, it's to get as much out there as you possibly can. But to say, "Well, by the end of next year we're going to serve 20 percent, or 40 percent," that's hard just given the vastness of the needs. So we have rolling programs that have operated for years and years.

But we do have other metrics that are a little bit more realistically achievable for full saturation and frankly transformation. One of which is to maximize the share of customers that are taking advantage of the Lifeline rate, just like the IOUs try to get everybody who's qualified for the CARE rate to be on the CARE rate, we do the same thing for the Lifeline rate. And we do track that upcoming, it's very close.

One of our Commissioners has -- one of the Commissioners of the Board of the Los Angeles Department of Water and Power has been very instrumental in driving the Department towards of adopting a wide-ranging set of equity metrics across the entire organization. And it's been drafted and we're getting ready to do the first round of reporting on it this fall. It's really exciting.

And I'd love to, at some point, come back and share what those are and how it looks. But it's essentially things like if you have response times for fixing outages is there geographic or socioeconomic disparity geographically across the territory in those response times? In other words, as the lights come on is the average outage 20 minutes here, but it's 40 minutes there? And is that due to infrastructure or is it due to other things; we don't know.

But by establishing metrics around those, that's how we can start to analyze it. You know, where do the bulk of the energy efficiency rebates go? So we will be doing GIS mapping of our major programs, both low-income but also the non low-income programs on solar, on residential energy efficiency, commercial energy efficiency, mapping to the city. And then comparing the potential in those areas to what's actually landing there. You know, and some are pretty straightforward, intuitively.

We have a very successful Pool Pump Program that is obviously going to penetrate areas of the city that have a lot of pools. The commercial's going to -- the large commercial programs are going to get into the areas of the city that are the heavy commercial districts, so a lot of it is intuitive.

But overall I think we're looking at about, across all facets of our operation both on the power and the water side, we're looking at about over 50 metrics and all around equity. And that would be something that I'd love to come back and share at some point.

MS. CLINTON: Okay. That sounds like quite a bit to jump into.

MR. JACOT: It's a lot.

MS. CLINTON: Hazlyn?

MS. FORTUNE: Yes, Hazlyn Fortune again.

The California PUC, I guess around 20 -- I'm trying to remember when the fist report came out, but we created a report that set an Energy Efficiency Strategic Plan. And in that report we set a target for the program administrators, the IOUs, for the ESA CARE programs that -- for the ESA Program that they reach 100 percent of those who are willing and eligible to participate. That the program had touched them or reached them, whether once or twice or multiple times by 2020.

So the homes treated information that the utilities report to us tracks success at reaching that goal, that broad goal. Their other goals -- the statute that underlines the program -- definitely points to reducing energy burden. There are times when we've gotten calls where somebody was deemed ineligible, but they're a veteran. They may have extraordinary health challenges. And on those occasions we've coordinated with the utilities to bend the rules, so that the program could provide them with a solution for their challenge.

The programs also periodically go through; we call them impact evaluation -- with evaluation measurement, evaluation -- looks at the kilowatt hour savings and therm savings from the programs. I don't have specific numbers, but if you'd like them, I can provide it.

What the last impact study showed in terms of those two metrics -- and I know that the last information I reviewed on the penetration targets for ESA, based on those homes treated scheme that I explained earlier -- have all the utilities upwards of 80 percent plus penetration having treated homes, both renters and in multi-family dwellings and single-family low-income homes.

MS. CLINTON: Just as a follow-up question to both of you while I'm thinking of it and for others, we're hearing about participation rates. We're hearing about savings. Hazlyn, you've mentioned energy burden. Do you have any -- do either of your organizations have metrics on other things that sometimes are talked about: health, safety, comfort; is that measured in any way?

MR. JACOT: Not at the moment, but I think that's something we'll be looking at with our -- as we expand our equity metrics effort.

MS. FORTUNE: Yeah, the current programs at the Commission do not have set metrics to measure health, comfort and safety. We look at the energy since we're energy. But those are things that, you know, of course are very -- increasingly important.

And at this point, I want to mention that the way that I look at this emerging effort to define disadvantaged communities has low-income as a primary characteristic of that population. It's not low-income and then disadvantaged communities. One primary characteristic of disadvantaged communities is that they're all low-income and they have energy burden, which means that they spend an inordinate amount of their income on energy, whether it's because they're in San Joaquin Valley where they have to spend money on propane and wood or they've got other challenges that cause that.

So if we're going to be thinking about disadvantaged communities let's just make sure that we have that as sort of a governing definition, under which other things like environmental justice, living wages, all those things fall under that. And I wanted to -- well, I'll just say that, that I'd want to make sure that you understand that that's my interpretation of this effort.

MR. JACOT: Yeah. And that raises an important point too. Not all low-income folks live in disadvantaged communities. So our first, where we first start is at the individual, or at the household, you know of the low income. Disadvantaged communities are concentrations of low-income and other factors when you go through CalEnviroScreen, you know, when you also have environmental justice issues.

So it's important to know that you've got to focus first on the eligibility of the individual customer and then where you have hot spots if you will, if you have special concentrations of adverse socioeconomic conditions those areas can be focused on with heightened levels of resources. But you're always starting with something broader that serves the entire low-income community.

COMMISSIONER MCALLISTER: Jeanne, I want to chime in a little bit here. So I think this is an incredibly important point that I want to just highlight, so that people continue to think about it, and maybe in the subsequent comments can add.

So I'm interested in sort of -- I think all of us on the dais are interested in figuring out we can coordinate various programs, you know not impose new transaction costs, but sort of streamline and reduce transaction costs, actually. So if we're at a house we can do lots of different things and not have it be a problem, have eligibility sort of ironed out to the extent possible, etcetera.

So I guess I'm interested in how much your various programs coordinate with local government. And by that, I don't just mean cities and counties, but also COGs and other programs that might -- transportation planning came up. Certainly there are local programs that do lead abatement, that do airport noise abatement, that do -- there are lots of different -- and they're contextual at each place, but there are lots of different programs that exist. So I'm interested.

The second point is housing policy actually kind of does exactly the opposite of what we're talking about in terms of EnviroScreen identifying communities. A lot of housing policy is, "Hey, how do we get more low-income in non-disadvantaged -- more low-income housing, more accessible housing, in non-disadvantaged communities?" So sort of by design we're a little bit at odds, it sounds like sometimes.

You know, if you're building a multi-family construction in a place that's near the jobs and is not a disadvantaged community, and you're saying okay 20 percent of the housing has to be low income in that new building, well that's kind of building 20 percent of the units to likely not be within EnviroScreen areas of disadvantaged communities. So they should be eligible.

So those kinds of local coordinations, I think to the extent we can highlight the opportunities there, I'd really appreciate that.

MS. CLINTON: Yeah. Let's keep on moving and see if we can pick up some of those and some of the other responses. And I just want to come back to a couple data points that have already been mentioned, so we can connect some dots. We've heard two different uses of CalEnviroScreen, one which is the top 20 percent of disadvantaged communities, the other the top 25 percent.

Earlier we heard about low-income energy efficiency definitions that are based on income, but sort of correlate with a percentage of residential populations. And we heard 33 percent on average I think for the investor-owned utilities. We heard 40 percent in Los

Angeles. So we have a disconnect: 20 and 25 on one side and 33 and 40 on another. So that means by definition some people are not falling into the pool depending upon which definition is being used.

So having said that, Robert, let's move on and I'm going to repeat the question, because I think we've migrated a little bit. How do you measure success in your world? Do you have objectives, metrics, and how well do you think you're doing?

MR. CASTANEDA: That's a great question. And I'm going to reflect on basically what my service providers tell me almost every time we meet, either at the beginning or at the end of a meeting --

MS. CLINTON: Could you pull the mic a little bit closer?

MR. CASTANEDA: Sure.

MS. CLINTON: Thanks.

MR. CASTANEDA: Are we helping people that need help? In other words, let's talk about energy efficiency and the reduction of energy burden.

Many of the service providers that I work with are in some of the most remote rural areas of the state, where temperatures are extreme in terms of heat and in terms of cold. And it's not uncommon when these households are served, for a senior citizen just to break down in tears, because they have a daughter, there's multi-generational families under the same room with an infant and those temperatures are exceeding 115 degrees and we're able to a little something.

How do we measure success? That's an interesting question, because the broader issue is how can we make programs better? It's evaluation and revision. Our folks in the community frankly understand how we can do better. We understand that an appropriate program service delivery mechanism that takes in valuable research and program planning in terms of implementation that works in a collaborative manner, not only within the PUC and utilities, but also our sister agencies in connection with the coordinations here that you mentioned, is how we can do better.

One of the pilots that was mentioned was a CARE Outreach Program in connection with using Human Services at the county level to go ahead and integrate an application in an eligibility pool; that's one way we can do better.

One way we can do better is when we looked at cost efficiencies in connection with this appliance as opposed to this other appliance or this measure as opposed to another measure. The reality is, is that we're looking at cost. We have to look at the cost of stopping a truck, a crew, what is that? And then what are our limitations?

How can we do better in terms of the whole house approach in connection with energy efficiency? So how we measure success is how much help and assistance we're providing to low-income communities that need it. Thank you.

MS. CLINTON: Thank you, Robert.

Chuck, from the CSD perspective?

MR. BELK: So we looked at this question. We tried to take a look at the federal programs that we've managed for many, many years. And those programs, they were originated at a time where there really weren't a lot of metrics out there that were being tracked for low-income programs, and so they developed and they developed a personality based on that.

And so typically how it's been looked at is that these federal programs are -- the metric we've used for success is, "Hey, did we spend dollars? Did they get out to the low-income populations they needed?" And so basically we've evolved our thinking over the years and we're starting to move to a different type of system now.

But in the past it's been we've shaped policies, we've used new energy modeling techniques to develop priority lists, put in cost controls, and used QA oversight or Quality Assurance oversights to make sure that the weatherization programs were delivering what we wanted them to do, at the homes.

And so were those efforts effective? I'm assuming that -- my assumption is, and I have a lot of trust in the system, is that when we go out and do a comprehensive assessment for a weatherization job we are looking at all the opportunities to do out there. That's the whole idea of addressing health and safety efficiency opportunities and so that is the hope.

And so even so even though we're only focusing on the cost controls and these kind of old-fashioned ways of tracking, as long as we're making sure those dollars get expended the way the program was set up to based on the policies, we know that there's some benefit going to the residents.

That being said we are moving into an age where information is everything and so we want to begin tracking some of those metrics. And so basically CSD is involved currently, where we're working with a consultant right now and we'll be hopefully speaking with the IOU shortly, to develop some type of a data sharing opportunity. So we need a brokerage agreement with them to share data, so that we can track. When we go out to a home and we put in a certain number of measures do we see the effects on the energy bill at the end, because that's really where the rubber hits the road. We want to see that benefit the low-income residents.

And also Jeanne, you had provided some reading material to us. And I actually got a chance to read through one of the last night and I noted in there that we measure efficiency based on what's installed and the energy savings. But we are kind of missing the boat a little bit if we aren't counting the health and safety, the comfort of the home. These things need to be measureable. And we need to do a better job of tracking those items, because there are a lot of market barriers when trying to get out to these low-income homes.

And so we need to recognize it for what it is and do our best to quantify this, so we can justify our programs. And so they don't look like bad investments.

MS. CLINTON: Thank you.

Now we'll shift over, Shannon, from a solar perspective, a change of pace.

MS. O'ROURKE: Yeah, so mix it up a little.

So the MASH and SASH programs had some pretty straightforward goals with regards to the incentive programs. And they were really to get low-income customers to adopt solar and to reduce electric cost. So a lot of how we measure successes was their subscription, were we effectively getting adoption, were the incentive levels correct?

And then also looking at the bill impact, so customer bill impacts, were their electric bills actually reduced as a result of installing solar? And the answer is generally yes.

But we also are trying to now look at cost effectiveness of the programs. And so we'll use standard practice manual cost effectiveness to look at whether it's cost effective from different perspectives. And often with low-income programs you don't have the same requirements that you do for a non-low income, because there's an understanding you need to spend more to reach these other goals that you have besides just energy-related.

So as part of cost effectiveness, we started looking at, in our last program evaluation, non-energy benefits and this is a challenging area. I think energy efficiency world kind of attest to that. And we in dipping our toe in on the solar side, its challenging because you need research, you need numbers; you need to back it up.

But I want to point out that the Venn diagram -- I think of health, comfort and safety between energy efficiency -- and solar is kind of small.

With solar, you don't have the same impacts like replacing an HVAC system or something else, because you're putting a solar system on your roof. And maybe you're allowing a customer who previously couldn't run their air conditioning to run their air conditioning now. So you have kind of different things happening. So when we do think about in the future, any kind of program analysis like that, the solar world has a bit of a different impact on the actual customers than energy efficiency improvements.

MS. CLINTON: If I could just jump in and draw a line between the two CPUC responses? I think something that's been unstated is both organizations commit a certain percentage of their programmatic budgets to evaluation. So there is rigorous evaluation that's being done.

Shannon has referred to the cost effectiveness on the solar side. Hazlyn referred to impact analyses that are done. And Robert referred earlier to something that's affectionately known as the LINA, L-I-N-A, which stands for the Low Income Needs Assessment.

And I'm going to hold up, just for your benefit, this was the last completed LINA Study in 2013 and there's another one underway now. And they're done about every three years for the investor owned utility service area. And this is our Needs Assessment for the Energy Savings Assistance and CARE rates.

And just looking at the table of contents it covers population characteristics, accessibility, penetration, outreach, barriers to participation, energy burden, measure benefits, addressing energy need, and it goes into more detail about who's participating and who's not, and what outreach mechanisms are affective, and why are people not participating? And so from -- this is also in the bibliography that you folks are doing in your literature search, which is by the way where all the references came from that I've provided. I've just plucked them out of the Energy Commission's long list.

So I just want to acknowledge that there's a fair amount of evaluation and research going on at least with the investor owned utility dollars. I can't speak for the federal dollars or LADWP.

I'm sorry for the --

COMMISSIONER MCALLISTER: Jeanne, let me just also build on what you said. So there was a recent controversy, not based in California, and I wanted to just bring that up. So there is a danger in my view of expecting these programs to be cost effective in some traditional sense, right? And so I'm seeing heads nodding there, and so it's absolutely important on the energy front. But also low income, you know the disadvantaged communities as some of you inferred there is likely more sort of take-back, as people capture comfort that they've foregoing and things like that.

So I guess I'm wondering if there's a -- if there's any need to clarify that sort of efforts that try to target this, these demographics, have any sort of cognitive dissonance? Like on the one had they're expected to be beautiful form the energy perspective. On the other hand, they're also expected to do a bunch of stuff that's really a social program. So clarity on that might be useful. And this would be a place to highlight some of those issues.

CHAIRMAN WEISENMILLER: Yeah, that's right. This report can certainly address the need that the program should not be constrained by traditional cost effectiveness, but anyway.

MS. CLINTON: Yeah. So, let's just -- I'm going to note that question, cost effectiveness. I want our last two panelists to get a chance to take a crack at success and then maybe we could come back to that issue.

Beth?

MS. KELLY: Thank you very much.

So just for our existing programs I think it's pretty clear what our metrics are: energy savings, water savings, cost-effectiveness. But with regards to our low-income pilot that we've been proposing there are a lot of components in there that might be a bit unique. We do identify health and safety as an important consideration.

And there are a couple areas where that can be addressed and one is identifying and leveraging other programs to help resolve Health and Safety Code violations. And so how do we support people being in compliance with the law?

Separately, what are solutions that can avoid certain health and safety negative impacts? So for example, we're looking at fuel switching from gas to electric and also certain heat pumps, so those that's one indicator. Another indicator is how comprehensive of projects are we doing? So not just gathering low hanging fruit.

And with regards to our low-income pilot, it's -- the whole goal is to serve low-income and underserved communities. So the metric is, "How are we doing better through that program versus just standard energy efficiency?" And we're very, very active at a Public Utilities Commission on working to address policy barriers to achieve better programs.

I would say with regards to cost effectiveness, there are a couple of major challenges that we face. We're a community choice aggregator, so we're quite a bit different than the investor owned utilities for a lot of reasons. And one of the important ones I think is scale. We're a lot smaller.

And so there's a couple of components. One component is when we launched our energy efficiency programs we were directed to work around existing investor owned utility programs and so the low-hanging fruit is gone. And so you can't integrate all those together.

And also the administrative burden of being an energy efficiency administrator is very, very high, particularly for small entities. So I appreciate Commissioner McAllister's comments about streamlining and making things simpler. You know that's the other side of having rigorous EM&V is well how expensive is it going to be for us as a small administrator, to be able to evaluate your duty EM&V, when there's a lot of complex metrics, rather than simpler metrics.

So for example, our current budget in a year is $1.5 million. And EM&V studies are very expensive, the administrative burden of complying with CPUC regulations, I mean this is -- let's be honest, it's a labor of love. It's not easy.

MS. CLINTON: Good, duly noted. Hard to do rigorous EM&V with small scale programs and budgets.

MS. KELLY: Yeah, and staffing.

MS. CLINTON: Okay. So maybe someday we'll just point that out as a challenge of how California wants to get good metrics and a sense of accomplishment and success or not, when we have a wide range of types and sizes of activities going on. I think it's a good question.

Maria, how do you measure success and how well do you think we are doing?

MS. STAMAS: Great, so I had a couple of points here.

First, this actually wasn't what I had prepared to say, but I just wanted to follow up on something that Robert had mentioned about metric of success being how low-income tenants are being served, their low-income household owners, and their level of satisfaction with the programs. And picking up on that, also the multi-family affordable owners who make their investment decisions on behalf of tenants, and I think one thing that sometimes we don't have in the programs is a feedback loop between the customers and the program administrators and the CPUC. We have stakeholder proceedings where advocacy groups provide feedback but we don't really have that direct feedback from actual customers.

So I think one level of success would be just having that feedback loop and actually having it be positive.

And then back to my prepared remarks I think I just wanted to highlight for a minute, energy savings, which directly impacts bills and then directly impacts the burden that low-income families are seeing in terms of how much of their income is spent on utility bills. And it's been amazing with the Energy Savings Assistance Program, the participation and the breadth of services that have gone out has truly been amazing. It's at this point, like Hazlyn mentioned, it's almost about to reach about an 80 percent threshold of how many households of eligible and willing participants.

And the Energy Efficiency Strategic Plan that originally set that goal also set a goal of having increasing energy savings and more cost effective energy savings over time. And that was never really translated into an actual goal for the program. So there's a goal that utilities have to meet about how many households they serve each year, but not a goal about how much they have to provide each household or how much savings they have to achieve per household.

And I think, as a result, there's been income evaluations in the past that have said, "You know, we go to a lot of expense of enrolling households and evaluating their income levels and visiting the households. And then often sometimes we're only providing a couple measures, like faucet aerators or a couple of light bulbs, but we're not really providing everything we can to the household once we're there.

And also, not really doing a thorough audit, especially of more complex buildings, to see what's cost effective in this particular building that we can also provide, even if it's not cost effective across the board. You know, if there's a property that has 115-degree weather in the summer, air conditioning might be more cost effective there than it would be on the Coast. So I guess just thinking more about having a metric of success be around energy saving and bill savings I think could go a long way.

And then lastly, in terms of what's the burden for say an owner of a multi-family property to participate in the low income program. And they have to leverage sometimes five different programs and all the different guidelines. And that often can be a disincentive to participate. So on the flip side of a metric of success, other programs have measured the percent of projects that are completed from initial intake. So how many owners or tenants are reaching out to a program? And then now many actually finish a project?

So thanks.

MS. CLINTON: Those are great comments. In the middle of this, Commissioner McAllister raised the question of cost effectiveness and whether that's an appropriate metric or how to use something like that alongside others. Does anybody else in the panel want to speak to that before we move on to another round?

Robert?

MR. CASTANEDA: Well, I just want to make a comment on what Maria said, about the feedback loop, you know, kudos.

I'd say, almost about a year ago, I got a call from a -- he's a facilitator. He's a manager. He's an operator of low-income multifamily housing in San Diego. And he has partners in Los Angeles.

And one of the interesting dynamics that's happening in this space, that was kind of an education for me, is that the Governor is certainly cited in his budget too, the ability for non profits to work with private sector companies to provide this housing. And we have a designation that is called "not-for-profit group living facilities."

So this fellow found me through the LIOB website. And he said, "Guess what? We did this transformation on 184 units, a year-and-a-half ago, and the utility kicked us off the CARE program." I said, "Really? Well why is that?"

Anyway, to make a long story short, they're back on CARE, but the reality is, is that we're starting to kind of see some challenges in connection with sister facilities, or exact, similar facilities having the same issue. And frankly I only have so much time to help so many people. So that feedback, I think is critical. And to put that and to engineer that into the system is king.

And I'm very, very happy that the individual from LADWP is here, because I intend to kind of seek their assistance, because one of the facilities is with the Gas Company, where they did (indiscernible) low-income residents receive rate assistance. But LADWP does not have a designation, at least the provider was telling me, for low-income not-for-profit group living facilities. So they have the designation with the Gas Company, but they don't have it with LADWP.

So that's I think something that we can do. But I apologize, Jeanne, I --

MS. CLINTON: No, no, no. I think it's a good additional observation, group living facilities. And I know that there are some similar issues. There's a bill in the legislator now to deal with group living facilities for agricultural workers.

And there are different populations that perhaps aren't touched by some of these programs now. And hopefully they'll be identified in the course of doing it. Maybe they're touched in a disadvantaged community sense, but not in an income qualification sense, because a corporate owner may own the building. So anyway, these are the nuances.

Hazlyn, did I see your hand up on the cost effectiveness?

MS. FORTUNE: Yeah, you did.

I mean, the main statues that govern both the CARE and the Energy Savings Assistance Program has written into the statute or however you want or you can say, I've heard that the statute actually says we should consider cost effectiveness," but it's a rigorous standard that we do apply in our programs and that the program, the IOU program administrators also apply.

So as we consider how best we can do more for not just low-income folks, regardless where they reside, whether there are disadvantaged communities, however we define and designate that or anywhere in the state. We would do ourselves a good service by saying that as we roll out potentially a different effort and a different level of spending to address the need that the program administrators are somewhat -- we've got to come up with a schema to relieve them of that requirement. Because the math won't work whether you're tracking energy savings, or you're tracking GHG reduction, I don't think the math will work as part of a rigorous analysis.

We have to come up with a better policy reason, besides targets and energy efficiency savings and therm and GHG savings to justify the level of effort it will take to address the multiplicity of needs that are found in disadvantaged community areas.

MS. CLINTON: If I could just add a data point to that? We're talking about cost effectiveness in sort of conceptual sense, but the last time I recalled if one were to do a traditional Benefit Cost Analysis on the ESA programs I think it would be less than 0.25. We're not talking about something that is cost effective now.

The question is then should we modify the definitions? As Shannon said should we somehow capture all the non-energy benefits, you know the health, safety and comfort and monetize then? Do we want to go into that game or not or are there other ways?

You know, there are substantial transaction costs associated with some of these programs. So insulation costs X and refrigerator costs Y and a light bulb costs Z, but the overhead costs of qualification and getting to the premise, etcetera, could be substantial. So someday, maybe we'll look into some of the cost side of it and not just the benefit side.

COMMISSIONER HOCHSCHILD: Jeanne, if I could Jim and I just had a couple of comments and a question

So I was a firefighter for four years in Pennsylvania when I was in college in a volunteer firefighter. We had a Fire Prevention Program. There was kind of a joke that fire prevention programs are always trying to put the fire department out of business. And it's somewhat the case in energy as well.

We spent as a Commission last year -- I just got the data on this -- $750 million in efficiency and clean transportation funding and new solar homes and many other -- but all to reduce energy to make it less necessary for us to have to permit new polluting power plants.

And I do want to point out. As we've all discussed, there are justice issues associated with power generation. And one of the benefits I think that we see of money and resources that get spent on energy efficiency everywhere, renewable energy everywhere, is that it makes it less likely to build power plants, which are not built in wealthy communities. We know that.

And I just think it's important to remember there are benefits actually for disadvantaged communities generally from our existing efficiency renewable programs for the state.

I also, just in terms of how we think about success, I do think one of the questions in the criteria has to be what are the business models that are being developed through these programs that are going to sustain them when the money goes away? And you look at, for example, the FICO scores going down every year for people doing residential solar leases and so forth. That's a good sign. And we need, you know, to be I think viewing things through that lens as well.

My question is about CalEnviroScreen. That has come up a number of times and obviously there's some programs like CARE where it's self-reported and that's kind of not the metric. But there's a number of others where that really is the metric. And I have just been hearing from a number of folks that that is missing a lot of communities. If you look at the Bay Area, for example, where are --

CHAIRMAN WEISENMILLER: David, I was going to address that, I was going to say --

COMMISSIONER HOCHSCHILD: Oh, you were?

CHAIRMAN WEISENMILLER: I was going to say -- no, sort of in general, I'll do it now.

So, CalEnviroScreen is at CalEPA. It's not here. And they're in a process of trying to enhance it. It's not perfect. I think, in fact, it's starting in August. And so for all those of you who have ideas on how to do it better, go there. And certainly it's a good thing. If you have specifics, talk to the Deputy over there, Ashley Conrad-Saydah.

So again, just generally Matt Rodriguez is very open to enhancements, and that's certainly associated with this, but it's not our main focus. So if you give David and I -- or David and I give 17 different ideas, we're not necessarily going to translate those very well into the EPA process as well as you could do it there. So please.

COMMISSIONER HOCHSCHILD: Yeah, in fact I don't have my --

CHAIRMAN WEISENMILLER: They can (indiscernible) better.

COMMISSIONER HOCHSCHILD: Yeah, I don't myself have the -- I haven't looked at that questions closely. I'm sort of more ignorant but well meaning on this, but my question was really to the group. I mean, is that something you are all focused on, as well in your work on the metric itself and how that's set?

MS. CLINTON: Let's just ask for a raise of hands. Of the seven panelists, are any of you working on the definition of the CalEnviroScreen metric?

MR. CASTANEDA: Well, indirectly.

MS. CLINTON: Okay. So I'm just going to take that as -- I'm not going to have us speak to it.

MR. CASTANEDA: Oh, no.

MS. CLINTON: Just two hands over here: Robert and Hazlyn and a little bit Shannon on the solar side.

MR. COREY: Jeanne?

MS. CLINTON: Moderators, for -- go ahead.

MR. COREY: I had a follow-up question on the topic and that was really in terms of the measuring effectiveness. I did hear imbedded in a number of comments, transparency and access to information. This is more of a question, if it comes up later than I can wait.

But it's one of -- I'm thinking there certainly are energy efficiency ratings for appliances -- and I'm curious if perspective tenants of multi-unit dwellings, do they have a sense of the energy efficiency of a -- they have two choices, let's say, of rental units. Do they have any indication of the baseline energy efficiency of that system that they're considering? Is that information that's currently available to consumers?

MS. CLINTON: Does anybody want to respond to that?

MR. JACOT: I would say only if the landlord has chosen to attempt differentiate their property. We have seen that in L.A., but it's usually high end. It's usually a high-end property. We've got a massive redevelopment of an old apartment complex called Lincoln Place, off the edge of Venice. And they historically preserved a number of -- most of the units and then added new units. Also went LEED certification etcetera made that a big selling point, but the units are $4,000 a month. So, that's generally where we see it

MS. CLINTON: Robert?

MR. CASTANEDA: Yeah, one of the things that Southern California Edison has been petitioning, at least to me directly for a couple of years, is the need for energy efficiency education at the household level.

And again, I get back to the point when we stop to talk and we have very trained, qualified and certified crew that gets off and interfaces with these households and they spoke a multitude of languages. And many of these skilled workers are from that very community. So again they are well positioned, well educated to provide that service.

We're probably not doing it at the level that we need to. I know that the utilities really see the benefit in doing that. And many of those inclusions on energy education are in their current applications for the renewal, the use, and the care that we would like to get off and running.

So I hope I kind of addressed your question. We see the benefit in it. There are again institutionalized efforts to move it forward. We're just waiting for the authority to do it.

MS. CLINTON: Richard, one thing that I would call your attention to, which is a start, is that the Energy Commission has responsibility, under AB 802, to benchmark large commercial and multi-family buildings and after a certain period of time to make that data publicly disclosable.

And Erik Jensen, you're still in charge of this effort with the Energy Commission, is working on that. And I believe, is it 50,000 square feet and/or 17 or more units?

MR. JENSEN: That's correct.

MS. CLINTON: Are the threshold requirements for a multi-family building to have to both benchmark its energy consumption and then reveal that. And that would be on a whole building basis, much more difficult to try to anticipate individual units. But it's a start.

COMMISSIONER MCALLISTER: I was just going to chime in as well. So building labeling and sort of providing that kind of information is something that has been a subject of discussion at the Energy Commission for a long time. And AB 802 is kind of a nice step in that direction for larger buildings.

And the vision here is to over time, drive it down market and drive it to smaller buildings. And once we've built the infrastructure to do it well and not impose huge transaction costs, but kind of get it done in a way that educates everyone about the building stock and individual buildings. Then we have more options about how we can push information out to the world.

There are lots of ways to do labeling of the asset like that. I guess I was encouraged to hear Chuck say that you working with the PUC on some of this data exchange, energy consumption data to do evaluation that we've been talking about, sort of on a performance basis. So at least, you know, to understand what the impact of your programs is. And I just want to encourage that as well, because I think that's a -- 315/802 suggests strongly that we go down a performance basis. So how does that apply to the low income sector, I think, is a good question for this discussion.

MS. CLINTON: Okay. Now at 10:48, we are half way through the challenge of the questions that we want to ask this panel to speak to.

So now we're ready to talk about what are the biggest challenges that each of our panel members sees. And I've asked you to tell us from your own perspective of your organization, your mission, your objectives, your funding, your operations -- any of that is fair game -- from your perspective, what are the two biggest challenges that you face in successfully achieving the objectives that you previously told us that you have?

And let's see which way, Chuck, maybe I'll start with you.

MR. BELK: Okay. All right, it's my lucky day twice today.

Okay. So the two things that we talked about internally at CSD, and we thought would be some of the biggest challenges that we face as an organization, is our inability to assess market saturation data. You know the data from the other low-income weatherization programs, their efforts, where they're doing their work, the geographic saturation.

A lot of money is being spent right now by the IOUs, the large municipal utilities, to go out and do work in these low-income communities and provide weatherization services. And so the ability to track where those investments are being made and then maybe the types of measures that are being installed in those units, in those homes, would make it very much, much, much easier for us to do our job.

And currently we're operating almost in the blind, it feels like. It's nearly impossible to assess a community's needs based on what we can find out right now. And so that does roll into something that I think one of the next questions is to talk about solutions, but I'll just put it out there right now that perhaps some type of a statewide database would be very helpful. That would be a solution opportunity for us.

Should I give a second one or just?

MS. CLINTON: Yes.

MR. BELK: The second one is actually very related; it's the ability to target the right homes out there. And again, it's a situation where getting the right kind of energy information about the homes that are out there, so we can look for the homes that have the highest energy burden, the right type of housing stock, then we can have the most impact on those homes when we're out there doing weatherization and efficiency work.

MS. CLINTON: Thank you. So we'll come this way and then I'll jump to Maria and come this way.

Okay, so Robert. Two biggest -- I promised you you'd have a chance to speak to challenges -- this is your chance.

MR. CASTANEDA: Okay, the two biggest challenges? One is sustainability of the energy efficiency workforce. One of the things that's happening, because again we're in an interim period with a renewal ESAP, and we're in a bridge funding, is that production levels have dropped. Many of the service providers that are out in the field providing this, have a workforce that they need to continue to maintain. And when production levels drop, sustainability becomes less possible. So that is a huge issue. In fact, we raised that issue when it came to Aliso Canyon in their response.

You know, again if this particular unknown impact hits a much higher level, do we have the workforce out there that's able to respond? And again because there are certification and other sorts of criteria that's involved with getting these folks out there doing that work.

The second is that, in my opinion, we seem to lack a long-term vision for the ESA Program, beyond 2020. There's a lot of people, learned people that are of the opinion that in 2020, well ESA just goes away. It sunsets. Well, it depends on how you read the stature. And I don't think anybody in this room would agree that that's going to happen, so where is the vision past 2020? I don't know. But those are the two challenges that I see.

MS. CLINTON: If I could just add footnote to your second comment about the long term. One of the things that hasn't come up yet today is that in the context of definitions, some definitions are based on households and other definitions are based on property. We know that households move around. Property doesn't. But we have this situation where you might have treated at a dwelling unit, because of who lived in it, but in three years, somebody different might live in it. And so we have a disconnect and I just wanted to make that observation.

Hazlyn, the two biggest challenges that you perceive?

MS. FORTUNE: Well, if I think about the current structure of, in particular the Energy Savings Assistance Program, one of the biggest challenges for the program administrators, whether they're CCAs or IOUs or other entities like the regional energy networks, is that the utility programs have done a very good job over the last 15-20 plus years, sort of capturing what we call the low hanging fruit. And so it's becoming much more expensive to reach customers that haven't been touched by the program. And an increasing percentage of the folks that are remained to be touched by the program, they've got to be willing to participate. And some -- the characteristics of -- the ethos in some rural areas is that they don't want government involvement.

And I'll point out another related challenge is that some of the more needy populations, such as farm workers or undocumented folks, really need these programs. But they're concerned about identifying themselves and therefore potentially being tracked. And so I'm hoping that there's some sort of federal or state level -- we've got to figure out how we help more people and not have that be a barrier. Because I feel like the neediest of the needy might be in those categories.

In terms of a different challenge, I guess it's about eligibility as we all work to figure out how the emerging definition of disadvantaged communities and low income can play together, right? Because I really appreciated Mr. Jacot's comment about there are low-income folks who are not going to be located in disadvantaged communities. So if our focus is on simply identifying folks who have a need regardless of where they are in the state, we do need to be flexible. And give some thought to the policies that we put together to justify how the spending to address their need can be justified.

MS. CLINTON: Thank you.

And David?

MR. JACOT: Yeah, I'll give two examples. One is more of a strategic issue and the other is just more of an operational.

First, from a strategic standpoint in serving these communities, in Los Angeles, one of the biggest challenges is it's just so vast. The amount of need is vast. When we do our own weatherization program we're able to serve 3 or 4,000 single-family homes a year. We've got 600,000 single-family homes in the city, probably about a third of which qualify as low-income or disadvantaged. So that's a century worth of work.

So that's one of the reasons we got involved with the Gas Company, because the ESAP program that the Gas Company operates, well I think we all admit it's not perfect, it's certainly better than nothing. And the fact that the Gas Company's been struggling for years to do gas-only ESA in Los Angeles, by us joining in bringing funding for the energy side, that's really allowed us to have an at-scale program of 20,000 units a year, 20-30,000 units a year. So just the vastness of that, that's one challenge.

And then from more operational standpoint it may come as a surprise to you, but Los Angeles can be somewhat bureaucratic. And so it's challenging on every front, except money. We've got money. I mean, being the utility, so you think you've got money. But then you try and hire and you try and get the union to approved contracts, you try and get contracts in place through purchasing and legal and board. And besides the money it's pretty brutal from an operational standpoint, just to get things in place.

The Gas Company relationship is a shining star for us because the Gas Company has built those resources over time. So we join ESAP and there's no start-up, because the Gas Company has been doing it for years. We just have to sell the union on letting us do it. And funnel money to the community contractors that ESA uses. And we did that. But those are some of the burdens that we face in being effective and getting these programs rolled out and ramped up.

MS. CLINTON: Well that's a new dimension, so thank you for adding that David.

Maria?

MS. STAMAS: I'm going to focus the first bare on the multi-family segment, which I guess is in Jeanne's earlier of statistics. If there's four million households, and we know about a third live in multi-family, that's over a million households.

So the Energy Savings Assistance Program was originally designed for single-family and it primarily does outreach to tenants. But in terms of making improvements to a building, that happens at the owner level. Even the tenants have to get the owner to sign off on the form.

So part of the work with energy efficiency for all is we've looked at kind of best practice multi-family programs across the country and I'll speak to some of those best practices in the next question.

But in terms of barriers, a given owner faces just a vast array of programs that they have to apply to separately to get funding for in-unit measures versus their common area. They have to navigate, "Am I considered a business, or am I considered residential?" If they have a big portfolio of properties, they have to navigate several different utility territory programs, and then it kind of goes on and then all the eligibility guidelines. And they just kind of throw up their hands and say it's not worth it often times is what we've heard.

So I think just the sheer number of programs and the different eligibility is one of the -- and not being designed to meet that market.

And another plane, in terms of that market in particular, is that multi-family buildings, especially larger ones, it's a huge construction project to do in a deep efficiency retrofit. And it's generally not possible to do it in just a year. So it'll take between two to three years from plan to completion. And a lot of budgets are on an annual basis, and so in order to be able to access the funds often they have to complete the project. So I know this is coming up in the low-income weatherization program with a Cap and Trade funding of owners just can't get through. And the same on the whole building side for a multi-family. Even though we have a rolling portfolio the budgets for multi-family are still on an annual basis.

And then I guess the second barrier I'd highlight, and I think this goes across the board, but also has particular impact on multi-family is cost effectiveness. And particularly on the multi-family side, a lot of owners, in order to do a deep retrofit, have to access general programs, not just low income, because the Energy Savings Assistance Program only provides in-unit measures, not central heating or air conditioning. So they have to go to a separate general energy efficiency program.

And when they go to that separate program, they'll often find that there's budgets of only a million dollars total for the year or $500,000 total for the year. And I think what we're finding is I think the main reason the budgets are so small is because cost effectiveness isn't looking good for large multi-family programs if you don't take into account any non-energy benefits.

So I'll stop there.

MS. CLINTON: Thank you.

Beth?

MS. KELLY: Thanks. Well I guess I'd like to start with a couple of bright spots first, just to note that it's not all barriers.

And I think that a couple bright spots that we have are just changes to existing baselines and how we're calculating cost effectiveness; also just the transformations at the CPUC looking at ten-year rolling portfolio cycles for the normal energy efficiency programs. And also just the fact that there's such an amazing drive in California to do the right thing for low income individuals. I think that that is really powerful.

The biggest barrier that I see really is -- and maybe this is using the wrong word -- but really, empathy.

And the idea that there's a lot of policies that look at, "We need to do this. We need to focus on these types of programs, these segments." And what we really need to focus on a little bit more, is the experience of those within those programs whether it's the customer service for those customers -- and those can be low-income individuals. Those can be housing providers. Those can be landlords. All those have different incentives and really understanding your customer and how to best serve them.

And also, empathy from the sense of all of these -- we want to have local, small businesses be able to do these installations and there's barriers there. There's barriers for administrators; and for us as a small administrator there are particular barriers.

And so what I think the biggest barrier is, is we need to make things easier. And we need to make things -- and I don't want to diminish any of the major concerns, where we get into the depths of policy impacts of split incentives and really needy policy issues, but being able to take the separate approach where we're saying, "Okay. Let's make it easy to say yes to energy efficiency." I mean down to the forms that people need to fill out. Can we consolidate forms? Can we streamline it and make it a beautiful and easy one-page form for people to fill out?

How do we make sure that -- I'll give an example from my own experience, did a big energy efficiency retrofit on my home. And the contractor that we used said, "Absolutely not, am I going to comply with the CPUC rules. I'll just give you a discount and do it myself instead of jumping through these hoops."

And it just needs to be easy. We want people to do it, and so just thinking about things from well the customer service perspective, installer perspective, administrator perspective. And combining policy and empathy into the whole and that is a really big ask, but I think that's the biggest barrier.

MS. CLINTON: Okay. Thank you.

And Shannon, last one to throw out some challenges.

MS. O'ROURKE: But it's interesting going after Erica, who is a program implementer and then working at the Public Utilities Commission, where we are a policy agency. So my thoughts are more at the policy level and what we're thinking about.

And I think for multi-family, affordable, solar housing the MASH Program -- the split incentive problem -- is something that we've been grappling with and have taken steps towards addressing. But something that I think we need to think about long term for putting solar on multi-family affordable housing, which is it's the multi-family affordable housing owner who has to pull out the money to buy the system. But we want a direct economic benefit for the low-income tenants who live there. So how do we strike the balance where the property owner is able to get a payback, but we're also making sure that the tenants who aren't putting any money in upfront are getting some of the savings from the solar offsetting their system.

So we've come up with having the property owners attest that they'll set aside a certain amount of goodwill savings for their tenants, but this is a pretty onerous process that a lot of faith goes into. So we're looking forward to next phases, like how do we continue to get the economic benefit, which is a huge benefit of the solar for the tenants when we have the owner who's making the financial decision.

And then also thinking ahead to our work on developing alternatives to NEM, for residential customers to adopt solar in disadvantaged communities: how do we address a lot of the barriers to adopting solar that aren't just the upfront financial ability to pay and the credit worthiness, but also rentership; higher levels of rentership in these communities where you don't get to make decisions about what you do with your property, the property that you live in.

Or older housing stock where maybe they're not sufficient for putting solar without an upgraded roof, there's a lot of different barriers to adopting solar in disadvantaged communities that don't only have to do with a customer not having adequate financing. So these are other things we're thinking about when we're thinking about program design for the alternatives, for disadvantaged communities.

MS. CLINTON: Thank you.

So I've been trying to do my own little map here of what issues have come up. And I'm going to suggest that we go into a discussion of solutions based on some groupings.

So, just I'm going to lay this out. First, we'll start with the big picture. So the fist topic will be the long term policy vision and strategy; do we have one? And the vast need in terms of dollars and logistics. That'll be topic one.

Topic two will be a combination of making policies and program designs easier to execute. Another aspect of that is tackling this dilemma of eligibility definitions and documentation. And a third act -- dimension of making this stuff easier would be -- I'm calling it solar access. And I mean that to be in situations where people either have lousy roofs or don't have control of their roofs. That's what I'm meaning by solar access. So that'll be sort of making it easier or more relevant. That'll be topic two.

Topic three will be multi-family, which has a variety of issues: the complexities for property owners, the complexities of paperwork in different program designs, as well as the split incentive problem. That being where owners maybe make the capital improvements, but occupants are the ones paying the bills and reaping the change in monthly utility bill cost. So that's three.

Fourth I want to come to data, the challenges of getting access to data that's meaningful perhaps in informing some of these other areas.

And then fifth will be sort of a sustainable workforce and keeping that going, so I'm going to try to navigate this.

And we're getting short on time. I apologize for the fact that we don't have all day for this panel. So what I'm going to suggest is that we do this sort of lightning-round like. My apologies, but I'm going to throw out an issue, a topic, and then anybody who wants to raise their hand, in one or two sentences on what you think the solution needs to look like or include.

And then the Energy Commission will have to grapple with how to track down some of these brilliant ideas. Okay?

Okay. Topic one, the need for a long-term policy vision and strategy and as well as bringing to that the vast amount of funding and logistical support and transactions to address this need.

Okay. Now lightning round solutions quickly, Beth?

MS. KELLY: Yeah, I think that one of the good solutions I've mentioned is just, for example, what's happening at the CPUC with longer term rolling portfolios cycles for administrators, so you have more certainty, particularly noting we've had the same experience with multi-family, the years of lead times sometimes in order to get those bigger projects through.

MS. CLINTON: Okay, thank you.

Anyone else on this, Maria?

MS. STAMAS: In terms of the resources I think combining budgets or getting the funds aggregated instead of distributed between several different programs.

MS. CLINTON: Of getting them all in a smaller number of places?

MS. STAMAS: Yeah.

MS. CLINTON: Okay, anybody else on this side?

(No audible response.)

On policy vision, solutions for getting to policy vision, vast needs and logistics. Shannon?

MS. O'ROURKE: I'd like to advocate for harmonizing eligibility requirements even though I know that people in this room maybe aren't directly responsible for that, that would make things so much easier and efficient.

MS. FORTUNE: Uh-huh, and I'd mention updating the statutes. We are bound by those, the words in those documents. So if we are to do more and it's going to be requiring additional funding it's going to be more and more difficult to justify. So I do think some sort of improvements in taking those requirements, or nuancing them somehow in the statute at a legislative level, will certainly help our agency in some of the challenges that we're going to be facing in addressing these issues.

MS. CLINTON: Robert?

MR. CASTANEDA: If I could, you know thank you for saying that, Hazlyn. Because I think that one of the things that we have with the vision, before we get too ambitious here, is there are some structural things that we need to fix right now. And we need to go about doing that.

It was brought up that every three years we do a Low Income Needs Assessment Report. It's about a $700,000 budget. At the end of the day it's probably just touching the tip of the iceberg, so I think we need to dive a little bit deeper. We need to get a little bit richer, not only from the standpoint of ESA, but how we can collaborate with our agencies?

In terms of the revenue issue, it's probably not lost on a few folks here in this room that we have a significant rollover in connection with ESA and CARE funding, to the tune of almost 500 -- it might be over $500 million a year. So that begs a whole series of questions in connection with the program itself. And I won't weigh into that discussion at all, but I think as a practical matter we need to fix what we can fix. We need to establish long-term goals.

I think Hazlyn is completely correct where the Legislature and other stakeholders can come in and end the ambiguity that creates some of these gaps we need to do that too.

MS. CLINTON: Let me just circle back quickly in lightning mode here. Robert, what does "fix the structural problem mean?"

MR. CASTANEDA: I think that reasonable people can disagree in connection with the debate between cost effectiveness, non-energy benefits, as well as the health, comfort and safety standard. I think that that's probably the 900-pound gorilla in the basement that we need to get clarity on. So if I could just answer your question, that's the first thing that jumps out at me.

I think the other issue is the "willingness to participate numbers" within the LINA and as executed and implemented by the utilities. We have differing opinions on that in terms of the participation levels. So again, this is another sort of gray area that I think that we need to address. I would hope we would.

MS. CLINTON: Okay. Thank you.

We may come back to one or more of those, but I'm going to push on, because we have five topics here.

Second topic was getting policies and/or program designs to make the execution easier. Tackling this multitude of eligibility definitions and documentation and also the solar access question of folks who may not be able to put solar on their roofs.

So what solutions do people see for being able to make all this stuff easier? Beth?

MS. KELLY: I'm on it, happy to help.

So I think that a couple -- I mean it sort of gets back to a couple of key phrases, simple and clear. And so simple and clear metrics for administrators, simple and clear, sort of how do you get to access these programs for individuals, making sure that we're providing what people want and need? And again sort of getting back to this customer service standpoint.

And then just a couple of notes is on solar access is we have, again in the one-pager that you'll see in your binder, we note several ways where we have offerings for low-income individuals, folks who receive our renewable service continue to receive their CARE discounts. So that's independent of whether you get your service from PG&E or MCE.

We also have solar incentives. We've set aside money in our own budget. It's not a CPUC funding stream for solar on low-income housing.

MS. CLINTON: Could I try to just get to the lightning version of the answer, which is you want to combine funds for different purposes and make it easier to draw on multiple sources?

MS. KELLY: Yeah. That's one area where you break down the silos between low-income EE and normal EE.

MS. CLINTON: Okay.

Any other brilliant solutions for how to make this all easier, Chuck?

MR. BELK: I was just going to -- I think this has already been mentioned, but now that we're speaking about making program access easier, but basically if we could align some of the eligibility requirements then look for some uniformity between the programs, I think it would make a big, big difference. So we could increase program opportunities --

MS. CLINTON: Is your mic on?

MR. BELK: Yes. It is. I'm sorry.

So if we can increase the leveraging opportunities and maybe creating a single application or something to that effect that could help identify eligibility or eligible households. And just the program efficiencies that would be experienced by doing that, I think, would more than speak to or make the need apparent to all of us. And yeah, anyway thank you.

MS. CLINTON: Okay. Hazlyn?

MS. FORTUNE: As we look for comprehensive solutions and funding sources for again, the multitude of things that we will need to be doing, the programs that are funded by our agency have prohibitions against cross-subsidization.

So if we're also going to be looking at water and some other and some other things that might be needed for a comprehensive solution, for example in a multi-family setting, we are going to need to look at that issue. And what existing rules may need to be modified, so that we -- not only within our funding authority, but also coordinating with other agencies, that we can get better (indiscernible) on structures for getting the money that's needed to do what we're talking about here today.

COMMISSIONER MCALLISTER: I just want -- one sentence -- so this recommendation of consolidating databases that Chuck made? That has been a recommendation for a long time, I think, several reports have done it. I guess the --

MS. CLINTON: We're going to get to that, Andrew. Topic four --

COMMISSIONER MCALLISTER: -- the rubber needs to hit the road, so I just want to --

MS. CLINTON: Topic four, hold on.

COMMISSIONER MCALLISTER: Great.

Okay. Maria, you had your hand up?

MS STAMAS: Yeah. I think a lot of it's been mentioned already in terms of like a single application and consolidating program rules.

I just wanted to reference in Massachusetts, their LEAN Program, Low Income Energy Assistance Program, they also have a single web portal. And it's neutral based on your service territory or your fuel. It doesn't matter. You just go to one place and it'll direct you to where you need to be. And all the coordination about who gets the savings attributions and where the funding comes from is behind the scenes. But the customer just sees one place, so.

MS. CLINTON: Okay. I just want to drill into one question that nobody has answered. How do we deal with the fact that, for solar for example, that we have renters and/or multi-family; how do they get access to participate in solar?

Shannon?

MS. O'ROURKE: Community solar, so I think that if you have a centralized system and you allow renters or customers of the utility to subscribe to a portion of the system and get a bill credit for it, you no longer have to grapple with home ownership, split incentive, anything like that.

We put a staff proposal forward as part of the NEM Successor Tariff Proceeding advocating for a version of community solar. And we know that a lot of stakeholders have commented and offered different flavors of that, so I see that proposal as overcoming a lot of the barriers of that in addition. You still have to figure out how they can afford to subscribe, but I think we can solve those problems.

MS. CLINTON: Dave?

MR. JACOT: Well, LADWP is working on a Community Solar Program as well, that will have both a single-family and a multi-family component. The program's been drafted. It's being presented to the Board -- to our Board in a few weeks. And the intent is to launch early next year.

MS. KELLY: Yeah, and just one quick comment on a barrier there that relates to the changing rate structures that we're seeing with changes in proposed time of use periods, things like that, that are going to make solar dramatically less cost effective. And so that's going to change the metrics on a lot of these community solar initiatives as well, so --

MS. CLINTON: But what's the solution you're proposing?

MS. KELLY: Oh, you could just revamp all of the solar tariffs. But that one's a much more difficult --

FEMALE VOICE: Storage?

MS. KELLY: It could be storage if it's cost effective.

MS. CLINTON: Okay. I just want to make sure we're all reminding ourselves we're talking about solutions now.

Okay. I think I'm going to leave topic two. Topic three -- hold on Andrew, we'll get there -- topic three is the multi-family properties specifically. The problems of complexities, programs, paperwork, what landlords can do, what tenants can do. And do any of you have specific solutions that you want to put out on the table?

MR. JACOT: Well, just very briefly, I would go back to the ESAP Program partnership that we have with

SoCalGas, by which we've gotten around the split incentive issue by just doing our own direct install on the landlord's portion of it, the common area. So we've integrated that.

You know, I know in ESAP, there's long been this split between you can serve the tenants, but not the landlord. And it's just a policy thing. Change the policy. So we, not being under that policy, are doing the entire property.

MS. CLINTON: Okay. Robert, I know you were ready to go?

MR. CASTANEDA: When I began that sort of problem solving mission in connection with a call from the low-income multi-family housing, I had a chance to speak to Tory Francisco. And he offered me his assistance. And Tory's just great.

So one of the things that I know that I need to do is to find the time to roll up my sleeves and start talking about, as Hazlyn had mentioned, a 22-year-old statute that needs to be renewed based on eligibility within the low-income multi-family space. There's a lot of nuances, changes, categorical eligibility standards that happened over the last 22 years that impact the reality there.

We also need to look at the workflow process between CARE and ESA. And then also I think it was brought up before, I think Maria brought up this issue with a lot of these operators, they can only go so far with ESA and then they have to bring in general market energy efficiency, either incentives or programs, or things of this nature to complete the retrofit.

So a lot of this needs to be captured, if I could call it that, and it needs to be defined from the standpoint of eligibility and process and policy. There's like three legs on this stool that need to be all addressed and integrated at the same time.

So I just think it's going to take some attention. I know that I'm going to direct my Board to start looking at this to work with the Energy Division as well as the utilities. And we think that we could probably get something in the way of a working document out next year.

MS. CLINTON: Okay. Thank you.

And Maria?

MS. STAMAS: So I just wanted to mention in addition to consolidation, there's the concept of a one-stop shop, especially for multi-family owners. And that can be either a single program that leverages all the funds itself and provides assistance in terms of finance and directing owners to contractors that they can use and doing all the eligibility for them. Or it can be just a single program that does that.

And there's three that are great models. In New York, the NYSERDA Multi-Family Performance Program. In Chicago, there's the Chicago Energy Savers Program.

And just one quick note on the Chicago program, before they didn't have this one stop shop that combined all the resources together and worked with the owner and kind of did all the leg work for them, their program uptake rate was kind of around 15 to 20 percent. And then once they streamlined it, created this one stop shop, their program uptake is now 43 percent and they're saving 20 to 30 percent energy per property.

And same with Massachusetts, they also had a splintered program, different utilities, different federal fundings. They combined federal and utility program funding, and have a single web portal for owners. And that's the LEAN Program.

MS. CLINTON: Okay. Great suggestions.

So now fourth topic is data. And how can data systems or access to the data or analysis of the data help provide useful solutions?

Belk?

MR. BELK: Yeah, so as I'd mentioned earlier when we were talking about challenges, the creation of a statewide database repository that could be used by both the IOUS, large municipal utilities, CSD, to go out and to actually target customers with a much greater specificity. We'd minimize the possibilities of duplication of effort. And in services, we'd maximize opportunities to install all eligible measures in homes by having something to this effect. Increasing coordination and leveraging between the programs and also streamlining customer enrollment, perhaps. It might be a benefit of doing this.

And then I think lastly, as I mentioned earlier, controlling program expenses, overhead and expenses, and promoting efficiencies and resource leveraging between the programs.

MS. CLINTON: I might ask you just to opine on, I assume you want more than just the creation of the database?

MR. BELK: Well yeah. So the data sharing itself, in general, is that what you're referring to, or just the creation of --

MS. CLINTON: Yeah, access use.

MR. BELK: Yeah, access to the use, information.

MR. CLINTON: Which I think has been a big problem.

MR. BELK: Yes, a huge problem for us. So yes, thank you.

MS. CLINTON: Okay. On data, anybody else?

Andrew, should I just go to you and see if you have some other comments you want to contribute here?

COMMISSIONER MCALLISTER: I just want to sort of reiterate that let's keep it real, right? So what is needed to get that database going, so why hasn't it happened after recommendation? So I'm sure there are privacy issues, etcetera. So that really let's bust through some of those barriers and make an explicit attempt to make it happen. So I know -- anyway, so that's one aspect of data.

I mean data means lots of things to lots of people, so we also talked about performance data. We talked about it in the EM&V context. There's also how do we get data to the actual customer, so that service -- you know they can provide it to service providers and get easy quick and cheap analysis about okay, what should they do? I mean this also applies to low income to a great extent.

So I think there are lots of different aspects of this data discussion that could help facilitate the marketplace and leverage all of the funds that we're putting into this. And I guess I'm really open to how that could happen in these various programs. You know, kind of whether or not we're able to streamline and combine programs. But what foundational kind of infrastructure could help sort of grease the skids on all of this stuff in terms of getting information to the people who could use it.

MS. CLINTON: Maria?

MS. STAMAS: I wanted to add that for multi-family properties, the owners of those properties in order to do the retrofits and get the financing, they also need access to their whole building data which has been a challenge.

And also, in some cases, when they're calculating utility allowances that they get through HUD, as part of being an affordable property, HUD actually requires them to report out tenant level energy savings, so they can calculate the utility allowances. And that's been a real struggle for owners' data, both whole building data and tenant level data.

MS. CLINTON: Anyone else want to speak to data?

MR. JACOT: The only thing I would say is just the more legal specificity that's absolutely black and white in terms of what's sharable, with who, under what conditions. Because my experience with the data issue, going back to the first run at benchmarking under 1103, was that there was a lot of uncertainty in terms of what could be shared and what the requirements were, etcetera. And utility lawyers, you put even the slightest bit of uncertainty in front them and it's going to take you a century to work the consensus.

So that's really where I think it's got to start.

MS. CLINTON: Okay. We have one last topic. And that is, I think as Robert coined it, creating the conditions for a stable energy efficiency workforce. And the flip side of that I think was stable funding or predictable funding to support the market infrastructure or providers and solutions. Solutions as in energy efficiency, your solar sense.

What solutions does California need to address this sort of workforce production level issue?

MR. BARKER: Jeanne, just real quick, on a time check, let's -- we've got about five minutes.

MS. CLINTON: Yeah. We're wrapping up in two.

MR. BARKER: Got it, great. Thank you.

MS. CLINTON: Thanks. I have a watch here.

(Laughter.) Yeah. Okay, Robert?

MR. CASTANEDA: I think that -- you know and again, I'm really on the outside looking in. But frankly, if we had a decision with ESA and the CARE, in terms of the action and implementation plans, I think the utilities have done the heavy lifting on their applications. I think they're good applications and we need to get moving on a decision. Number one.

Number two, that I think is what is extremely important, based on sustainability issue of the workforce and the viability of what we have with the program, are going to be the issues of go-backs. In other words, there are provisions within the existing decision that simply say that if you go to a home every eight to ten years, you can't go back there again. Well, that completely disregards and ignores changes in technology, or the fact that different sorts of standards in connection with energy efficiency could simple reap significant benefits if we had the ability to go back to that home and provide those services and those efficiencies.

I think that one of the things that we're going to learn a lot from is Aliso Canyon. One of the things that the decision to implement an emergency response from the CPUC did, is it addressed and it freed up the go-back issue. In other words, it took the handcuffs off, where contractors could go in there and then basically provide the home what it needed to have in connection with making it as efficient as possible.

There's also other sorts of nuances with re-measurement minimum and so on and so forth, especially in areas like L.A. where we have multiple utilities serving the same household. So again, I think if we were to move on these issues in a progressive manner, we would provide that sort of stability and sustainability to the workforce.

MS. CLINTON: Yes, Beth and then Maria?

MS. KELLY: Yeah. One of our solutions that we've been implementing at MCE is training workforces, particularly low-income workforces, and then using them after their trained. And so really kind closing the loop on that. So we work with RichmondBUILD, Marin City Community Development Corporation, Rising Sun, other entities. We use those as training programs, but then subsequently use them once those individuals are trained.

MS. CLINTON: Maria?

MS. STAMAS: That was actually what I was going to say. And also the last additional thing I was going to say is in terms of long-term funding, yeah just making sure that long-term funding is predictable and that it exists. Like with the latest Cap and Trade Program for the weatherization, it's on an annual, but I don't think CSD knows if they're going to get it in on a given year. And it's one year at a time. And that really hurts all the goals in terms of workforce and hiring.

MR. JACOT: Yeah, and I would build on the flexibility. Long-term predictability is absolutely key to get people to invest in this over time, whether it's people investing in their education or companies investing in building their business, but flexibility at the same time is absolutely key too. You can't decide today one rule set that's going to apply for the next ten years. And then have an extremely obtuse regulatory process to modify it every time you need to, to respond to changing market conditions. You've got to be able to react on the ground.

MS. CLINTON: I see Shannon with a hand?

MS. O'ROURKE: Another comment on sustainable workforce from the solar perspective, an important part of a sustainable workforce is customer protection in a strong good reputation for the solar industry. So I think it's important right now for all solar customers to be protected from predatory sales practices and other incidents. But it's especially important when you're dealing with low-income and disadvantaged communities, because they also have history of predatory lending practices and whatnot in the past. So I want to also just -- that's a big part of sustainable workforce, from my perspective.

MS. CLINTON: Okay.

I want to thank our panel for being stellar and trying to carry the day here with all of these wide-ranging issues. So I guess we'll move to the public discussion.

CHAIRMAN WEISENMILLER: I actually have a few comments/questions. So I'd like to start out, Jeanne, by thanking you for moderating you. You've done a great job of trying to keep people on target, including us. And also covering a lot of complicated materials. So again, thanks a lot.

And just a couple of observations -- I mean first, following up on Jeanne's comment about the material we've been provided, my assumption is everything we've gotten from all the panelists is going to become public. Now, if anyone has provided something that they're nervous making public, then tell Kevin quickly and figure out a way we can adjust it. But I think the basic assumption is all the material should be online.

And Jeanne, to the extent that you had gone through the reading list and for this panel had identified somewhat classics or reading assignments, it would be good to have that online also. And certainly if people look at that and have ideas of things that are missed -- I just wish we had the reading list overall online -- but I guess what I'm saying is we're really looking for quality on the reading list as opposed to necessarily collecting another 15 things that say the same thing. So again, let's get all this stuff online.

I also wanted to reiterate again on EnviroScreen, we use that for allocation funding. All the state agencies do. And it's not perfect, I think Matt Rodriguez would be the first one to tell you that. But there is a proceeding if you have ideas on how to make it better, certainly we need it to be better. Where it's not like yeah come up with EnviroScreen and make these seven adjustment for this specific program. It's we've got to make it statewide. And it's got to be good.

I think Andrew had talked about EM&V and the famous study that looked at one of the weatherization programs and alleged, based upon that all the energy efficiency programs were not cost effective. I think I'd certainly really try to discourage the PUC from continuing to grow the EM&V industry, but to try to figure out some practical ways here to just do these programs.

I mean they're not going to be cost effective. We shouldn't hold them to that standard. But just how do we do that in a way, which ensures that ratepayer money is not poorly spent? But at the same time, we just don't spend a ton of money on EM&V for the programs, which we just know by design aren't going to be cost effective or shouldn't be limited by that constraint.

I guess a couple of things I want people to think about and hopefully in the written comments you can pick up. As I mentioned, I mean thinking back to the Brown Administration, and the first Brown Administration under the leadership of the late Lenny Ross, the idea was to really make sure that all Californians had access to essential energy services at a reasonable price. That's how we started out with baseline. And it's evolved over the 40 years, it's still a key part. But certainly I've been pushed by people like Jeanne Fuller saying, "Wait a minute. If you've got your condo on Knob Hill, you're probably going to stay in the baseline quantity. And if you've got four kids out in her District, you're probably into year four."

So again, how do we make sure that we're really providing the sort of all Californians access to essential services? And as I mentioned earlier, part of my concerns too are people who don't have the classic gas/electric. People who have just propane, just wood. Again, how do we reach out there to make sure all Californians have access to the essential energy services they need at a reasonable price? I mean God bless it, if people can do PV in remote African villages why can't we do that in some of our remote areas as part of these programs? And just how do we do that, I guess?

And I think one of the things I really want some -- I didn't push it, I mean Jeanne was keeping it on track, but there's a lot of conversation about both disadvantaged areas, and the fact people who are low income don't necessarily live there. So as we look at trying to break down some of the silos, and some of the walls across our programs, you would think about trying to really do concentrations across all of these programs in some disadvantaged community areas. But then how do we deal with -- what percentage of people are left out? How do we deal with them? But can we do better if we just really focus there?

I think also I just wanted to say, on this if we can have SoCalGas and L.A. doing stuff together, why not Marin and PG&E? Or why not two different programs in the PUC, you know or a PUC program and a CSD? Again, how do we break down some of the walls and silos to really maximize the effectiveness of these programs for the disadvantaged?

So again, that's sort of my questions that I'd like people -- and when we get to the written comments, to think about some of those things, just how do we do? How do we provide more service with less overhead?

So with that, I don't know if anyone else has -- Andrew or anyone else has sort of general stuff that you really want people to think about and address more in the written comments. But again, we have a really strong panel and a great moderator today.

COMMISSIONER MCALLISTER: I really enjoyed it. I have one quick comment, so we talked a little bit about workforce. And we're going to talk, I think, at one of the afternoon panels and touch on that quite a bit as we talk with implementers. But I certainly -- Drew went down the goals, and the third one is create business opportunities essentially. And so with the implementers, I think a program that has implementers that are from the community, serving their community, it's important. It's going to be more effective and it has a strong equity component. And it's going to work better, because the culture is going to be more adaptable and better to understand the market and provide services to that market.

So I guess any initiatives to sort of help make that happen on the workforce development front, let's think about models that get small local businesses to serve their communities wherever possible.

COMMISSIONER SCOTT: I'd underscore the need to make things simple and clear. I really liked that message as a person who works on the transportation side more often than on the energy efficiency side or the renewable energy side. I'm like, "Oh my goodness gracious, all of these programs!" And I have all day to sit here and really dig in and listen. And so I wanted to really highlight, underscore that idea about how do we make these simple? How do we make it streamlined? How do we make it less complex?

And another thought that I had as folks were talking was that a lot of the programs sounded like they might be opt-in programs. And I wonder if there's a way to make some of them opt-out programs? So Hazlyn had mentioned that there are some folks who are like, "Nope, nope. I don't want any government assistance. I don't want anyone to help out." But they'd still have the option then of opting out, but there might be a way to shift some of the thinking from having to opt into these programs to having the choice of opting out instead.

So those were just a couple of observations.

MR. DOUGHTY: Chair Weisenmiller, I thought this panel was tremendous. And I learned a lot. One of the words in addition to those that you've mentioned here, you and Commissioner Scott, was accessibility. Making this available to people who are working very hard day in and day out to live their lives and feed their families. They don't have a lot of time to break off and participate in programs, so these programs need to be delivered in a way that makes them accessible and easy to use.

So I'll leave it there. Thank you.

MR. COREY: Sure, thank you. Thank you, Chair Weisenmiller.

In terms of the comments, I think it'd be very useful -- and I think about hearings in terms of specifics. The more specific suggestions are, the magnitude of the impact it could have, and the how -- sometimes even understanding the how you would execute. In other words, is it a particular organization? Does it require legislation? Thoughts on that would be useful as well.

CHAIRMAN WEISENMILLER: Yeah, thank you.

Okay. So let's go to Public Comment.

Anna Solorio?

MS. SOLORIO: Good morning, Anna Solorio. Thank you, Chair, and thank you Board Members for allowing me the opportunity to speak today. I have three minutes, so I'll be fast.

I'm speaking on behalf -- I have a slide presentation, but I'll hand that out to you, you can pursue at your leisure -- I'm speaking on behalf of the Energy Efficiency Council and we represent providers that actually primarily service the Energy Savings Assistance Program throughout the State of California. A very large program, last year 255,000 homes were touched and this includes energy education and infiltration and energy efficiency measures installed.

Just wanted to mention -- you may or may not know -- but our program in extreme crisis right now. We haven't had a decision in 18, 19 months. We continue to lean on bridge funding, which has drastically impacted the program this, none of the IOUs will meet any of their targets in terms of homes served. Just in PG&E over last year, 900 employees have been laid off -- just serious, serious issues with that program.

We are hopefully awaiting a decision with needed changes to make this the program that we all believe in and have spent years supporting and working on. I believe there may be other speakers talking to this, but just wanted to mention -- I believe Robert mentioned -- one of the immediate barriers that we think really is significant that prevents us from reaching energy savings, and also addressing the health and safety of people's homes, is the current Go Back Rule.

Currently, we cannot treat a home that has been touched since 2001. So homes we touched in 2001, the weather stripping has deteriorated. There has been advances in technology, LEDs, energy efficiency, other measures and in fact there have been 21 new measures since then that have been added to the program. And the only way you become a measure add-in the program, is you show significant energy savings.

So it's a lost opportunity. I think it's detrimental to the low-income people in the State of California we're actively working and supporting. The decision comes out with some of these needed changes, so anything you can do to help we just greatly appreciate it.

One last thing, multi-family, I work for a nonprofit that builds and manages multi-family, totally support using the ESA for deed restricted. That keeps the rents affordable and low, have a major issue with spending low-income funds to support a for-profit multi-family.

You may not know, but home ownership is the lowest it's been in 50 years, significant, which means billions of dollars have gone into buying multi-family, investing in it whether or not it's energy efficient or not by private investors, and raising the rents. So there is a crisis of multifamily in the state and I would caution about using current low-income ratepayer funds to subsidize non-deed restricted multifamily.

Oh, I can go on forever, but my time's up.

CHAIRMAN WEISENMILLER: But we thank you. Yes, thank you for your comments, we look forward to your slide show.

MS. SOLORIO: Thank you.

CHAIRMAN WEISENMILLER: Or slide deck, Bruce Ray?

MR. RAY: Good morning, I'm Bruce Ray. I serve Director of Governmental and Regulatory Affairs of Johns Manville. For those of you who don't know, Johns Manville is a Berkshire Hathaway Company making among other things, energy efficiency products including home insulation that we make in a very large plant about an hour-and-a-half north of here in Willows, California up in Glenn County.

I wanted to deliver a few comments, basically some learnings or recommendations from a little bit larger scale residential retrofit project that we're finishing up in the Coachella Valley area of Eastern Riverside County. And this was a project that was funded out of AB 1318 mitigation funds and being administered by the South Coast Air Quality Management District.

The purpose of the project was to help achieve emission reductions in the electric generating sector. It wasn't merely to save energy, it was to look at what would be the ultimate benefits, the further benefits of the energy savings. Again, a little bit bigger project, not a huge project. By the end of the year we will have finished basic energy efficiency retrofits on 2,000 homes in the Coachella Valley area. Most of those homes are in either the designated environmental justice area in the disadvantaged communities areas of cities like Coachella, Desert Hot Springs, Cathedral City.

Based on our modeling, we think we're getting about a ten percent energy savings in these homes on the basic work that was done. And the average cost to complete each home is about $1,950.

Based on our experience in this project, doing the 2,000 homes and on the planning that we have to expand the project, there's a couple of recommendations or considerations, I would hope you can make. The first is the focus on energy efficiency. Really make the homes more comfortable, safer, less expensive to cool. And what you can do too is increase the value of the home. And instead of focusing on traditional renewable energy, I would hope that you can give some thought to using some of the best innovation to Silicon Valley to come up with some high-tech solutions.

Because if you think about energy efficiency it is not an end itself, it can enable other higher tech solutions. If you have a very energy efficient home you can have a successful demand response. And if you have a successful demand response you can then get yourself into Behind the Meter, and non-battery energy storage, which is a concept that we're developing now. We feel it holds great promise for disadvantaged communities.

The other thing, the final thing maybe that I would say, is on the CSD programs, I think those are great programs. But they were not designed and they were not optimized for the state to achieve its greenhouse gas emission reduction goals, its energy goals, and its other environmental goals. So just give some thought to making some recommendations on how we can best optimize those programs to help meet the AB 32 goals.

CHAIRMAN WEISENMILLER: Okay. Thank you. If you have a report on that program you can file on the record that would be great. Thank you.

MR. RAY: We can certainly do something for the written comments.

CHAIRMAN WEISENMILLER: Okay.

Rick Counihan?

MR. COUNIHAN: Thank you very much, Mr. Chairman, Commissioners. My name is Rick Counihan. I am Head of Energy Regulatory Affairs for Nest Labs, the manufacturer of the Nest Learning Thermostat. This thermostat has been shown in independent studies to save 10 to 15 percent on heating and cooling compared to the average beige box on the wall.

Traditionally, weatherization assistance programs have focused on building envelope measures such as insulation and weather stripping or appliance upgrades. But now with our thermostat and others like it, there's the ability to control the energy uses and therefore another way to save energy in low-income housing.

Unfortunately, the studies I refer to were not income stratified, so we at Nest Labs have been working diligently to try to get some pilots going with low-income weatherization programs to demonstrate that the savings exist in those homes as well. So we've got a program already with the State of Colorado in their Weatherization Assistance Program where they're adding thermostats to the regular weatherization activities.

Yesterday, the City of New Orleans approved a pilot with Entergy in a hot, humid climate, to use thermostats for low-income weatherization.

So therefore, that's why we have joined with Johns Manville and are trying to do a pilot here in California, to take the learnings that they did in Coachella, add in a Nest Learning Thermostat, a couple of measures and LEDs, to provide a new kind of energy efficiency approach.

And there are several things that are innovative about it that address some of the barriers we talk to here. One, is it's not income qualified by household. The project that he described, and that we are trying pilot on a larger scale within a geographic boundary, if you're inside that boundary you qualify.

That has two benefits: one is it saves time and energy on income-qualifying the households, but two it addresses the concern of Ms. Fortune that many households do not want to go through the process for whatever reason. They do not want to be income qualified. So you should be able get more people faster.

And there's no audit either. There's no audit. That saves time, because we're going to install the same six measures in every single home.

And finally, with a geographic focus and no income qualification the amount of marketing money that's required to get people in the program, very small.

So we've shown it already in Coachella. We think we can do a lot more and come up with a program that has more savings, gets you savings faster, more homes at a lower cost and better cost effectiveness. It doesn't solve all the problems. It doesn't solve the multifamily problem. It doesn't solve the problem of the homeowners who are outside the designated area.

But I think it's an innovative approach that we ought to consider in California. We'd really like to pilot that and as Mr. Ray indicted, once you have a well-insulated home with a thermostat, those families can participate in demand response. They can help address the duck curve. And frankly, if they're in demand response programs they'll get another $50 a year from their utility to help them on the income side as well.

So thank you very much. We will be submitting comments with Johns Manville.

CHAIRMAN WEISENMILLER: That's great. I'd actually be sort of interested, I know Google has a lot of programs in renewables, and I assume is a socially conscious company. So if Google has other programs geared more at low-income or disadvantaged it'd be good to get that on the record, or any specific programs in that area, that'd be good.

MR. COUNIHAN: All right, thank you. I will do.

CHAIRMAN WEISENMILLER: Thank you.

Byron Washom?

MR. WASHOM: Good morning, Mr. Chair, Commissioners and Panel Members. I'm Byron Washom, Director of Strategic Energy Initiatives at UC San Diego.

I would like to reinforce the comments that Ashley Dunn from CARB made this morning about raising and elevating the importance of electrification of the transportation in this process going through.

I fully understand the priorities towards solar, energy efficiency and business development. And low-income and disadvantaged communities is the first tranche, but there's a synergy and a nexus with the possible markets of electric vehicles in these very same communities. And we are seeing a very definitive trend to encourage us in this direction of simultaneously solving the very difficult equation of penetrating the multi-family dwelling units as well as the low-income.

And this, in my opinion, can only be the path if you will, the roadway, to achieve 1.5 million electric vehicles in the State of California by 2025.

And so some of those trends that we're right now is definitely lower lease rates, the availability of and actually a surplus of end-of-lease used electric vehicles that are coming, the rise of workplace charging that is occurring, the availability of the additional $1,500 EV rebate for low-income families, that's in addition to the $2,500. And we are also seeing, already for the 2017 market, what is going to be a very competitive year. And 2018 is even going to be more competitive for the OEMs, the automobile manufacturers in the marketplace, in the pricing and making these leases available.

So now is the time, as the CPUC starts to approve the -- they have approved two and they're considering a third of the utility programs for penetrating multi-family dwellings. So I would like the Commission to elevate the electrification of the transportation sector. And to tackle this very tough market of multi-family dwellings, low incomes. And I find it a delicious topic that is ripe for a solution. Thank you.

CHAIRMAN WEISENMILLER: Thank you. I was going to encourage you also to give comments to the ARB process and for both of us, the ways we can better link our programs and that process. That'd be very good, so thanks for being here.

MR. WASHOM: Thank you.

CHAIRMAN WEISENMILLER: Shana Lazerow?

MS. LAZEROW: Good morning, Shana Lazerow on behalf of Communities for a Better Environment. Thanks for the opportunity to give public comment. I'm on a panel this afternoon, but I wanted to quickly appreciate the discussion of CalEnviroScreen and disadvantaged communities, because definitely giving comments and feedback to CalEPA on how to improve the process is the path forward. In many statutes this is the tool that we're required to use.

CBE and our umbrella organization, California Environmental Justice Alliance, also think that this is a tool that should be used broadly. We need to look more intentionally at the impacts of the existing system and the historic basis of the -- the system that we're inheriting and living with has distributed the burdens, not just the income burdens, but also the pollution burdens and social burdens, lack of access to services to address those burdens inequitably.

And so as we look forward to transforming our transportation sector, our electricity sector, to move sustainably forward we really need to be directing special attention to correcting these wrongs. And CalEnviroScreen really is the best tool that we have at our disposal now. So we definitely have heard, and share some of the concerns about its flaws, and we're participating in the process of improving it.

So we'll talk more about this, this afternoon. But I wanted to appreciate the discussion this morning. Thank you.

CHAIRMAN WEISENMILLER: Great, thanks for being here.

Regina? Okay, SoCalGas, I'll do it this way.

MS. LUGANI: Thank you, and good afternoon. Regina Lugani from SoCalGas, I'm the Marketing Manager for our Energy Savings Assistance Program and our CARE Program. And so I'll be very brief. I just wanted to again, appreciate and thank Commissioner McAllister for highlighting the importance of a program implementer's role in local communities and having that tie into our communities, so that we're able to leverage programs.

So I know that there's been a great deal of attention to our partnership with LADWP and our Energy Savings Assistance Program and as well as our other energy efficiency programs. But there was a question as to beyond municipalities, how else are we leveraging?

And so I just wanted to take the opportunity to share that for SoCalGas as a program implementer we're working with water districts. We work with MWD with water IOUs, to really leverage funding and to help with the cost effectiveness issues by pulling together funds for water savings alongside with our natural gas savings.

And then we also have partnerships with COGs like you mentioned, like Western Riverside Council of Governments and other COGs within our area.

So I just wanted to thank you for again acknowledging the importance of our presence in local communities as a service provider and a program administrator, because it helps us build those connections. And it helps us also to build those partnerships and take advantage of those leveraging opportunities.

And, of course, I didn't mention all of them, because I just wanted to kind of highlight what we're doing. So thank you.

CHAIRMAN WEISENMILLER: Thank you. Actually since you're one of the few utilities that has at least volunteered to speak at this point, I'm just going to ask, in your written comments if you can think about ways we might address some of the cost effectiveness issues just to get more measures, more bang for our buck, that would be great.

MS. LUGANI: Okay.

CHAIRMAN WEISENMILLER: But certainly, I would encourage all the utilities, everyone to think on the cost-effectiveness issue of how to do that better.

Great, so thank you.

MS. LUGANI: Thank you.

CHAIRMAN WEISENMILLER: Anyone else, Kevin, on the line?

MR. BARKER: We have one online, Philip, we are going to unmute your line now if you'd like to make comments?

MR. YOUNG: Okay. Can you hear me okay?

MR. BARKER: Yes, please go ahead.

MR. YOUNG: Okay. Good morning, and thank you to the panelists and Commissioners for entertaining my questions and comments. My name is Philip Young. I'm the General Manager of a special district in Humboldt County.

From all the panelists' opening statements, I believe it's clear the first thing the state must do is create a standardized definition or set of demographics to clearly define disadvantaged communities. I do not know if the CEC uses the same method as the state water boards, but this will enable all the bureaucracies to operate from a single standard and eliminate any cross-functional interdepartmental confusion over which communities are DAC or not.

Additionally, there should be a greater statewide effort to assist the ACs to fund renewable energy projects. Although I applaud efforts to assist individual low-income homeowners and low-income multi-family housing, the greater bang for the buck is for the entire community to enjoy the return on investments in renewable energy generation. Money saved on power can then be geared towards other aspects of community improvement. Such programs will also increase the long-term energy security of those communities, stabilizing rates, and increase the distributed generation throughout the state.

How will CEC cobble all these agencies together to best support the ACs movement towards renewable energy generation realization?

Secondly, although more so in rural areas, DAC communities tend to be cash poor, but land rich. Their lands hold the potential to create PV arrays and/or winter bunks in the near future energy storage. Rather than IOUs coming in and renting the land for their generation, which only has an ROI for its investors, why not enable such communities to become the POU or micro grid manager of that distributed power generation facility? And this addresses one of Chair Weisenmiller's questions that he asked.

The communities can sell the power, power their communities, and use the money saved and earned to improve the standard of living in such communities. This method directly addresses the point made by Shannon O'Rourke about divesting the benefits away from just the property owner of a multi-family dwelling.

It additionally addresses the issue of solar access in the context where individual homes do not have roof structure support for solar. In doing so, the state will expand its distributed energy generation, increase Grid security, and meeting those renewable energy mandates as well.

And lastly, just a couple of observations: the statute update by Hazyln Fortune, I'd recommend eliminating obsolete passages and shorten any new additions to three-to-five sentences. If you can say it in that space then it is probably not well-defined and will not be well understood and as Elizabeth Kelly said, simple and clear.

And then finally Chair Weisenmiller, to answer your questions that you asked during the comment, watch my district. Commissioner McAllister too, as far as jobs creation goes.

CHAIRMAN WEISENMILLER: Okay. Great, thank you.

Again, I would remind you if you're concerned about the definition, go talk to CalEPA in an EnviroScreen discussion. I again encourage everyone on that.

MR. BARKER: We actually have one more public comment online.

CHAIRMAN WEISENMILLER: Okay, great.

MR. BARKER: Holmes Hummel, we are unmuting your line now. Please, go ahead.

DR. HUMMEL: Can I be heard?

MR. BARKER: Yes, go ahead.

DR. HUMMEL: Thank you for allowing us a moment of public comment. I wanted to commend all of the panelists for pointing out the many different ways to refine and reform existing programs in California, most of which are funding programs. And in the opening remarks it was very clear that for California there are insufficiencies in both the program and project level for these types of programs. In other words, the scale of the funding doesn't match the level of need for the state at a programmatic level. And at a project level the funds available only cover some of the measures and not necessarily all of the things that could be upgraded at any given site.

And even when the funds are available, sometimes the household faces upfront costs that remain after all the rebates have been combined, after all the programs have been put together. In other words, after all of the many recommendations we've heard this morning, have already been implemented there still remains a large, large gap.

I would like to suggest that this panel expand its scope in future discussions to include current programs outside of the State of California, looking across the country to places like Kentucky, North Carolina, and Arkansas. Places where persistent poverty have also forced the officials to confront similar problems and to offer financing as accessible to all customers regardless of their income, credit score, or rentership status or their immigration status.

You've asked for specific recommendations, so I'll make one and close. And that is to take a look at the Pay As You Save Tariffed On-Utility Bill programs that have now been approved by Commissions like Kansas, Kentucky and California that allow utilities to offer tariffed on-bill financing terms for all of the cash costs that remain after all of the subsidies and rebates have been applied. And still leave us with such a large step to take forward towards our carbon-free future.

I'll be sure to submit public comments with the details on that program and some of the field results. And I'd be happy to take questions from staff who may want to follow up. Thank you very much again for the time, and the opportunity to comment.

CHAIRMAN WEISENMILLER: Great, thank you.

I believe that's all. I was going to nudge Jeanne, when she comes back, if you have any idea where the missing decision is or when to anticipate it -- and if you don't that's fine too, but yeah.

MS. CLINTON: Commissioner Sandoval has her adviser here, but I'm going -- Michael Colvin -- I'm going to spare him being on the record.

It's my understanding that the decision, it's actually a pair of decisions -- a judge's proposed decision and a Commissioner's proposed alternate decision -- were hopefully going to be ready to mail today. But there was some illness this week among the steno pool and in getting out legal documents, it's the people who control the document who dictate the schedule.

So I think we're looking at early next week hopefully, fingers crossed, with a target for the mid-September Commission meeting -- the other Commission, the Public Utilities Commission meeting -- there are two meetings in September. So if the statutory 30-day review period doesn't get us on the September 15th agenda it would be the later September meeting.

MALE SPEAKER: The 29th.

MS. CLINTON: The 29th, two weeks after the 15th, but long story short hopefully Monday, fingers crossed, depending on the steno pool. Two decisions are proposed and an alternate and very big, multi-hundred page decisions.

CHAIRMAN WEISENMILLER: Thank you. So we're now going to break until 1:00. Again, I'd like to thank the first panel, particularly thank Jeanne for moderating that and yeah. (Applause.)

(Off the record at 12:09 p.m.)

(On the record at 1:07 p.m.)

MR. BARKER: So I'd like to welcome our second panel of the day. This panel is focused on Providing Clean Energy In Low-Income Housing. It's to explore the undue challenges, financing, and otherwise to serving low-income multi-family housing. And explore possibilities for better serving low income housing with clean energy services.

We're being moderated by Allison Joe of the Strategic Growth Council. Thank you for doing this for us.

And on our panel we'll have Lisa Baker from Yolo Housing, Sophia Hartkopf from TRC, Heather Larson from StopWaste, Shana Lazerow from Communities for a Better Environment and Phoebe Seaton, Leadership Counsel for Justice and Accountability.

And one thing I would note, Chair Weisenmiller, you've asked a lot of questions about natural gas and communities in Central Valley and Phoebe can talk about some of those.

So with that, I'll turn it over to Allison.

MS. JOE: Thank you, very much.

I appreciate the opportunity to be here to have this really, I think, a different panel. And based on the conversations that we heard this morning I think shifting the focus a little bit to think about housing, the needs in the housing development community, as well as how some of the programs that we are looking at, at the state, have a real impact on the feasibility and success of those housing developments, but also of the communities there and the people who live in them. I really appreciate this panel being here.

And I'm going to kick it off by basically starting the conversation and kind of giving you a sense of what I think this panel could talk a lot about. And we'll see where it goes from there. But a lot of the issues that I think we have talked about prior to this conversation is about coordination and alignment. And sometimes that doesn't quite -- "alignment" isn't really the word. I think it's really just "fit" is kind of more of a case than not.

So I want to talk and ask the panelists in their -- in a brief introduction we'll go along the row -- and talk a little bit about their perspectives, but thinking a little bit about coordination and how housing fits in this big picture given your perspectives and your views. Housing and what I would call, "everything else" the universe of not just energy efficiency renewables, but how does it fit within the land-use patterns that we are hoping to support? How does it work in an age of different modes of transportation and the different impacts on different communities, particularly low-income communities?

I want to talk a little bit and see if the panel and this group can suss out a little bit more about coordination and alignment with respect to the housing development, between the energy efficiency and solar programs. I know some of that was discussed earlier today, but really, how do we implement? How do we get this work done in light of the fact that sometimes we may be seeing challenges in the program implementations? So that's really more on the how do we do it side?

How do we do this equitably, and ensure that there are equitable investments given the huge need for housing both workforce housing: restricted and affordable units, as well as other types of housing, and multi-family housing -- everything from apartment complexes to mobile homes.

And then kind of look at, finally, the opportunities for change. And how do we really think about this, given the opportunity we have in the Barrier Study and in the work that you do on the ground?

So with that I'm actually going to start with Lisa Baker from Yolo Housing.

MS. BAKER: That's kind of a broad topic and you should never let me have that much space. (Laughter.)

I want to actually start with Shakespeare. So Shakespeare said, "The future is the undiscovered country." And as we in the housing business know if you aren't very clear about your policy purpose, very often it ends up being the land of unintended consequences. And we want to talk a little bit about that.

So in my prior life I was a consultant to local governments working in residential rehab, multi-family and single-family development, home ownership, land use, utility and other infrastructure to local governments.

Currently I'm the CEO for the Housing Authority right across the river in Yolo and Executive Director of its subsidiary nonprofit. We do housing development, housing rehabilitation, housing management, services. And we subsidize lots of tenants and landlords in the private rental market. Our jurisdiction is about 1,100 square miles, it covers four cities and the unincorporated county. And we also own three water plants, three sewer systems, an electrical system and six road systems, making us also unique in the sense that we actually have a utility infrastructure.

As a Housing Authority we work in between places: policy and practice. We do a lot of policy work on behalf of the cities and the county in the area of housing. And we put our words into practice and in our mission every single day.

And one of the things I notice in talking with energy folks about housing, which I've been doing for a while now, I have noticed that often housing is considered to be a very undifferentiated market in the sense that we proceed from a single-family model and then we shoehorn in the multi-family without realizing that housing and multi-family housing is a very large segmented market with lots of different policy considerations.

And that is where you get into trying to make good policy with regard to energy, because one of the things that you do see here in this market with energy is there's a lot of talk about the end user and consumer reaping economic benefit. Very little talk about the inner section in affordable multi-family, its need for longevity as a public asset to the community and its need to be there over the long haul to be able to provide a service.

And I don't want to go too far, because I know you have lots of questions for other folks. But we can talk about that as well as the disconnect between resources and not looking so focused internally on smaller, but the larger panoply of financial products that housing markets use. Not just banking, not just energy, but also TCAC and CDLAC and the IRS and HUD and EPA and NRG and HCD and

CalHFA and a whole bunch of other alphabet soups and how they could actually be better purposed.

And I think, finally, one of the things I heard today -- which is kind of a running theme, because I am a Star Trek fan, which makes me the nerdiest, techiest person in the world -- but unfortunately one of the things I've learned about energy is that the real "gets" are not made in the cool toys, but in the consumer end use.

And one of the places that we haven't seen a lot of focus is actually on how that energy is going to deploy, what it means for the longer term, broader grid. And what our ultimate public purpose is, which is really obviously carbon reduction and a secure future for our people. And so those are some of the other issues on which we can touch.

COMMISSIONER HOCHSCHILD: Let me just say in my three and a half years on the Commission you are the only person who ever worked Star Trek and Shakespeare into the same testimony. I want to compliment you for that.

MS. JOE: All right. We're going to turn to the other side of the panel and have some comments from Phoebe Seaton, the Leadership Counsel for Accountability and Justice.

MS. SEATON: Thanks so much.

We're a nonprofit organization. We work in the

San Joaquin Valley and Coachella Valley and we do work in Sacramento, but our base is the San Joaquin and Coachella Valleys, working with lower income residents, community-based organizations and very, very small communities and middle-size communities, small cities, and the City of Fresno as well.

Most of our work related to energy and barriers to accessing affordable energy are in the real rural areas. We work in several communities along with several others where there is no natural gas. And so energy costs are either extraordinarily high or extraordinarily high and dangerous and insecure and unreliable. People are relying either on electricity or on propane or some combination of the two.

We also work in a lot of mobile home communities where again energy costs are very high and energy is also unsafe and often unreliable, having a very hard time accessing energy efficiency programs from weatherization to alternate energy production side. So I'd really like to think strategically about how we can better serve mobile home communities, which is a really important source of housing in many parts of the state.

And the other component that we work on in this larger 350 context is transit and transportation in the more rural areas of the state, availability of transit, reliability of transit, and looking at making sure that there is transit available to lower-income areas. We're seeing some more investment in transit, but to relatively higher-income areas in the jurisdictions we work.

So making sure that we're focusing access where there's a great need and great opportunity to increase access and increase ridership. And then also looking at flexible options in the more rural areas where 60-passenger buses may not make a lot of sense, but we can make a lot of strides in terms of reducing the footprint.

And I think finally, we do a lot of work around land use and infrastructure and seeing a similar obstacle in energy to infrastructure in that there's existing communities that lack the basic energy infrastructure. They are looked at the same as new development. And so thinking about how we think about, how do we make sure that we're addressing the needs in existing communities, very differently than we're charging for development of new areas?

I think that's it.

MS. JOE: I think that's great. Thanks.

Shana, I was wondering if you could talk a little bit about your organization's role and kind of some observations based on some of the challenges in implementing some of these programs?

MS. LAZEROW: Sure, thank you. And thank you for the chance to participate on this panel. It's a really important question, the role of accessive multi-family housing.

My name is Shana Lazerow. I am a staff attorney at Communities for a Better Environment. And we are one of the member organizations of the California Environmental Justice Alliance, so we do a lot of our statewide work through CEJA, CBE. And I know you have my bio with a bit of a laundry list of the energy work we've done as CBE or CEJA.

This is a number that is an issue, transition to clean energy, is an issue that grows out of a long history of concerns in the environmental justice communities where CBE organizes in Southeast Los Angeles, in Wilmington, in Richmond and in East Oakland. We also for quite a while organized in San Francisco and had members who were very engaged around the Bay View, the once-through cooling units that were shut down, and helping to design that energy plan for the City of San Francisco.

The pattern of environmental injustice in this stage is manifest, but I think doesn't get pulled apart and really looked at in a rigorous way. In some of the processes that we're engaged with, we wind up in a position where there's advocacy looking at income level exclusively, rather than looking holistically. And some of the morning's comments I thought were very instructive. To talk about the existing barriers on a household-by-household basis, rather than on a community basis misses the chance to move towards systemic healing and systemic solutions that actually will prove sustainable.

So one example of that is when we're looking at some of the barriers, of course, often in these settings we talk about income as the barrier to securing energy efficiency or in the field that I work in, generally we're talking about renewable energy. That there is almost no penetration of rooftop solar in environmental justice communities and the state has been taking off as a state, and leaving behind the communities where clean energy solutions are most needed.

So of course we talk about income barriers, we talk about credit worthiness. These are obvious low-hanging fruit. But what we don't talk about are necessarily the availability of information or some basic infrastructure issues that really can't be overcome just by designating someone as low income and moving them into the other box. And so I think that coming back to the question of using CalEnviroScreen and really focusing on disadvantaged communities at a community level to target our low-income resources, is a real step in the right direction.

And I'm not sure, are we going to come back to disadvantaged communities?

MS. JOE: I think we will come back to that. It seems it will be a recurring theme, I think.

MS. LAZEROW: Okay.

So I just wanted to just quickly hit on the land use patterns and the role of multi-family housing that can play in the solution that we're really looking for in these SB 350 studies. I know you've done a lot of looking at barriers. And we submitted a briefing in the Net Metering Proceeding about barriers that disadvantaged communities are facing to securing rooftop solar.

So these land use patterns, they're pretty entrenched. I don't think that there is one single simple solution, unfortunately. We all want a silver bullet, but definitely pulling together the housers, and the advocates, and the actual community members who will be affected, is a critical first step. We were active. We co-sponsored AB 693 to look specifically at this issue and we're actively engaged in its implementation.

Maybe I'll leave it there.

MS. JOE: That would be good. I think that gives us a good flavor for the kind of efforts that you have been working on, I think, where we want to take this conversation later.

I'm going to turn it over to Heather Larson with StopWaste and really switching to kind of, programmatically, what are we doing, right? So now you've kind of got a bit of a flavor of what's happened -- and actually not much flavor, we would really like to talk about this for days. But about the housing industry, what's looking -- not even the industry, the local public housing agencies, what we're seeing in some of our very disadvantaged communities and up and down the state. As well as how do we look at that from a community-based organizing perspective?

I'd like to maybe have Heather and Sophia talk a little bit more about some of the work that they've done in implementing and working with the state programs and these communities. And maybe offer some ideas on how to -- again back to the alignment and coordination -- how are we doing this period, how can we do this better, where are some opportunities?

So Heather?

MS. LARSON: All right, thank you.

Yeah, I do think of myself as a program person. Being on the Housing Panel made me think somebody at the CEC knows how much time I've spent at the table with owners and developers of multi-family housing, a little bit earlier in my career at least.

Currently I work at the Alameda County Waste Management Authority. We're a local government agency who administers a tipping fee assessed on tonnage sent to landfill in Alameda County, so kind of like a public goods charge. This generates approximately $30 million worth of revenue per year that the 15 jurisdictions invest in environmental programs in Alameda County, so it's our job to administer that funding.

Some of that funding is redistributed as a grants non-profit housing program. That particular grant program was launched in 2001, so for about 15 years we've been working with the non-profit housing community to incorporate energy and green building into their housing portfolio. And as just sort of growth and peripheral, ancillary activity to our grant program we've gotten involved in the development of above-code, voluntary programs and standards, in order to have a bar to attach our grants to. So that's kind of where we've gotten involved in sort of a broader program and standard development.

There's been a lot happened since 2001 I won't get into, but most recently we also are administering some ratepayer funding through the Bay Area Regional Energy Network, which is a partnership with the Association of Bay

Area governments in the other eight counties in the Bay Area. It's the first time that local governments have been directly administering ratepayer funding in parallel to the investor owned utilities.

Within that partnership we do local implementation of various programs and multiple market sectors, but our key role is a Regional Administrative Lead on the Bay Area Multi-Family Incentive Program. So that incentive program has an annualized budget of $6.3 million with an additional $2 million for financing. That serves about 5,000 dwelling units, which are energy retrofits.

The last couple of years we've actually closed construction on 6,500 dwelling units and had to have a little bit of a budget increase. And we're looking to close about that volume this year. So those of you who speak in dwelling units this is actually relative volume for programs that are doing multi-family work in the state. We're excited.

There's almost two million multi-family dwelling units in the Bay Area. So even if you lopped off a third of those we're still saying those could never be candidates for our program. We're still only getting to only 2 percent market penetration. So there's still work to be done even though we're experiencing relative success.

So one thing about our program I think we very successfully tapped into both low-income deed restricted housing providers, as well as market-rate housing providers. And I'd be happy to go through barriers and solutions to getting into both those markets. In my written material I submitted some information that's been compiled on that subject as part of the PUC's EE proceeding, right now, the business planning process. So we could get into those details

But today I wanted to actually spend my limited time talking about my recommendation, which is that we collectively as a state invest in a tax credit, an energy tax credit, for low-income housing. I think we're really missing the boat if we don't do this. Some of you who have worked in affordable housing know that historically the Tax Credit Allocation Committee, which lives in the Treasurer's Office, has offered a low-income housing tax credit.

Under the leadership of Bill Paveo it was essentially a default that all multi-family properties who are receiving low-income housing tax credits were doing energy and green building. They had to do it to get the tax credits. And if Wayne Waite were here he could tell you how many thousands of units a year use tax credit funding to do work. But right now, as with everything, housing dollars are getting shorter. They're under scrutiny for their spending. And overall, they have backed out in what they're requiring for energy and green building of low-income housing developments. This is a source of funding that the majority of the owners, non-profit low-income owners in the state, have historically using to build these projects.

So I think that because the regulations and the requirements to get this money have backed out, these requirements, you're going to see less green building and energy efficiency going on in these low-income developments right now. And all along it's been a little bit odd that housing dollars were paying for this work. And so I think that right now there's an opportunity for energy dollars to start paying for this.

I think, like I said, really missing the boat if we don't pick a tax credit program that has strong energy requirements.

MS. JOE: Heather, just a quick clarification. Is that additive to the existing Housing Tax Credit Program, so you would have a separate credit for energy efficiency renewables?

MS. LARSON: Yeah, right. And how it worked before and somewhat now -- I mean, they haven't completely stripped everything out, but they've backed out what they require -- it's all incorporated as the same thing, but it's always been housing dollars. So I think mechanically if -- hypothetically there could be some ESA funding or some Cap and Trade funding that could be administered through TCAC, they could offer it seamlessly with their tax credit application.

And you have to realize these owners are putting together stacks of financing. When I say stacks I mean multiple sources, so tax credits, other state agency financing, private financing. So it means stacks of financing, but also stacks of paper of applications. So you know, it's a big process for them to get this money. And so if there were a way for it to be seamlessly offered to them that would be ideal.

And I'm sure there's some barriers to that, but that's a mechanical issue of whether or not it could just still be through the Tax Credit Program or layered on top of it. But it solves a lot of problems.

I think that right now the energy-specific financing products that are on the street, there's about four of them for multi-family. There's an on-water bill repayment, there's on-energy bill repayment, there's a multi-family co-finance and there's PACE for multi-family. The status of these finances, some of them are barely off the ground, others have a pipeline of a handful of projects. And the others, at their best, might hit 2 percent market penetration, because they just are only going to work for certain financing models.

And so when we talk about needing to get to scale none of those products are there. And the tax credit mechanism, it's not going to work for every developer in the diverse multi-family sector, but you know it's hitting them all in the ballpark of say 20 to 50 percent of the sector. So it's automatically getting to scale in a way that none of the energy finance products that are on the table are.

And so it's something that I think it also addresses some of the key barriers. So there's been this history of a lot of the low-income programs giving subsidy handouts. So it's not a handout. It's a financing mechanism, which gets away from having to pay for the full costs of the measure. It gets to scale. It basically meets the non-profit housing owners where they are. It incorporates into their financing structure, where they have to go and get this money to pay for this stuff if we're not subsidizing the whole thing. And so it works within their financing mechanism.

And it also currently, or in the historical iteration of it, it gets to a multiple-benefit approach. They have credits for energy efficiency, it could be for renewable energy, for storage, water waste, transportation. It's overcome some of the silo issues that a lot of us have recognized as a real problem for programs right now.

So anyway, I'll stop there, but that's my pitch. I think that it's really something that we should be looking at.

MS. JOE: Thanks very much.

Sophia?

MS. HARTKOPF: Great, thanks for the opportunity to comment.

My name is Sophia Hartkopf and I am with TRC Energy Services. And we work on the ground implementing multi-family programs throughout California and actually, nationwide. And generally we focus on all different types of multi-family properties, so I do have a lot of experience with both market rate and affordable housing.

And there are a couple of points that I want to bring up. So just for context, within California we typically administer programs that are on the ratepayer energy efficiency side of the equation, whereas this morning we heard a lot more about the low-income dedicated programs such as ESA and LIWP and others.

And I personally work on programs through PG&E, SDG&E as well as through the new statewide CSD Program for Low Income Weatherization for Large Multi-Family Properties.

And I think I'm going to start by talking about a few of the barriers and then maybe then we can get into some of those solutions. And some of those are echoing comments from this morning, among them ones that really impact the multi-family industry in particular. And some of these were touched on, as I mentioned this morning, by Maria and others.

The first has to do with timeframe. So within the multi-family sector we experience a lot of different building types and system types. And it's very difficult to come up with a one-size-fits-all solution for improving energy efficiency as well as renewables at those sites. And so we found on average it takes up to 18 months, from start to finish, for a project to come through a program and do what would be considered a more comprehensive improvement that touches on both tenant spaces as well as the common areas.

And typically most of the programs that we administer through ratepayer funding or through other estate funding sources are limited to a single year structure, which makes it really challenging to effectively administer deeper retrofits within these properties.

And it also makes it very tough to build trust with the property owners, because a lot of times they come in to the programs with a lot of excitement and figure out very quickly that they can't fit within the timeframe. Or they come too late and they lose a lot of momentum and they're discouraged from reapplying under our future program cycles. And we are getting there with some of the rolling cycle proposals, but we are still are very hamstringed as it relates to annual budgets. So finding mechanisms for multiple year-end budgets would be really beneficial.

Another area that we talked about a little bit this morning that is pretty well defined within the low-income sector is health and safety. However, within the traditional energy efficiency programs we've had a lot of challenges with figuring out how to encourage the property owners to really take these types of issues seriously. And figure out a way to finance the testing and the mitigation when health and safety issues do come up.

And through the low-income programs there are mechanisms to fund those types of mitigation. Through ratepayer programs we don't really have a direct way to incentivize these property owners to consider health and safety. And so a lot of properties actually decide not to participate in the ratepayer-funded programs, because they are afraid of uncovering health and safety issues that they do not have the funding to mitigate, which turns away a lot of deeper projects.

And then I also wanted to touch on income qualification. And this is one area where I can speak to a success that we've seen in terms of qualifying projects, based on more ways than one. Especially in multi-family, gathering income documentation for hundreds of units is a huge task. And in a lot of cases property management or ownership are unwilling to take that task on and therefore won't apply through programs.

And one area that we've seen a lot of success, specifically within the Low-Income Weatherization Program that's been funded through Cap and Trade is beginning to look at rents as a proxy for defining income or low-income eligibility through the program. And qualifying properties based on lower income or below market rents. And a lot of owners and managers are very excited to take this approach and are willing to maintain certain rent limits at their properties in order to participate in programs like the Weatherization Program.

And then lastly, I want to touch on silos. And this is something I have experienced throughout my career. I've been working in multi-family programs for over ten years now throughout California. And we're still facing, at least within the ratepayer funded programs, a lot of program silos and funding silos. In particular, related to when we can access efficiency versus renewable funding versus low income versus demand response. All of these budgets are separate. And in a lot of cases there is real precedent that those budgets cannot appropriately be commingled or leveraged together.

And as a result, as a property owner in particular, in some cases you're applying to seven or eight programs to put together a comprehensive measure mix. And it also means that the owners of these buildings are being targeted by upwards of seven to ten programs at a time. And they are trying to navigate and figure out which ones make the most sense to them.

So there's real opportunities to streamline administrative and marketing costs, outreach costs, if we're able to figure out a way to pull some of those funding sources together and really deliver a full service solution to the property owners about energy DR, electric vehicle charging, and other resources available to them.

So I'll stop there.

MS. JOE: Thanks very much.

I wanted to give the members of the panel some time to just explain their respective positions and their thoughts about some of the challenges. Based on what Sophia was just -- her last point -- I want to pull on that thread just a little bit and see if there's some conversations we could have about that. Particularly as you think about housing development whether you're a public agency, a non-profit, a for-profit, timing and how you have to really work hard to figure out the funding sources and the complexities of that.

Lisa, if you could talk a little bit about this, how you would approach something like that; what are the decision points?

And then I actually want to also make sure that Shana and Phoebe have some conversations about that. And particularly in the communities they engage, right? So from a developer there's one thing; you have projects in mind. On the other hand, you also have these communities who have very clear needs for housing to make sure that there's reduction in household costs and all of the things that these kinds of improvements can bring. But the decision points on how they fit into the process even and maybe addressing that a little bit would be great.

MS. BAKER: Well, I know Phoebe and Shana will talk about that a little bit, but really there's huge housing crisis. It's national and it's in California as well. There's not enough, there's not enough affordable, and there's not enough money to either improve and maintain what is affordable, or to build.

And if you're building you try and do a 9 percent tax credit, the average project has to go through three separate tax credit rounds before it's funded, just to give you a sense of how difficult it can be on those 9 percent tax credits. And you can't go in for a 9 percent tax credit until all your other financing is in place. And the process, it was interesting hearing people talk about 18-to-36 months, because that's the end of the process.

So if you're talking to someone like us -- and we just finished a 48-unit acquisition rehab where an owner was trying to convert 48 units to market rate and sell it in the private market -- we acquired it. We did a market-to-market on it its affordable contract with the Department of Housing and Urban Development. And then we did an energy makeover and that's a 4 percent tax credit with bonds.

It was also an agency carry back loan, because we got no energy money to do what we wanted to do on that. And also a carry back from our bond pool as well as a bunch of other financing to make that happen. That ended up getting a 30 percent HERS rated reduction. We could have made steeper declines in energy had there been other ways for us to invest in a couple other systems in that retrofit. But then it also comes down to what will people finance?

So you can offer a lot of incentives, but that doesn't actually mean that your tax credit investor is going to want to buy that. So for example, solar thermal, we wanted to do solar thermal on that property. And that didn't pencil for the financers, so that was a no-go. And there's no other supplemental money to make that happen.

It was a case in point on how difficult and how time consuming, because this is a building that's -- well, property that's already there. We started working on the acquisition rehab of that project in 2010 and we finished it last year. So that is kind of the timing and the window on that.

And we are currently in demolition of an old general hospital site with our tax credit partners. And I have been working on that project since literally, 2008. And if we're lucky we'll go into construction sometime in the next six months. So there is that.

And then sort of nationally, the average number of resource that has to go into an average tax credit application is seven to eight financing sources. And these properties end up being verily highly leveraged, which means that an additional tax credit while great is also troublesome for that property. Doing something like financing through kind of a sort of a energy performance contract model might actually work better, because you're using future cost savings as a way to finance improvements today, could be a great alternative for rehab projects.

But certainly, getting to a seamless point and then ensuring that you've got money that is for the energy in particular, as opposed to the development, actually really matters on these projects.

We've gotten into a situation, as someone who also monitors properties on behalf of entities, where even the entities created by other affordable non-profit developers become so much on the margin that they can't always maintain an adequate future capital reserve, because they're using that capital reserve to make annual operations improvements, because, really, you are working very, very hard to stay within the margins on these projects.

I think it is also true that it is difficult to get to the kind of energy reductions you want without cash. I was listening to your comments and yes, the tax credit allocation, they wanted you to go to I think something like 2 percent below CALGreen standard. But it is already very difficult to meet CALGreen standard on tax credit properties. So that capital infusion on energy, it's going to be a very difficult thing to make that happen.

Housing authorities, public housing, it is the most affordable housing in the country. It is also the oldest. And right now I think we get 82 cents on the dollar that HUD says it takes to operate; 82 percent of something sounds great until you want an Icee and you've got 82 cents and that Icee costs a dollar. And that's the kind of the circumstance we find ourselves in working very, very hard to keep these properties viable over the long haul. But they definitely need a cash infusion as well as energy.

So when you are talking about making a public policy where you want to actually additionally subsidize an already subsidized unit, an already subsidized utility allowance, you're literally robbing the future community asset in order to serve a short-term population today. Because they are a moveable population, they may move out and buy housing. But that asset needs to be here for our country and for our state for a very long time.

So in utility allowance in rental situations, the way it works is a person should pay no more than 30 percent of their income for rent and utilities. And those utility allowances by law are set by housing authorities. The housing authorities have the right to allow the California utility allowance in its jurisdiction, but we still have the obligation to set those utility allowances. And we do annual engineered allowances in our jurisdictions.

So one data set point is actually already existing, in your housing authorities, the -- and we also collect a lot of utility usage data for actual utility usage. So when people are talking about lack of data and how that can inform policy I think your housing authorities are a really good bet. But I would caution against over subsidizing an affordable tenant at the expense of other folks who are literally languishing on our wait list for lack of affordable housing. And on my wait list right now that's 37,000 people for about 2,800 units that are already full. Just to put it in perspective.

MS. JOE: Phoebe or Shana, do you want to continue on that?

I actually had some other questions. Your comments yield other questions, but let's stick to thinking a little bit about how the complexity of these programs, and financing, and actually at the upfront side the planning and the coordination of these communities, how it sometimes yields different decision choices based on available resources.

MS. LAZEROW: Well my answer is pretty short, how do the environmental justice communities where we organize plug in, is we pretty much don't.

We have community members who are very committed to bringing about environmental change and system change who come to us and ask, "How does this happen? Maybe I'm undocumented. I live in multi-family housing. I'm low income." And I mean, those complexities for a community member who has limited English access are far beyond it.

MS. SEATON: And I think I'm getting the number correct; it's 37,000 on the waitlist for 2,800 units?

MS. BAKER: We have about -- it's a variety of unit types, so including seasonal farm worker and family-wise I think that works out to about 12 to 15,000 families, but 37,000 men, women and children.

MS. SEATON: And I think the fact that there's a huge need in non-subsidized, I don't know what the percentage is, but the vast majority of lower-income Californians are not living in subsidized housing. And so the need for this subsidized energy or lower-cost energy extends well beyond the subsidized units. And there needs to be a way to make sure that those renters really and units have access, which we're not seeing.

Renters as well, I don't how an incentive structure would work when renters in an existing building are paying very, very high energy costs and would like to see lower energy costs, would like to see renewables. They're bearing the cost but don't have -- at the decision-making table, to bring in that resource. If there's any way to shift that incentive structure, so that landlords are more kind of incentivized to be at the table --

Another thing that I wanted to bring up doesn't exactly get to your question, but I didn't want to lose the thread, was this community base. Looking at this community-based approach, and the fact that many lower income communities impacted on the environmental side and the economic side, are paying very, very high costs for utilities beyond energy for water and wastewater.

And then the opportunity to target resources towards these communities and look at lowering water and wastewater costs through renewable energy. We work in a community, folks are paying about 8 percent of their income on water and almost half of those costs are the energy costs associated with drilling, so just something to keep in mind.

MS. JOE: Then Heather, you guys both had some comments and responses?

MS. LARSON: Okay. I just wanted to second this notion that low-income people live outside of subsidized housing as well. So there's market rate housing where low-income people live. And when you look at the spectrum of income a lot of the rental housing that is market rate is where low-income people live as well. So I think that that's really important to note. And I am pushing this tax credit idea, but that only does address one slice of the pie.

You know, an example of something that we've done, I think this integrates an issue that is really critical like Sophia started to lay it out a little bit, where there's a lot of transaction costs to engage with a property owner. You heard about how long it takes to get a project done, to get the rebates in this big financing deal. And then they're bombarded with multiple programs.

And so not just the marketing and outreach and the admin costs, but the transaction costs for the program and the owner. And so if there are ways to get multiple benefits in the project whether it's EE, water, waste all at one time, then you've got a much reduced administrative cost, overall, and get that opportunity all in one place.

One small thing we've been able to do within our sort of siloed world in our multi-family program in the Bay Area is it's an energy program funded by utility ratepayer funding. But we have a requirement that if there's landscape they have to get an audit to see if there are opportunities for water savings. And we have some minimum requirements that if there are they have to implement them.

They don't get an extra rebate for it, because we don't control the water utility or we have to go through a separate process to get that rebate. But at least while we're there we're making sure they're not missing those opportunities. So there's some very small things we can do in our siloed world to kind of maximize that transaction cost while we're there with the owner.

But again, it's a little challenging with the funding coming from multiple different programs.

MS. HARTKOPF: Yeah, I wanted to just add similarly, to what Heather was talking about in terms of leveraging. I pointed that out as a barrier, but there already are some solutions at the table.

And one in particular is the way that the Low Income Weatherization Program is being administered for large multi-family properties in the state. That program is offering energy efficiency and solar together under one roof. And it's a huge benefit to property owners to consider that together as they're considering upgrades.

And then I also wanted to point out through some of the ratepayer programs we tend to put together fairly sizable technical assistance budgets that are provided to each property free of cost to the owner. Whereas the program, using ratepayer funds, we are spending some time identifying opportunities not just within the ratepayer structure of energy efficiency and what can be done by the utility programs, but also within other structures like Heather was mentioning, water district opportunities for lowering water usage. So cold water savings opportunities as well as integrating owners with other programs like the EV Charging programs or other demand-response types of opportunities.

But that costs money and it's ratepayer funding, so it does as a result contribute to the cost-effectiveness of the programs, which is another topic from this morning that I think is really important. If you're trying to reach this what would be considered a harder-to-reach sector, especially if you're trying to reach the market rate owners that house lower-income tenants who generally do not think about this at all on a day-to-day basis, you do need to spend the extra money to really engage them and educate them on the opportunities. And we can't expect them to come to us on their own and figure out all of these different options that are available to them.

MS. JOE: Lisa, we're going to round it out with you.

MS. BAKER: Yeah. I just wanted to say I didn't actually mean to say that all of the folks who need affordable housing get to live in it, because studies will show you that it's like 25 percent of those who qualify can actually get affordable housing.

What I am saying though is the market is looked at in the energy sector as undifferentiated when it is not. And where you would be wanting to put the majority of your economic rate to the individual, would be on the market side where otherwise they are not reaping a benefit of subsidy and utility allowance as opposed to the affordable market where that's actually factored in to their costs of rental.

I do want to also talk just a little bit about some of the opportunities, actually. Housing authorities bring opportunities. A lot of folks this morning and today have talked about income evaluation, which is really what housing authorities literally do all day long and have lots and lots of infrastructure to support that.

And a lot of programs on the state and federal side on the housing side, for example, where you're going to be doing investment for rehab, basically say that if they are in a housing authority product such as a housing voucher program or public housing or another program, that they are automatically income qualified. Which does give you a way to start to make some progress, I think, especially in market rate properties where you have some investment by the housing authority through the housing voucher program. Because then you start to be able to capture that data in a way that is essentially already captured and can be certified by the housing authority.

Many programs only require that 51 percent -- that's the standard for the Community Development Block Grant Program -- in order to qualify for rehabilitation funds only half to 51 percent have to be below that income threshold. And once you're starting looking at it from that perspective you can actually begin to make market inroads in the private market.

For example, we actively work at any one time with about 400 landlords. And we possess a database of about 800 landlords in our community, which is also probably one of the only places in any jurisdiction where you actually know who all the landlords are. And have ways in which you can roll out information through them.

I want to talk a little bit about soft costs, because that came up this morning.

MS. JOE: So what I'm going to do, I think, so our agenda-ized time was to end at 2:00. We've been given an okay to go a little bit longer, but I wanted to make sure we get kind of -- this is the summary and the opportunity to wrap things up a bit.

But what I want to do is see if we can -- in your comments if you can frame it, to not just the opportunities of what needs to change in order to do it, but where do you see the glimmers of actual improvement? Right, actual change that have already started to happen, because people are talking, because policies are changing, where things are shifting, and how would you use those glimmers and what would you recommend to continue on to make those things actually grow and advance?

So I'm going to start with Phoebe and go back around, down this way.

MS. SEATON: Well, I think there is a lot of glimmers, but I think we're not looking at other programs and just sitting through this panel and listening to the complexity and hearing, I mean we're not -- the opportunities aren't penetrating the areas most in need on some of these investments. That many programs throughout the state are realizing and understanding the need and the importance of aggressive, targeted, technical assistance aimed at -- this is very, I think, a bit self-serving -- but people who can liaison a bit between the technical side and have very, very deep roots in the community. So that you can make sure that there's communication going back and forth between the two and reaching those communities.

So I think the plug would be for looking at integrating technical assistance in outreach very informally and intentionally into programs.

MS. LAZEROW: I agree with that.

I think the glimmer that, because I've been working CBE for more than a decade, and the level of understanding and ownership over a transition to adjust energy system that we're seeing in the communities where we organize is amazing. The sort of extremely common, shared understanding about the threats of what used to be a kind of shared understanding about pollution and its effects on our communities has really expanded to include sources of pollution and systemic solutions, including a transition from fossil fuels to electrification and sources of electricity being community power, clean community power. It's really changing in the public view. And I feel like among policy makers as well an understanding that there is a disconnect between how we run our energy system and how we need to run our energy system.

And so I see this changing with SB 350, with AB 693, with the disadvantaged communities portion of the net metering. There's still a long way to go in how we conceptualize energy systems. I feel like a sort of determined reliance on net metering is a problem. Net metering is I think a nice thing that's out there, but it is not in itself a solution.

And that's just one example, obviously we have very little time, but we're definitely moving in the right direction. I feel like SB 350 is really galvanizing. And it's an exciting time to be doing this work.

MS. LARSON: Okay, a couple of glimmers I guess that are still challenges, but I'd just say some of the data progress under AB 802 is little bit of a glimmer. Local governments who have a good multi-family base who could be implementing energy disclosure policies at the local level are kind of hesitant to design anything around that until we know we are going to get the data to implement those policies. Specifically, in the Bay Area, San Francisco, Berkeley, Oakland and Hayward are cities with high populations of commercial and multi-family properties where we could be taking policy action. Hopefully AB 802 will help unlock that a little bit.

The other thing I think just the local governments are on the scene even working in energy programs, is a glimmer. We have the opportunity to tie together regional planning, tie together a more multi-benefit approach. Local governments are very involved in developing electric vehicle charging infrastructure, working with the Bay Area Air Quality Management District on some of those programs. And so local governments, as we mature in the energy world, have an opportunity to bring some of these things together.

And also because local government is often a driver of the climate action plans we already operate under a GHG standard, which I think helps overcome some of these silos as well. So a lot of the strategies that we're working on with the local governments with incorporating into the climate action plans are things that are both energy efficiency as well as some of the other environmental benefit and clean energy areas that we've talked about. So those are a couple of glimmers for me.

MS. HARTKOPF: For me, I think the biggest glimmer is the fact that we're even having this discussion. It's been many years in the making that we've known that multi-family is a sector that is really in need of attention, especially on the affordable housing side where lower-income tenants live. And it's great to have a full panel to discuss that.

And also, at the same time it's really exciting that there are multiple programs that are beginning to address multi-family in a very specific way. Rather than as was discussed earlier by Lisa, trying to ram multi-family within a single-family or commercial infrastructure, which we know doesn't work. So that's another glimmer I'd point out.

MS. BAKER: Yeah, I wanted to echo the thanks that we're having this discussion. Who would have thought that the Energy Commission would listen to a housing authority? So that's a very, very big move for us. We're feeling it, we're feeling the love.

Lots of other glimmers, I think California is way ahead of the curve. And I do think that if you talk to folks within the community, especially in the County of Yolo, we're already in climate change and adaptation mode. We have a local government climate change compact that works together. And we've actually been able to leverage a funding through grant rebate and other programs and do GHG planning, because we've been going together on that. And now moving in to talking to the state I think that's really great.

Hearing the heartfelt talk about streamlining and removing some of the siloing and barriers I think really matters. Some of the other comments from both this panel, and this morning, talking about making sure that the products you're offering are actually going to work not only with other state department products, but also with federal and other financing instruments, I think is huge.

Some comments this morning about the need for soft cost is absolutely right on. It's very difficult in housing development or rehab to get the soft cost part to even let you lift those projects that we're doing. And it's very difficult to find and especially when you're going to tack energy on to it.

I think I'm going to close with my favorite proverb, which is from Africa. And so there I'm going to fit Africa and Star Trek and Shakespeare into the same speech. And that proverb is that, "If you go alone you can go fast. But if we go together, we can go far."

MS. JOE: That concludes the panel. We did not plan it that way, but I think closing it out on that very wise proverb is great.

Thank you very much to the panel.

CHAIR WEISENMILLER: Okay, just a couple of questions?

MS. JOE: Oh, yes. Great.

CHAIRMAN WEISENMILLER: I'm just going to follow up.

MS. JOE: Oh, apologies.

CHAIR WEISENMILLER: First I wanted to ask Phoebe -- I mean again I've been talking to Martha, talking to Sue Kateley -- this is a basic question. Are the communities in California without gas service, that have only high-priced electricity service and thus are looking at propane or wood or other, I mean how many people are we talking about? Can you talk a little bit about the "problem" as we look generally at solutions?

MS. SEATON: The PUC is in the midst of doing --

CHAIR WEISENMILLER: Lots of things, but let's get to the specific, all right?

MS. SEATON: No, but the assessment of this, so there was a bill passed that -- I'm terrible, we worked on it -- 2762?

FEMALE VOICE: (Indiscernible)

MS. SEATON: Thank you.

Those proceedings looking at assessing the scope of the issue and the costs associated with addressing the issue. It's I would say, in the tens of thousands, not in the hundreds of thousands. And some are very, very close to existing lines and some are quite distant. And so we're looking at the option of gas, but also thinking that this is a really wonderful opportunity to look at distributed renewable production in some of those communities, as well.

CHAIR WEISENMILLER: Right. No, that's good. If we can be factoring in consideration of that into this report it would be great, obviously (indiscernible) the PUC's own point, but I think it's an important issue.

I think I was just going to ask generally, I mean the reality is that low income can be basically a credit risk, just in terms of not paying their bills. And as a small-business operator for decades I can tell you the first thing you've got to look is not the poor credit risk, but the high-credit risk potential clients.

And so PG&E in the '90s tried a program it to provide financial services in the energy efficiency area. And the reality is there were some nonpayment issues. There was no collateral, they had to write it off. And that program ended pretty quickly.

They've tried to do programs in solar, actually even invested in SolarCity. But again at least from their perspective, if it's a solar system you can go out and you can detach the thing if you have to. If there's a non-payment you can either cut off service or detach it. So just trying to figure out how do you get the collateral for energy efficiency in a comparable basis with solar?

And at least there have been times people have tried to figure out how to securitize the savings in some fashion, as that collateral.

But again, encouraging everyone in the room to think about do we deal with energy efficiency where -- you know, it's not as if you're going to go out and start yanking the insulation out of the roofs. If there's nonpayment how do you get a collateral that really makes it financeable, is part of the issue.

And the other thing I'm just going to throw out, and again part of these are hit now and certainly in your written comments, but when I met Tony Jackson who was the Marine Commander in California it turns out in the base housing we have kids there that really, they're low-income. The base housing has been privatized in many forms, but there's the notion you've got someone who may be serving overseas while their dependents are back here. And base housing is not the most energy-efficient thing you've ever seen where they're actually low-income, you know, some portion. So again trying to figure out how do we cover that need too, going forward.

MS. HARTKOPF: Well, and so related to the question of collateral I think that's why it's so important to engage the property owners themselves. And I think the most successful programs have some form of owner co-pay, because they are the ones that ultimately are responsible for the property and ultimately maintain it. And in most cases want to know what's going in to the property. So if upgrades are being done in the unit they'd like to know what the technologies are and how reliable they are. And are in the best position to ensure it stays at the property once the work has been done.

MS. BAKER: This gets back also to, I think, the idea of the split incentive in owner investment and doing a lot of thinking about that over a time. And I'm thinking about market rate housing not subsidized housing. But it seems that one, there are very few places where you ask somebody to make a capital investment. Or you also say, "I'm going to use your stuff," and put things in your unit where people don't actually have some kind of participation. So that's pretty normal.

But it does seem that if what you were trying to capture would be that if the owner was willing to make the investment, one way to help overcome a split incentive, would be to either give them the ability to market that property as cheaper to operate for the tenant than it is for a comparable property. Or some way to incentivize the owner in order to keep the rents affordable as one of the other panels had talked about doing in the Bay Area.

So those would be my two comments on that issue. It's very hard to ask an owner to make an investment and say, "But you reap no benefit. But you get to pay the cost," so I think there is some issue with that.

COMMISSIONER MCALLISTER: I don't want to dig into any more details, because we've got to wrap up the panel. But I want to thank you all for sharing your thoughts.

So in terms of the Barriers Report it would be good to try to distill out sort of a recommendation or a series of them for where do we go from here. It's complicated, right? We know that.

So is there a process say, that could be a recommendation for getting building owners together at some forum or a set of forums to start to say, "Hey, under what circumstances would you invest in your properties?" Or just even basic information about that market. So in any case that is a valid recommendation too. Just where do we go from here? Not necessarily here is the solution, but how do we get to a solution?

MS. BAKER: Can I add one thing, which I do think that considering multi-family as a sector as opposed to some undifferentiated market, would actually make huge sense for the Commission.

MS. LARSON: I'd like to second that. Just some of the comments that were made about the collateral and whatnot, I think that one of the barriers we've actually seen in getting into the multi-family market, is that there has been some blending of issues that apply to single-family residential financing and multi-family.

And so within multi-family there's all these subsectors of how they put the financing deals together, but addressing those sectors squarely on. Because there has been sort of an issue of some of it like with the EPA proceeding and whatnot of we have these conversations about residential as if it's one big thing. And it really does deserve a separate conversation. It's a basic thing, but it really does have very -- multi-family housing and then the subsectors have very unique financing realities from the single-family housing sector.

MS. JOE: I would add they're completely different players, completely different stakeholders, completely different conversations. And so to have a residential, a housing conversation all in one doesn't -- you have to start high level and then you start sussing out the details. And it really does become much easier when you have everyone in the same room the same.

COMMISSIONER SCOTT: Yeah. I would just add the multi-family as a sector is a fantastic recommendation to make for Air Resources Board as well on the Transportation Electrification Barrier Study. And I'm sitting right here next to Richard Corey, but if you are participating in that process or sending in comments on that process I think that's a really important one that carries across the barriers.

MS. JOE: If there aren't any questions from the Commissioners, I just wanted to thank my panelists and the panelists all here, a wealth of expertise and knowledge and background, so thank you very much for letting us participate. And thank you to each of you. Thanks.

(Applause.)

MR. BARKER: Thank you. Thanks, Allison, for moderating.

So if our next panel can come up to the table we're going to have five on the left, and three on the right.

This panel is the Role of the Clean Energy Business Sector. And the goal of this is to explore the barriers to clean energy in low-income communities from the perspective of representatives of companies in the clean energy sector.

And thankfully, Jeanne Clinton has agreed to moderate this panel as well. She has the large panels, the two large panels of the day.

MS. CLINTON: Nobody else was foolish enough to say yes. (Laughter.)

MR. BARKER: So joining us will be Cynthia Bruno from Richard Heath & Associates, Martin Bond from the Community Energy Services Corporation, Matt Cheney from CleanPath, Susannah Churchill from Vote Solar, Bernadette Del Chiaro from California Solar Energy Industries Association, Allan Rago from the Energy Efficiency Council, Scott Sarem from Everyday Energy and Dahlia Moodie from Energy Conservation Options.

MS. CLINTON: So everyone is invited to turn their nameplates around toward the dais. Good.

Can I just suggest that everybody who's still in the audience stand up and take three deep breaths, because it's after lunch and you've been sitting there listening diligently and quietly. So I want to get the oxygen stirring, so we don't put you to sleep. (Laughter)

For those of you who watched this morning we're going to do this panel a little bit differently, because we have so many experts here and so little time. So this is the business panel and even though some of the folks up here are either delivering some of the services that we've been talking about, or advocating for them, at this panel we're not going to talk about the services themselves or how they're delivered.

The focus is your businesses or your organizations, your role of being in business, hiring people, serving a need in your communities and growing. So it's from the perspective of, if you will, people who are influencing the scale of the service provider industry that is serving low income or disadvantaged communities. So just to remind everybody of the background, because we all wear multiple hats.

So we're going to start by giving each person on the panel a chance to answer two related questions. And then we're going to switch to topics where one or two might speak to a particular issue, depending upon their competency or experience.

So just to summarize, so each person in turn -- and we'll work down the row -- will tell us what exposure their own company or organization has to delivering clean energy solutions whether they are efficiency, solar or something else, to low-income or disadvantaged communities or as closely as they can relate to that question if they're not a direct provider.

And then in the course of answering it would be great if we could hear something about the scale of your involvement with this market, however you measure it, and number of households or revenue or number of employees. You know, something that gives us a sense of your scale just to give us a feel.

So yes, would you like to start? Oh and please, the two-sentence version of who you are and what your organization does. Thanks.

MS. BRUNO: Good afternoon, Commissioners. My name is Cynthia Bruno. I'm the Chief Executive Officer for Richard Heath & Associates, also affectionately known by most as RHA. We do a tremendous amount of work in the low-income residential space. We have worked in that space for approximately 35 years.

We primarily serve in the Energy Savings Assistance Program that's facilitated by all four IOUs. There is also a program, the same program, that is facilitated by the small municipal jurisdictional utilities. We participate in those as well. So in some capacity we participate in every ESA program facilitated in the State of California.

We are located throughout five offices as far north as Chico and as far south as San Diego. We have approximately 325 employees.

Specific to the work that we do in the low income residential space, over time we have served approximately two million customers in the last five years. We have touched 835 homes. We average approximately 167 -- sorry, 835,000 homes. Just scale, difference in scale a little bit. We average about 167,000 homes per year. Some of that work we do directly. Most of that work we do through a dedicated contractor network. Through our various contracts we work with 57 contractors who are subs to RHA who, of course in that instance, is serving in the capacity of the prime.

Internally we have approximately 170 of our workforce that are dedicated to low income weatherization work.

MS. CLINTON: Great. Thank you very much, Cynthia.

So next, Martin?

MR. BOND: Hello, my name is Martin Bond. I'm an Executive Director of Community Energy Services. We're a subcontractor working with RHA on the ESA program. In low income we also work as a WAP LIHEAP contractor as well. And then we are a small commercial direct-install program called Smart Lights. We're a small nonprofit with about 25 employees. We work in Alameda County, Contra Costa County, and Marin County. And we're about a 30-year-old nonprofit, really focused on serving the hard-to-reach communities and then the low-income residents in those counties.

We serve about 500 homes through both energy efficiency programs as well as we have several CDBG-funded minor home repair and health and safety programs, as well.

And we're a small commercial program service, somewhere in the order of 1,000 to 1,500 businesses a year, again through those three counties.

MS. CLINTON: Great. Thank you, Martin.

Matt?

MR. CHENEY: Hello, Commissioners.

(Brief colloquy re: mic.)

My name is Matt Cheney. I've been active in solar actually, somewhat accidentally 15 years ago, and have done a few things since then. Beginning with selling a company that I had acquired from Nuon, the Dutch utility based in Amsterdam, to Municipal Mortgage & Equity, which used to be one of the largest LIHTC, or low-income housing financing platforms based in Baltimore. They had about 20 percent of the market. So I'm keenly familiar with LIHTC and how it works.

The company that I'm heading today is called CleanPath Ventures. CleanPath Ventures has done a lot of work in its own right in solar and wind and efficiency finance. But these days I put a lot of time and energy towards policies, formation of policies in support of the target markets to which we're focusing including low-income housing.

I think looking around I see a lot of people that were active in helping to pass SB 43, which in California led to a community solar program here for the investor owned utilities. Was that a good thing? I would argue absolutely. Are we done? I would suggest not, because it may very well not be what it needs to be to benefit those that it was intended to help, including those without a lot.

I'm going to stop here now, but what I will say is that I have been lately putting a lot of attention, not so much into creating jobs in and around this industry, but more so towards helping large entities focus on how best they can get involved in these areas. And we have a lot of tools in our basket.

We have new market tax credits. We have, certainly, SB 43, perhaps something that could be improved. We have community choice aggregation. We have the Community Reinvestment Act. We have property-assessed clean energy. We have lots of tools that can be utilized if enhanced, if made better, if focused better on low income working hand-in-hand with the private sector to provide capital to solutions.

And that's essentially what I'm doing. I'm doing that at scale and I'm doing it on a national scale.

MS. CLINTON: Thanks, Matt. And so it sounds like your business connection is going to be helping other folks in the room develop their businesses and business models and bring capital, somehow or other.

MR. CHENEY: Yes, we do help.

MS. CLINTON: Just generally. There's actually a transition.

MR. CHENEY: Yes, okay. Good. No, I'll take it from here.

MS. CLINTON: Okay. Susannah?

MS. CHURCHILL: Thanks, Jeanne.

My name is Susannah Churchill. I'm West Coast Regional Director with Vote Solar. And Vote Solar is not a clean energy provider; we're a non-profit solar advocacy organization. And we work in states around the country to make solar more accessible and affordable for more Americans. We work on a broad range of solar policy issues, from rate design to community-shared solar to financing. And as solar costs have come down we've now got a new program area that we recently launched, low-income solar.

And we're really interested in prioritizing how we can further expand access to low-income communities. And one of the things we recently did is we published an online Low Income Solar Policy Guide, together with our friends at Grid Alternatives and the Center for Social Inclusion, that lays out a range of policy approaches. And also includes a number of case studies from states around and utilities around the country.

And so I think I'll probably stop there for now.

MS. CLINTON: Okay, so ideas for sort of growing the sectors adoption?

MS. CHURCHILL: Exactly, yeah.

MS. CLINTON: Okay. Bernadette.

MS. DEL CHIARO: Good afternoon, Commissioners and other important decision makers. Bernadette Del Chiaro, Executive Director of the California Solar Energy Industries Association. It's lovely to see you all in one room. And I apologize I couldn't come earlier. We're a little busy down the street as I know you are all aware, no rest for the weary this time of year.

The California Solar Energy Industries Association, I think you all know we're a 40-year-old organization that represents both the solar photovoltaic as well as the solar thermal or hot water industries in the State of California. We have nearly 500 members to date, up and down the state, ranging from manufacturers and financiers down to local contractors.

I think our exposure is obviously to the extent that every single company, I think, would love to be able to sell to low-income communities and disadvantaged communities. And the barriers to those communities are actually shared barriers. And we would like to work with the Commission and other policy makers very hard to address this problem, because we see it as obviously a hindrance to just expanding this important business. Not to mention all of the environmental benefits and job benefits that come along with its expansion. To that extent we worked with CEJA last year in co-sponsoring AB 693, which we can talk about later. But to try to take steps in that direction.

I can say -- not that I think we're anywhere near where we need to be -- but we are seeing significant growth in this, in terms of making solar more affordable and available. For example, a Kevala Analytics Study, which I can make available to you from this past January, shows that we're actually seeing the greatest growth and uptick of solar photovoltaics being in neighborhoods with low and moderate income. So under $50,000 a year communities and neighborhoods are the ones that are seeing the greatest uptick in purchases or leases of solar systems.

Similarly, we're seeing a 25 percent -- we anticipate this year a 25 percent growth in solar on multi-family low-income housing projects. So we are seeing progress. Obviously, it's not enough.

But thank you for holding this important workshop and helping discuss this whole issue.

MS. CLINTON: Thank you.

Allan?

MR. RAGO: Good afternoon, Commissioners. My name is Allan Rago. I'm with the Energy Efficiency Council. We are a nonprofit trade organization of about 23 member contractors who provide direct install services through most of California's ESA programs, low-income programs. That's my night job.

By daytime I am Executive Director of Quality Conservation Services. We are a direct install contractor for low-income programs throughout the state. We have 5 offices throughout the state and employ roughly 130 people to implement roughly 15,000 installs per year. And we do that through the low-income energy savings assistance programs and through subcontract work for the LIHEAP and the LIWP programs for the state.

MS. CLINTON: Thank you. Scott.

MR. SAREM: Hi. Good afternoon, Commissioners and all of you other important people. Thank you so much for having me here today. And thank you, Jeanne.

I am the Co-Founder of Everyday Energy. And what we do at Everyday Energy is we provide solar photovoltaics to low-income multi-family housing. We've been doing this for about seven years. And we've been major participants in the PUC's MASH Program and also with the new Solar Homes Program.

We provide a couple of different flavors of solar depending on the needs of the client, which sort of dovetails into the technical assistance we provide to our clients. Either we will work with a client who wants to own the solar and put it in place, using low-income housing tax credits, or we will work with a third-party-owned system. We call it a "solar service agreement," where we will use the rebates and leverage tax credits and sometimes, some debt.

We have installed solar that benefits up-to-date, right now, about 5,000 individual tenant units in multi-family buildings, with another 4,600 tenant units in process as we speak. So we've been participating in this for quite a while and it's been great.

I would tell you it's -- you know, a lot of folks want to come up and complain and one of the things I like to do is talk about success. And I think the California Public Utilities Commission got MASH 2.0 right. We've been at this for about seven years. We were able to provide our experiences over the years and give some real data to the PUC that they were able to look at.

And they were really concerned about providing a direct tenant benefit, because there were all these talks about utility allowances and raising rents and making sure that low-income renters actually benefit from the solar. So the PUC put out a rule that said, "If we want to take a higher rebate then the owner is required to provide a 50 percent direct benefit to the tenant." Well, that was the first attempt to sort of address this split-incentive barrier. And lo and behold, it's been really successful. It's over-subscribed. There are some folks out there that would argue that it doesn't work, because it hasn't reached enough folks.

My rebuttal to that is it's worked great and the only reason it's only reached these many people is because of a lack of resources. It's fully subscribed.

And the nice thing is, and what Bernadette was talking about with AB 693, is the Legislature took a look at the success of the MASH Program and the issue of direct tenant benefit. And Bernadette did a great job, she's being very modest over there, of leading the charge for AB 693, which is going to provide even more of a direct tenant benefit; it's a tenant-first approach. I mean, we're working with the Public Utilities Commission right now to get that underway.

So thank you very much.

MS. CLINTON: So just a quick follow-up. You mentioned the number of units that you have affected. What about the size of your business, number of employees, revenue? What could you tell us about your scale?

MR. SAREM: We are statewide. And we partner also with Solar City to make sure that we have a statewide reach. Right now we have about 20 employees.

And our services really focus on delivering the solar service to the low-income housing owner and working within the framework of their ownership structure. And when we are local, when we are in areas where we have construction teams, we build. And in other areas we will utilize subcontractors. And we've been working a bit with Solar City to expand our reach.

MS. CLINTON: Thanks.

And Dahlia, could you tell us a little bit about what you're up to?

MS. CLINTON: Thanks. And, Dahlia, could you tell us a little bit about what you're up to?

MS. MOODIE: Sure, Dahlia Moodie, Founder of Energy Conservation Options. I founded the company in 2008. We've worked primarily in the San Francisco Bay Area, East Bay and some in the Peninsula Area, doing primarily lighting and controlled retrofits. We've also done a -- completed about 800 homes of weatherization back in our early days, but our primary focus is commercial at this point.

We have grown and shrunk a couple of times based on things going on in the industry between 10 to 20 employees. My target for developing my company has been to reach into the local communities from the community college programs, from the training programs that are local, focusing on green energy training and also the unemployment line.

As an electrical contractor we have to, of course, count on certified electricians and people coming up in that trade, so that's something that I would like to talk about a little bit later. I know that's a labor discussion but that's also an issue around business development.

We have done about 2,800 projects over the past eight years ranging anywhere from $100 to $800,000. There's a discussion around that, that I think is important in terms of attracting and retaining small business into the energy efficiency sector. I would say that our relationships with local third parties, Smart Lights, has been a really critical one for our growth. There are some other ones as well. But that's basically what our focus is and how we've tried to continued to develop the business.

MS. CLINTON: Thank you.

So now we're going to switch to some topical questions and, just to reiterate, no obligation for anyone in particular to have to answer these. If the question resonates, get my eye and let me know you want to speak.

So we're going to cover a variety of topics: efficiency, solar, financing, hiring, business growth, leveraging public funds and sort of simplicity. Let's go.

So now recognizing that in California by all estimates maybe, we spend somewhere between $400-$500 million a year of public or ratepayer money on energy efficiency that's targeted to low-income or disadvantaged communities, from your business perspective how good of a job do you think California is doing in using these funds or what would you change?

MS. BRUNO: I can start, Jeanne.

So doing this morning's panel there were lots of references to the challenges that the ESA Program is facing. The ESA Program has been in difficult times for the past 19 months. The further we get away from having a timely decision, the more complicated the challenge has become.

Generally, the workforce that is dedicated to reaching low-income customers through the Energy Savings Assistance Program is very dedicated and does a fantastic job, we think, of being able to identify eligible customers and to serve them effectively. There is an obvious tension between energy efficiency and greenhouse gas reduction and the original intent of the program, which was house safety and comfort.

So, I think our position is that there could be more energy savings and cost effectiveness. The challenge though, is that it then detracts from the health, safety and comfort elements that the program was designed for, and that really are crucial for the low-income population. So we know that anything that is done around cost effectiveness takes into account this very tenuous balance.

The other critical element around cost effectiveness is that it sets up a tension with the dollars paid to the workforce. So the more that we pay a workforce, the less cost effective the service that they provide becomes. So that's another area that needs to be very carefully thought through. It's not just as simple as saying, "Yeah, let's make it as cost effective as possible." Because there are all these balancing concerns and priorities that need to be taken into account as well.

MS. CLINTON: Okay. Thank you. Those are

very good points.

Martin, go ahead. And we'll probably be a little bit of illogic and then go to Matt.

MR. BOND: Really quickly, CSC works in the ESAP Program and we also work in WAP and LIHEAP and we have CDBG programs as well.

Our purpose to work on the customers' best interests is to try to leverage a lot of those programs together. We use grants. We use a lot of different things to cobble different programs together, so that we can go into a customer's home and be kind of a one stop shop as the implementer.

Our purpose -- this is backwards. There's a lot of funding available in energy efficiency. But it should be kind of managed a little bit higher up in the food chain, so that we can go in with one application one set of eligibility requirements and hopefully bring many different services to one customer.

There's a program called Green and Healthy Homes Initiative that we're part of and piloting in Marin County to try to get a lot of different resources together.

So that would be our hope is that multiple funding sources from not just California the state but federal, just a lot of different things to come together in one package.

MS. CLINTON: So Matt, I'm going to ask you to just hold one second, because I'm thinking we're at community scale and then we're maybe going elsewhere?

MR. CHENEY: Nope.

MS. CLINTON: Okay. Then go ahead.

MR. CHENEY: I think we have a lot of experience with efficiency in a broad sense. I mean, OPAR (phonetic) was created effectively using the community shaming model, you know, your neighbor is doing this, how come you're not?

But there are first cost issues related to efficiency regardless of the subsidies. But then, again, we have light property assessed clean energy where you don't really need a credit rating to quality. You can use -- if in fact you own your home or in fact, your landlord owns the property.

But the program that intrigues me the most is actually coming out of carbon net zero programs, really kind of coming about nationally. Cities are now looking at these goals of becoming carbon net zero and in being able to play that game, not so much a game but being able to do that important thing, they're inventorying their communities. They're looking at their tracks. They're assessing their building permits. They're evaluating just how those old those water heaters are, and in a broad sense, at the community level.

And I think Davis is a good example of this. They know pretty much a lot about, you know, community tract housing. They know a lot about how old everything is. So now they know that after about 30 to 40 years that rather than having something go out, and when it does you pick up the phone and you call anybody at whatever cost, because you need it, like air conditioning or hot water, or things like that. They can implement broad scale community programs to encourage everyone to do things together. And, better, they have market power. They can talk about best -- the most efficient solutions at the right prices, so they then offer their community residents solutions.

I don't know. It just seems like an organization like that is a much more healthy approach.

MS. CLINTON: Okay. Thank you.

And Dahlia, I know you wanted to jump in here.

MS. MOODIE: Yeah. A little bit earlier --

MS. CLINTON: Sorry.

MS. MOODIE: -- around the question of how are we spending, I guess it was like, how well are we spending the money?

One of the things that I've experienced as a small business owner in the energy efficiency sector, and the only type of work that I want my company to do, is energy efficiency. So we get offers for other types of projects and I basically bypass those to focus as our core business on energy efficiency.

And in doing that, I have to balance out the impact of the rebating or discounting that has been going on for a long time, which makes me highly dependent upon the consistency, and the just continuity on the delivery programs. So when we have program restarts, we have policy changes or changes in the rebate levels and things like that, we find that as a small business we are -- our volume in terms of activity goes down.

It affects our labor pool in terms of our employment. And the administrative function of the energy efficiency environment continues to go on; those who are associated with policy or delivering the administrative service.

So one of the things that I'm concerned about -- and the idea of seeing other small businesses grow and actually adapt to the idea that you can be an energy efficiency company. And not necessarily have to be, you know, in a whole bunch of different types of projects, but you can be sustainable. Is the idea that there would be some kind of gap closure around when these administrative functions have to about face, make changes or whatever, in allowing the market to continue to grow and sustain the work levels that are necessary in order to sustain the activity in the market, as well as the employment of people.

So that's something that I would be concerned about with how the money is being spent and how it affects a small business who's trying to be involved with the industry.

MS. CLINTON: Okay. Thank you.

MS. DEL CHIARO: Real quickly, two things.

One is I mentioned earlier that 34 percent of the solar installations, PV, residential PV going in, in 2015, were in moderate and low income. I want to point out that 28 percent of that 34 was installed without direct incentives. So I don't think that is captured with the question, but I wanted to make that point.

Secondarily, I'm not sure if it's captured in this question either, in terms of the $400 million, but California does have a -- now after finally many years of delay a good incentive program for solar hot water systems. The majority of those projects are going on multi-family, low income housing projects in California. And are, I think, are very good and very powerful source of greenhouse gas reductions.

Not to mention which both rooftop technologies I think are important to just on the record note the significance of giving individuals in low-income and disadvantaged communities tangible, real ways to solve help and combat climate change. And that there's a real social and political value to that, that needs to somehow be captured on the record here and incorporated into California's policymaking thinking about solutions moving forward.

MS. CLINTON: So now we're going to turn to solar, specifically. The question is what mechanisms do you think offer the best access to solar energy for low-income households and disadvantaged communities?

MS. DEL CHIARO: I guess that'd be me first?

MS. CLINTON: It doesn't have to be. Somebody else could beat you.

MS. DEL CHIARO: Well, I'll just take it.

So really quickly, the best two existing programs: Net Metering and Virtual Net Metering. The PUC needs to, I think, do an even better job of proper evaluating the benefits of net metering, as especially for these communities. And we need to expand net metering and virtual net metering accessibility in our municipal utilities.

That said, they are very powerful and helpful policy tools.

Secondarily, within the incentive structure we've already mentioned AB 693, which will be good at breaking the sound barrier of giving direct solar benefits to tenants and not just common space load. I mentioned solar thermal already. And, you know, there are other good programs like Energy Upgrade which help with common space load with energy efficiency.

New programs, three quick things to mention: I think one of the most powerful things we can do is to create a credit enhancement facility, some kind of loan reserve fund, loss fund, to help us lower the FICO score requirements for solar. That would probably be the most single most effective thing we could besides what we already have in place, in continuing those programs.

If you think about it, what's really interesting about this solution is the state would be able to leverage public/private partnership for roughly a $100 million year program to protect lenders and their investments. And for folks with credit scores of 580-600 range we could leverage $1 billion in private investments.

And, in time, this fund would actually, probably not be needed over the long haul and could be phased out. And that's because simply one of the problems with credit companies giving lenders -- the backing of folks with low credit scores, is simply the lack of data and the lack of experience. If we actually could jump start that, get ahead of that chicken and egg problem, provide lenders with the data that default rates are no different than folks with higher default or credit scores then we could actually eliminate the need for that fund.

We need additional incentives. One of the major problems with solar is structural limitations for the roof. And there are, right now, not really easily accessible incentive funds for dealing with that, to improve the building or make it possible to host a solar system.

There's also a smaller subset of the state that doesn't have access to solar hot water, because of propane only accessibility. And that's a problem we've never gotten over, but something that we should continue try to tackle.

The other two quick things: Section 8 housing and the private multi-family companies is not really something that we can capture and touch with some of our existing programs -- something that I would encourage the Commission to take a look at.

And then management companies basically run the show for a lot of multi-family housing projects. They are paid based on gross revenues, not based on net income. So they don't have any incentive to lower energy costs for the building owners. And so if we could figure out a way to get around that, I think that would actually unhook -- unhinge a lot of barriers right now.

And then one issue I hear a lot from the building owners of multi-family housing projects is the accelerated depreciation that used to be available to them was a very powerful driver in getting them to adopt energy efficiency in solar investments.

I'll stop at that.

MS. CLINTON: SO I just want to follow up in one aspect of that that relates to some history that both Sol (phonetic) and I have, which is CAEATFA has a, what $10 million fund to provide guarantees for PACE transactions which, in theory allows households with lower FICO scores to sort of get a piece of the action. And PACE transactions can do solar as well as efficiency.

Are you thinking that what's needed is outside of PACE or that for some reason that program isn't working for solar (indiscernible)?

MS. DEL CHIARO: Yeah. It's a really good question and I was remiss in not mentioning PACE as an important existing program that is helping get around that problem. But, I think, you know, PACE is one really good financing option. I think the rest of the market, you know, in the higher FICO score range has many more options. And we should make those options available to everybody.

MS. CLINTON: So other kinds of financing structures.

MS. DEL CHIARO: Financing, yeah.

MS. CLINTON: Matt?

MR. CHENEY: I think that's right. PACE is actually a good -- pretty interesting, because it was all but dead in the water really until that fund was set up. And really for the reasons centering around the aftermarket for home mortgages being Fannie and Freddie -- they wouldn't accept these loans. These mortgages with this backing without, you know, some reassurance that they're not going to suffer a first loss in and around this stuff.

So that was set up and boom the market opened up. What's interesting, what's equally interesting is that like in the Valley, given the opportunity to tap property-assessed clean energy to finance something -- some qualifying technology based on equity valued in your home, no matter what your credit rating is a lot of it's going to -- use your imagination -- a lot of it is going to air conditioning in the Valley.

And as much as we would expect a lot of solar to happen, I haven't seen it yet, you know? There's some but not a lot, in my opinion.

MS. CLINTON: Susannah?

MS. CHURCHILL: Yes. Thanks.

Bernadette, I just want to add to Bernadette's great ideas, that I think another really important solution that we need here in California is community solar that is affordable for low-income customers.

So, you know, most low-income Californians are renters and then you've also got low-income homeowners whose roofs are not suitable for solar, so that's a majority of low-income Californians can't put solars on their own roofs. And so what we need is the ability for those customers to subscribe to an offsite project and get utility bill savings. And most of those customers also won't have the ability to pay any money up front but they could pay on an ongoing basis and save money via their utility bill savings.

And unfortunately, Matt mentioned SB 43. So we have a community solar program for the California IOUs that's getting going now and Vote Solar was one of the groups in support of SB 43, which created those programs. But unfortunately the Commission, the CPUC approved pricing for that program that's frankly unfair and really unaffordable for low-income customers. So you're talking about a premium of three-and-a-half cents a kilowatt hour to participate for PG&E and Edison, for a low-income CARE customer who's paying 11 cents a kilowatt hour that's - you've got to pay 33 percent more to join the community solar program and that's just not doable.

So, I think it really would make sense to create a community solar program focused on low-income customers and ensure that they can start saving with solar like so many other Californians are, and maybe we can talk a little more about that financing and the details later.

MS. CLINTON: So does everybody know what Susannah is talking about, in terms of the pricing and the -- let me just try to capture it quickly.

So the PUC decision on community solar for offsite solar where the power is essentially wheeled to the premise or virtually wheeled, applies the Production Cost Indifference Adjustment, PCIA, which is a similar kind of adjustment that's applied to customers who leave the system for direct access reasons or departing load.

Basically it's, "Hey, the utility incurred certain costs while you were on the system. Now you're going to be producing some of your own elsewhere." But there's an adjustment charge, sort of departure charge and/or use of the Grid charge that sort of weighs in. And we'll not go into the details but the bottom line is that there's a three-and-a-half cent per kilowatt hour premium that you have to pay for every kilowatt hour of production that you're getting from the community solar system in order to sort of take care of the stranded costs that you're leaving behind.

And let's just leave it at that. I just want to make sure what's being talked about.

CHAIRMAN WEISENMILLER: That's great. One clarifying question for Bernadette, what's the FICO score credit now for solar?

MS. DEL CHIARO: It's currently, I wrote that down, currently it's 650.

CHAIRMAN WEISENMILLER: What percentile is that, roughly?

MS. DEL CHIARO: I don't know. I didn't offer a percentage on that.

MS. CLINTON: I think it's pretty high. I think it's amazing -- not talking low income, but talking all consumers a very high percentage like 75 percent of consumers have a score at that level or above.

MS. DEL CHIARO: I don't have an answer to that, but yeah.

MS. CLINTON: But if you look specifically at low-income households, not all of whom have bad credit scores let us hasten to say, but proportionally fewer of them are at that level.

MS. DEL CHIARO: Can I add real quickly to Susannah's point about community solar? I agreed with everyone she said.

I think there's one important point I just want to add on which is I hear a lot about concepts of creating a community solar program in which there is sort of a green tariff applied, so a premium applied to sort of market rate, if you will, customers in order to subsidize -- sort of a subsidized community solar access for low income.

The problem with that, while that is maybe better than nothing, is scale is everything right, with development of new technologies and development of new markets. And there's no way you're going to get to scale on either to Susannah's point the broader market, and then what's going to get dragged down as well is the low-income accessibility market. So we have to make community solar brought to scale and not use it just to kind of shift funds around solely.

I think we'll just -- I think we'll have a severely sort of minimized program, and a results as a result of that.

MS. CLINTON: So I'm going to morph -- we're still going to stay on this theme of financing, but I want to broaden it not to solar, because I want to broaden it to financing. And Allan will get the first crack at this question, which is what capital sources, finance structures or transaction mechanisms, might be better used to increase access to clean energy solutions for low-income households and disadvantaged communities?

MR. RAGO: Well, thank you.

You know, our experience is largely in the Low Income Energy Savings Assistance Program. And a lot of the work we do is in the single-family owner section. I would say it probably accounts for a large portion of that.

And it's our experience that these folks just don't have money to either go back or go into debt for something, to take credit out for something. So, you know, perhaps it's something we could do better is maybe to find a way to get information out if there are programs that provide single-family owners, low-income owners, solar at no cost then maybe we're not doing as good of a job as we can in getting it out of there. Because, you know, our experience is that they're just not going to pay. What we delivery we have to do for free.

And when it's all said, when we talk about the definition of low income, when I think about that, I think about the 200 percent of the federal poverty guidelines that the ESA Program uses. And I'd just like to point out that, you know, two people -- a two-wage earner home would need to earn $7.70 per hour each or less in order to qualify for the ESA Program.

So these folks are not looking at, you know, how they could spend a rebate, how they could pay for a rebate. They're well below minimum wage earners and perhaps something else we could do is perhaps look at that 200 percent of the federal poverty guideline because it has certainly not kept up with even minimum wage.

MS. CLINTON: So does anybody else want to jump in on financing?

Cynthia?

MS. BRUNO: Just to second what Allan said. In our experience, and the Commissioner referenced a program in the 90s that tried to provide access to financing, and it just doesn't work. When you look at the low-income population and all the demands relative to the resources they can't take on -- even if they can qualify they just literally can't take on any more debt obligations. It further compounds the challenges that their lives already present.

CHAIRMAN WEISENMILLER: Yeah. I think one of the things with people that are struggling at that point (indiscernible) interesting finding now, is the notion that obviously with more energy efficiency you have low operating costs, you should be able to carry a higher mortgage. And my impression is we've never been able to make that connection with the finance -- with the banks? Is that true, you know?

MS. CLINTON: I think that's a Matt question.

MR. CHENEY: Yeah. If you think about it, technology, both solar and efficiency, that essentially allows you to put your money here instead of there, should be a push. And it is a push, quite frankly. If you were to sign up for a, you know, take out a loan at your credit union and pay for a solar system that caused you to pay that much less to the utility in favor of paying that much less service to debt. You know, after six years you've essentially used the same money to get there and then you get the benefit of owning. Okay? And that's the promise. That's what people that have a lot have been experiencing for awhile now.

Technically, it shouldn't help or hurt them say if they were to sign up for a 20-year arrangement with Solar City, causing them to receive their electricity benefits for 20 percent less for that duration. And the money is diverted now from PG&E to Solar City and you get a 20 percent benefit. I mean, do the math. That's how I think it works.

So I'm a little bit confused as to, I think more so what we're talking about is, just it's not so much people who are treading water, there are people who actually can't make do so they may not actually have the resources to play that game to begin with. And they're being subsidized by the ratepayers and so forth.

MS. CLINTON: Yeah. So I think we're hearing a consternation of facts that don't necessarily comport. And it may be because we have a lot more market segmentation that we need to pay attention to.

So on the one hand we're hearing that low and moderate income housing is the biggest uptick in solar leasing and transactions. And on the other hand we're hearing that people don't have the wherewithal to sign loan agreements or qualify for maybe doing some of the energy efficiency.

CHAIRMAN WEISENMILLER: I was going to ask Bernadette to define her term?

MS. CLINTON: To define the low-income and moderate income, where the uptick is occurring?

MS. DEL CHIARO: Yeah, it's in neighborhoods that earn, on average, $55,000 or less.

MS. CLINTON: 55,000?

MS. DEL CHIARO: Um-hum.

MS. CLINTON: Okay. I might point out that when we were talking about ESA we were talking about in the $40,000 range, give or take, depending on family size.

MR. RAGO: A two-wage earner would be $30 --

MS. CLINTON: $35-40,000, depending on the household size.

COMMISSIONER MCALLISTER: Great. Thank you.

I want to just -- so to put a little finer point on this, I have been told by a high level executive in a solar company that shall remain nameless that they feel like it's a great part of their business that they can target who they sell solar too. And that if they're down in Tier 1 or Tier 2 with the way the structures are that they tend to not go after that customer. And if you're up in Tier 4, no brainer you can make a really clear argument, "Hey, this is to your benefit." Now this is in NEM .01 or 1.0, rather.

So I guess that sort of links up the two trends here, I think, because basically they're kind of -- if, as solar comes down, they could make the value proposition for a Tier 1 customer, but that's not quite happening fully yet. Is that a fair statement?

MS. DEL CHIARO: Well, absolutely. And the point we often make is changes to rate structures that make solar less economical for all consumers and changes to net metering tariffs that make solar less economical are only going to reverse that positive trend that we're seeing.

That trend we're seeing was all in 2015 with all under NEM 1.0, with sort of old rate structures with Tiers. So fixed structures, flattening the tiers, and changes to net metering are all going to, potentially, reverse that positive trend unless the changes are gradual enough so as to keep up with price reductions.

But I think some of the proposals we've seen put forth by utilities would have those trends be way faster, accelerated faster beyond the ability for price reductions, and will put solar back out of the hands of low-income consumers.

MS. CLINTON: So, I'd like to bring the conversation back a little bit to this question of who can and can't have access to capital to undertake improvements.

And, a couple of things from this morning's session, so in the case of the evaluation of the ESA Program from the Needs Assessment, my recollection was that the electric savings were, I should say, the net electric savings were showing up in 4 percent range or gas net savings 3 percent or the other way around. But one was 4 and one was 3. You might say, "Jeez, that's pretty low."

There's also a take back or return to health, safety and comfort where, you know, once the air conditioner is fixed you can use it whereas if it wasn't -- or the fridge is fixed you can use it. So there's a little bit more of better functionality or better comfort. And, as a result, you don't necessarily see the energy consumption going down as much as perhaps if it were a middle-income household.

Secondly, that 3 to 4 percent is the average. So some customers may be saving quite a bit more, and others who were getting fixed equipment put back into service are actually seeing their consumption rise. So you have to look at the distribution effect to try to understand what's going on. And in the case of Marin, I think we heard our MCE that maybe they were seeing 10 percent, which is good. Maybe they're doing a most robust sense of measures and it's being more comprehensively analyzed.

But, let me put it in context. If you have a household that, let's just say, spends $100 a month on their utility bill, even at 10 percent you're saving $10 a month. How far will that $10 a month go towards amortizing the cost of some substantial home repairs and improvements? It probably won't go that far, even if you can spread it out over 15 years.

So I think this is the little bit of the disconnect. What do things cost in California? Home improvements are expensive in California relative to the bills. And just keep in mind, if these are qualifying CARE households, they already get 30 percent discount on bill. So they're not saving at the same rate as everybody. So it's a complicated sort of nest.

But we should just move on --

CHAIRMAN WEISENMILLER: Well, no. One other, just to follow up, for one second -- it's just when you look at say, Severin's analysis, it's pretty clear you had anticipated say early adapters that really have done stuff initially. And we're trying to transition early adapters much more in the mainstream and the early adapters tend to have high incomes, you know, and are willing to take that risk.

Well, if you're low-income, you really don't have that ability to be a risk taker. But we are trying to do that transformation, you know, so it's definitely part of what where the struggle is. And the transformation again, is you're trying to reach into the lower income. It's certainly more difficult, I think.

COMMISSIONER HOCHSCHILD: Can I just chime in with a question? I do want to acknowledge that this month actually marks the ten-year anniversary of the creation of the California Solar Initiative. I want to acknowledge Bernadette's instrumental role in that, as well as Eugene, in sorting out the details and Susannah and Matt and so many others.

The program is basically done except for the new construction portion of it. We're in Step 8 out of 10 and the end is in sight. But the MASH and SASH elements are also, I think, highly regarded as being successful.

And I would just like your perspective, you know, really anyone who would like to speak -- what elements, with respect to MASH and SASH are working?

I mean what is it specifically when you think about program design? Because I mean we've tried, as the Chair mentioned, many different programs on low income. Some have, you know, flamed out quickly. The ones that are working, just in terms of the principles that explain the success, I would just like to hear perspectives on that.

MR. SAREM: Is that working? Okay.

So, first of all, it's been working extremely well. I think the two things that are the most important are the incentive level and the availability of virtual net metering. And I'm speaking on behalf of MASH and multi-family.

We are able to provide an incentive to owners to act. And when we're able to provide that incentive to owners where we're offsetting common areas bills, and helping them with their not net operating income, and in low-income housing tax credit deals they can then leverage that in mortgage proceeds and create an additional source of funds.

And then we're able to provide a benefit, a direct benefit to tenants, through virtual net metering. It's very meaningful. What happens is we're providing a hedge against energy inflation for the folks who really do need it.

We have an example in National City in San Diego where we installed a 465 kilowatt system on a building that benefits 268 tenant units and 20 common meters. And we were able to actually get SDG&E to provide us data, believe it or not. And those -- the folks that live there are, on average, are now paying an average of $7 or $8 a month on their utility bill. And their utility allowance, if you look at that, was $55-$60. So there was no rent adjustment on this particular property. So the folks that live there are getting roughly $48 to $50 a month in an economic advantage.

So I would say the Administration has also been very good. This is one of the places where we've worked well with the utilities. And outreach is not really been all that necessary, because at least at the multi-family side, it's a pretty concentrated group of owners that get access to the program and understand what's going on.

So, for me, I think the existence of virtual net metering and meaningful rebates -- that can even go higher to directly benefit tenants. So we don't have to get into this sort of mess of adjusting utility allowances, which can get messy and doesn't always work out.

MS. CLINTON: Does anybody else want to respond to that question? Matt?

MR. CHENEY: Yes, I'll just add to that. I mean, I agree totally.

The LIHTC industry is a robust industry that's been around for a long time and it works. It's financeable, because lo and behold, people that move into these units tend to -- these units tend to become fully subscribed very quickly, and that they're durable tenants, they stick around. That makes that work, okay.

The distance between here and there literally is LIHTC, you got MASH, you got other things, PACE, you've got all kinds of things that can be blended into a solution here. It's just a question of just intent. Are we intent as a society to include what we're doing in favor of these low-income housing developers to include other stuff, efficiency and solar and hot water into the solution?

We can do that very, very easily. And not only that, they will accept it. It just so happens that they accept hot water sooner because there are some serious GHG benefits that cause them to make money, a lot of it, doing it. It's a great industry. I think solar and efficiency should be right there with it.

So quite frankly, I think it's a bird in hand and we can make it happen; we just have to do it.

MS. CLINTON: If I could pile on there. Two things that have bugged me for years that make it easier to do solar transactions than efficiency.

And that is solar gets the 30 percent federal tax credit if you've got the right investor with the right appetite. Efficiency gets virtually nothing.

Secondly, you've got the accelerated depreciation on the solar side, and you don't have that on the efficiency side.

You know, I talked to a small business owner who owned a small business property and said, you know, if we put in super efficient air conditioning and controls and whatever, we've got to depreciate that over 30 years or something like that, and whereas in the solar industry you could probably do it in, what, five?

I mean, it's phenomenal in terms of the lack of balance. Let me just make that perspective.

I wanted to circle back to Dahlia and Martin, because we've been talking a lot about housing, but both of you are in the business of providing solutions to small businesses, and I'm wondering, do you see financing or access to capital as an issue at all? Are you mostly doing direct install 100 percent paid, no co-pay, or could you give us any insight on the small business side?

MS. MOODIE: I would reiterate -- I can't see your name in the red. Yeah, Cynthia, I would reiterate what she said earlier, and the gentleman here, in terms of just getting the small business to have the capacity to take on either debt or qualify for loans. It looks very similar to me as it does residential or low-income household, and it is very tough to do.

Along with they may have a good credit score and maybe there's a program, a utility program that if they've had a late payment, then that might disqualify them, too. So there's a lot of different barriers that come up for the small business to take part in capital and financing.

MS. CLINTON: Okay. Martin, do you have anything to add?

MR. BOND: Yes. So we're a direct install program, we work a lot with very small businesses, so our average project size for the businesses are, they might have a net cost of $500 to maybe $2,500. So in that situation there really isn't a financing mechanism that offers such low dollars. It's not worth it for a bank or a credit union to offer a $5,000 loan for a year.

We work a lot with contractors who will sometimes defray the payments over a course of a year to help the small businesses work through that.

And there are also some opportunities on our side to work with the rebate programs like on bill financing. I do have to say, though, that on bill financing currently is not really applicable for many sites because it is such a long payment process from at least Pacific Gas & Electric utility.

There are many folks who are like third parties, private industries who are trying to get into financing these small commercial projects. But again, they're usually starting around a $10,000 customer cost payment, and we really work with much smaller businesses than that.

MS. CLINTON: I'll just make a plug.

The PUC adopted the idea of some financing pilots a few years back and asked CAEATFA in the State Treasurer's Office to administer them and set them up. And on that one in particular, one of the ones they're working on and getting feedback from the industry right now is a small business leasing program where there would be a credit enhancement for the transaction and it need not necessarily be tied to a utility rebate approval process. So there might be hope for something faster.

MR. BOND: Yes, micro financing would be the best opportunity. Under $5,000 is the area that we work in.

MS. CLINTON: Yeah. I'd like to shift gears now to coming back to the business side on hiring in terms of your experience, challenges that you face in hiring from disadvantaged communities, how that might work better.

And challenges or constraints on your organizations in terms of growing, what problems do you have, if you have any, in terms of -- you know, if the policy and programs and mechanisms were such that you were to get 2X, 3X, 4X the demand for business, would you have any challenges in scaling up?

So Dahlia, can I start with you?

MS. MOODIE: Sure. I would say yes.

And one of the major impacts that we've had in the past year was there used to be a job class called fixtures and maintenance or something like that that was negotiated, I guess within the state, the DIR, which allowed individuals coming from community colleges and green training programs could get what's called an electrical trainee card to actually be on public jobs.

So as my company grows, still has some portfolio of the smaller businesses but is able to leverage now because of our capabilities and our capacity to deliver projects, as we grow we have some constraints around being able to hire local people and get them onto public works classified jobs, because they are no longer eligible as electrical trainee card carriers to participate at a trainee level and must be paid at the level of a journeyman.

So that is going to create, I think it's creating a short term problem but it's going to create even a long term problem as well as an impact to the community college system because a lot of those ETs come from Laney College and other local community colleges. So it's kind of leaving talent undeveloped and not allowing them to get in and get the training and job experience that they need, so that's going to have an impact, which leaves me to have to find other resources.

We have an excellent relationship with the IBEW on some projects, but when I have that relationship or that implementation occurring, it once again limits the people that are coming from the direct community and coming from, like I said, the green training and the community colleges. So that's going to have a fairly big impact.

And based on the organization that I have been able to develop, the opportunity for us to grow is substantial. The ability to attract talent because of these barriers is going to be fairly difficult.

MS. CLINTON: So could you turn that around and what would need to be different in California in order for you to be able to find the kinds of people you need at the right timeframe with the right skill set?

MS. MOODIE: I think that we need to revisit some past practices around access to these jobs through job classes that allow development of community members into this particular trade and into energy efficiency.

The other thing is, is to be able to tap into people who maybe have trade skills but also teach them the energy side of things; energy modeling; being able to look at a project and do estimating and development of those projects. So it's a matter of tapping into some resources that I think over the past maybe ten years have been very active but now may be constrained.

MS. CLINTON: Thank you.

MR. CHENEY: Can I add to that?

MS. CLINTON: Matt.

MR. CHENEY: I'm not sure how awkward it is to refer to Nevada here, but a while ago I participated in forming a not-for-profit group called Blackrock Solar. Blackrock Solar, again, was able to work with the state legislature in Nevada to create incentives that focused on their being a not-for-profit and they're working for not-for-profit entities, including universities and others but for the most part tribal areas, tribal schools in particular and so forth.

And I agree with this a hundred percent. I think if we put our minds to it we could create a transition category that could accept people off the street. As was the case with Blackrock Solar and the tribal members with whom they put to work, you know, at entry level positions getting into the solar industry.

All of whom, once tracked, this is on a course that caused them to develop 8 megawatts of solar for schools, clinics, police stations, libraries, hospitals, you name it, across northern Nevada. They were able to produce class after class after class of poor no-income people in rural area and permit them to get involved, get trained. And many of them climbed the ladder, most of whom are now working in just full blown professional positions in our solar industry.

So I think that as an example speaks to the need to create that special category here in California.

MS. BRUNO: Can I add something, Jeanne?

MS. CLINTON: Sure.

MS. BRUNO: In our experience, work in low-income weatherization is inextricably intertwined with hiring people from those communities -- the simple reason being that messages that are effective are delivered in language and in culture.

So if you take me and put me in the middle of a low-income Spanish speaking neighborhood, it's not going to go over well, because I can't deliver the message in a way that resonates. Therefore, we necessarily hire people from the communities that we serve because those are the ones who are effective.

The challenge we've seen recently, PG&E ESA for example, through 2014 created approximately 2,000 jobs a year on average, most from disadvantaged and low-income communities. The challenge is that we have to ensure that programs remove obstacles and barriers to keeping production at steady levels, because what we see is when there are challenges and production falls, we can't keep the people that we hire. And we've seen in PG&E ESA over the past 19 months we've lost 41 percent of the jobs and growing.

And so it's critically important. We can find and hire if the program has an inherent training program to develop that workforce from ground up to make sure they can deliver the services reliably, but beyond that we have to make sure that the programs are set up to be effective on a sustained level so that we can keep the jobs.

MS. CLINTON: But Bernadette, you wanted to...

MS. DEL CHIARO: Yeah, I just wanted to add that CALSEIA thinks that this is a very important problem. We absolutely need more trained and skilled workers entering the workforce.

We also think that there needs to be a kind of a commitment on the employer side, so we've recently launched a diversity committee initiative within CALSEIA to partner companies with workforce development organizations to basically make a commitment to hire a certain number of their graduates each year and to make that link-up between the graduates and the actual employers on the other end of the line.

We think that'll be a self-fulfilling sort of perpetual benefiting relationship, and observed more funds and access to expand those programs is overall needed.

MS. CLINTON: Okay. Allan?

MR. RAGO: So as an implementation contractor we certainly want to invest in the community and we want to hire from within the community, and we do so, but we need that commitment to know that there is work there long term.

And I would also add that we're looking at skilled jobs here, installer is pretty much what I'm hearing, but for every installer job we have, we have three back office jobs that need to be filled. And so let's not forget about the skill set that needs to be in the data input section and the outreach section and the simple filing clerks, things of that nature, because right now, for example, the ESA Program is so administratively burdensome it takes three back office people to support one installer.

So when you're really looking at people to hire, it's that back office staff is just as important as the rest.

MS. CLINTON: Dahlia, go ahead.

MS. MOODIE: I just want to add one more point. Hopefully it dovetails with what Allan's saying and that is that back office piece.

A lot of the work that we are able to generate is structured so that we earn money when that installer goes out to work, but we're not earning money for the people to sustain the activity within my business.

So over the years I took a fair amount of losses but stayed in business in order to close the gap on that, but as we grow that gets even more cumbersome for me as a business owner.

So I really think that there needs to be a look at the effectiveness of being able to take a fairly sophisticated administrative or bureaucratic process that comes through the utilities and comes through the various programs and expecting a small business to be able to responsive to that. Because in order to get paid, in order to get work, you have to be able to navigate that entire administrative function; and you've got to pay for that because you've got people that have to do it.

So there's a big piece there in terms of a small business really being able to get into the energy efficiency or renewable environment and be sustainable just around how we make money.

If I were to step out of this arena and go into the world of construction or electrical work, this would not be an issue.

MS. CLINTON: You would not need three back office people for every labor person in the field.

MS. MOODIE: I don't, but --

MS. CLINTON: I'm guessing.

MS. MOODIE: -- but I could see how it happens.

MS. CLINTON: I was just drawing the contract to other businesses that you could enter

where you wouldn't have to --
MS. MOODIE: Oh, I see what you mean. Okay. I was just thinking I don't know how I did it, but yes, that's absolutely correct. Yes.
MS. CLINTON: So there's something wrong with this picture.
MS. MOODIE: And I could get closer to naming my true cost. So the structure of the projects that we get in terms of financial structure of those projects doesn't necessarily visit all of the costs that I have to deliver that, and that is a big problem. And it would scare a lot of people away from wanting to go into this business and stay in it in terms of what has become a traditional access to the industry.
MS. CLINTON: Okay.
COMMISSIONER MCALLISTER: I wanted to --
MS. CLINTON: Martin?
MR. BOND: I just wanted to add one more thing, a little bit bigger picture.
We're talking about hiring folks from disadvantaged communities, and that's great and we do it as well as part of the ESA program because that is the best way to reach out.
However, folks from disadvantaged

communities, we can't just give them a job, part-time or full-time at minimum wage or slightly above minimum wage and then the problems end for them.

We hire a lot of folks through internships in Richmond and Oakland, and we have found over and over again that their lack of resources, they don't have a car, they have intermittent or lack of child care, they have difficulty in housing, which means they can't show up for the job on a regular basis which means we can't keep them employed.

So there is a much bigger picture besides just saying, "Oh, we can give them a job," and then magically everything's better; there's a much bigger picture than that.

COMMISSIONER MCALLISTER: So I'll go ahead here. So, I mean, there are really two observations here.

One, we really kind of have two panels within this panel. One is about direct install and the other is about financing, different stuff than direct install, and I think we can improve both.

Direct install, you know, totally sympathetic with asking them to pay as a non-starter. In a previous life I was kind of in that situation as well as a program administrator and I think that's true and it's going to be true.

So how can we improve direct install programs? You know, we talked a bit about that this morning, but certainly it's a hard problem to solve.

But everybody basically is talking about the whiplash problem of stop-start. Funding comes, it goes away. You hire, you have to let go. And I guess I'm wondering of the service providers on the ground, those that were just talking, how much overlap is there between the implementers of, let's say the community action agencies, etcetera, who get the weatherization, the federal funds, and the ESA implementers?

Is there some continuity? Like can you turn around and say, okay, well, this program went away, I'm going to rely on this program? Is there any integration opportunity there to mitigate the lack of continuity?

MS. MOODIE: Our experience is that they are all pretty much on the same schedule, so when they're affected, it's all affected.

MR. BOND: Commercial is different. Our experience is, we do both low-income and commercial, so two different CPUC paths of funding. Also, we have some CDBG dollars that we could leverage.

It's not easy. There is a little bit of, well, we're going to have to shut down operations because we're not entirely an ESA contractor, we have other funding, but it's not easy.

MS. CLINTON: And I might point out, and I think this may be in the literature search. Or it may not yet be. It may be in the gray literature and we need to get it brightly exposed.

But in 2012, 13, 14, timeframe, CSD, who was here this morning, and PG&E got together and worked with RHA to do what we called a geographically coordinated delivery of the federal and ESA program together by the same company, the same set of installers. And I think maybe that's what you're trying to get at; is that right?

COMMISSIONER MCALLISTER: Down in San Diego you know there are few nonprofits that work in communities and implement various programs, and I guess I'm just wondering how widespread that is. You know, is the group of WAP implementers, CSD's crew, largely overlapping or not much the implementers of the ESA Program?

MS. BRUNO: I think there is some overlap but it's very small.

MS. CLINTON: I think there's less overlap in Northern California than in Southern California.

Allan, could you speak to that?

MR. RAGO: That's true. We actually run both programs and we do it more so in southern California than northern, and when one program is doing better we do move people over to another.

It's a different skill set from a training standpoint. There's a different mix of measures that go within the ESA program, but we do try to mix them up when we can, but that still doesn't make it easier to find customers who qualify for these programs.

It speaks to my earlier point, that even LIHEAP and LIWP, you have to earn less than even the ESA Program 200 percent in order to qualify, so the customers are just very challenging at 32,000 for a two-person household, or less, in order to find them to qualify, so that makes it difficult as well.

MS. CLINTON: So I think we could sum up by saying we have some companies that work in the different pots of funding and others that just work in one or another.

If you work on multiple pots of funding and programs, you are challenged to try to work through the different eligibility and screening rules to figure out who's eligible for what.

And then you've got the challenge that even if you have the beauty of being one delivery entity that touches all programs and can somehow get access to the data to do the screening, you still have separate program rules that you have to operate under.

So I'd like to maybe end by just asking along these lines of these different buckets and funnels and silos, is there -- I mean, if California were to try to say maybe we could fix this in some way, you know, organizationally or programmatic rules or funding arrangements. You know, do you have some specific recommendations on a wish list for this study?

Cynthia?

MS. BRUNO: The pilot that you referred to, Jeanne, the leveraging pilot, the geographic coordination pilot, pointed out several things.

There's a whole range of, starting from where we are now where programs are run very disparately to a perfect world where everything would be perfectly harmonized in terms of low-income programs throughout the state, there are things that can be done incrementally to make some pretty significant differences, and we really learned that through the leveraging pilot.

RHA facilitated the pilot, but really it was because of the cooperative and collaborative spirit of both CSD and PG&E that that was even possible to test out this concept.

And through some simple things, like having a tablet based application where customer information and items relative to the household were collected one time and then fed into the program specific enrollment form so that the customer, we did not have the customer fill out two forms but one set of information populates two forms electronically.

The customer still has to sign twice, but it minimized, just that alone minimized a challenge and the impact of the customer, whose time is valuable because they're low-income and they've taken off work in most cases to be there, so getting through that process quickly for them is important.

In addition, there are lots of challenges around the way the programs allow you to spend money and what they allow you to spend money for, so just coming up with some pretty simple formulas to help the contractors direct the contractor efforts to be able to maximize the funding sources on those programs.

So we think that just having that same type of collaborative and cooperative spirit could get us further down the road.

Overhauling the whole system is probably a multi-year effort and assumes that we could overcome the many agendas that play into that, and politics. That would be a very lengthy process. But more quickly we could honor existing programs and work through them in ways that could fundamentally improve things for low-income customers.

CHAIR WEISENMILLER: Yeah, I wanted to thank Jeanne again for running a great panel, and thank the panel.

We're running about 15 minutes late. At this point -- we started late -- at this point we have one blue card. That gives us a little bit of whatever. So certainly if you are interested in speaking, get the blue cards in to Kevin so we have some sense on the timing.

We had promised a ten-minute break. It's going to be five minutes. So basically we're in somewhat of a catch-up mode to keep things on track.

But again, thank everyone. If you have

more ideas written comments are great, we're certainly looking forward to those. And again, thanks for your help today.

MS. CLINTON: Thank you.

(Off the record at 3:32 p.m.)

(On the record at 3:40 p.m.)

MR. BARKER: So we have our Workforce Development for our last panel. This panel is titled Jobs and Clean Energy Services in Low-Income Communities. The object of this panel is to discuss opportunities to workforce development and job creation in providing low-income communities with clean energy services.

This panel recently has gotten a little bit smaller. So really, again, appreciate Stan for stepping in last minute to help us moderate this panel. So Stan Greschner is coming from GRID Alternatives. We also have Bernie Kotlier from Sustainable Energy Solutions, Janine Medina from Proteus, Melvin Parham from Rising Sun, and John Simpson from IBEW.

Go ahead, Stan.

MR. GRESCHNER: Well, thank you very much. My name is Stan Greschner. As was mentioned, I'll be the moderator, but will serve the unique roll today of also being a panelist. So I'll share my insights from the GRID Alternatives perspective on this issue.

So I just want to note that the discussion today has been really spectacular in that the Commission has asked all of us to come together to talk about the opportunities for low-income energy programming, to look at it in a very holistic way. And I think California has had a history of doing this. This isn't the first time we're coming to the table here to talk about these issues. We actually did it, you know, and with the SASH Program, MASH Programs, to talk about workforce development and energy efficiency integration, et cetera. So I appreciate the ongoing conversation and how to -- you know, the discussion to build off of all those early successes.

So again I'll ask my panelists to describe their EE programs and how workforce development is integrated into their programs. And I'll kick us off by just noting that GRID Alternatives is the country's and California's largest nonprofit solar installer. We're a 501(c)(3) nonprofit solar provider, exclusively serving low-income families and affordable-housing owners, either through onsite rooftop installations or, where community solar is allowed, we do community solar projects, primarily in our Colorado office.

So we integrate workforce development into every project that we install. And I think most of you up on the dais have participated in a GRID Alternatives' install or have come out, and if you have not, I welcome you to join us at some point in the future. But we work with local job training organizations throughout the state. And to date, I think we partner with over, I think it's around 113 different job training organizations, whether they're community colleges, community-based organizations, tribal job training programs, among many other types, to provide their students an opportunity to get out of the classroom and up on the roof to get the hands-on experience that the solar industry is looking for when they're hiring for their installers.

We offer a lot of other types of job training programs. As noted by someone on the previous panel, a lot of the jobs in solar are in the back office. And so we run a solar core training program in partnership with AmeriCorps to get folks trained up on the sales side, on the design side. You know, again, we target our outreach for those hires in the communities that we serve, as well. So we're providing pathways to training, and hopefully placement, in the solar industry.

And that's another unique state that GRID Alternatives operates in that we have become a very trusted partner with the solar installers in providing high quality job training, folks for their jobs. So we have developed over the past year and continue to develop like a resume bank, a back-end channel to connect folks from the job training programs to the H.R. departments of solar contractors to get them placed into jobs. So we occupy that unique space, as well.

So I'll ask my panelists to share, as well, just a description of your program and how workforce development integrates into your energy efficiency or renewable programs.

MS. MEDINA: Okay. Good afternoon. My name is Janine Medina. I'm the Chief Academic Officer for Proteus Inc. Proteus is a 501(c)(3) community-based organization. Our service territory is Fresno/Tulare/Kings/Kern County. We do have some services that extend into L.A. County.

My role at Proteus is to operate the William Maguy School, which is a private post-secondary educational institution under the larger umbrella of the corporation. The corporation does have another division, though, that actually implements some of the programs we've been talking about today and actually provides energy services in homes. So some of my graduates actually end up becoming my coworkers sometimes.

So in the field of green industry, we have accredited and state-licensed training programs in Building Trades and Weatherization. We have a Solar PV Installation and Design Program. And we have a combo course of both that's called Energy Efficiency and Renewable Energy Technician. We have partnerships throughout our service territory for a collaborative effort to deliver these programs, GRID Alternatives being one of them. We also partner with the Laborers Union to provide pre-apprenticeship training and direct entry status into their apprenticeship.

And so at any given time, Proteus, as a corporation, is operating anywhere between 40 and 60 grant-funded programs. We do anything from foster care to welfare-to-work. Our main goal is, of course, workforce development and self-sufficiency. So all of our training programs are heavily integrated with employment. And we involve the employers in curriculum development in every step of the way so that we are providing a local workforce that is industry ready.

MR. PARHAM: My name is Melvin Parham. I am the GETS Program Manager, GETS stands for Green Energy Training Services, at Rising Sun Energy Center. Rising Sun has been running job training programs since 2009, focusing on construction, energy efficiency, and solar. We currently have an 86 percent placement rate overall since 2009.00

Our construction program consists of 105 hands-on training hours, 56 PSD hours, so professional skills development where they learn interviewing techniques, interviewing etiquette, filling out applications, time management, sexual harassment classes. They also earn OSHA 10 Certification. They also earn their First Aid and CPR Certification, as well. They also get case management and job placement services. They work directly with the case managers to overcome barriers to employment such as transportation, criminal background, housing, child care, and overall placement with getting a job into energy efficiency on a construction field.

We partner with agencies such as GRID Alternatives for our solar class, which is ran for three weeks, where they learn basic PV installation, so getting up on a roof and completing installations.

Overall, with the solar training program, it's a little bit higher. Our placement rate with the solar class is at 90 percent placement rate overall, where it's basically us partnering with other solar companies to get them placed directly into employment.

The retention rate for the solar program is also higher at the -- out of the 90 percent that went into the solar field is 86 percent placement retention rate.

With the barriers that we are seeing with helping them overcome, we are finding that direct services, retention services, is being very helpful with them down the line. So that's providing alumni meetings, alumni workshops, networking with other organizations as far as financial literacy classes, that is just ongoing.

MR. SIMPSON: Good afternoon, Commissioners. My name is Johnny Simpson, and I'm an International Representative for the International Brotherhood of Electrical Workers. In my previous role, I was the Business Manager of IBEW Local 569, covering San Diego and Imperial Counties.

I guess sort of my bona fides to be on this Commission is that one of the things that happened to us in our Imperial County is that when we originally passed the 33 percent RPS, Imperial County was one of the targeted areas by most of the developers. I was responsible for and negotiated contracts for over 1,700 megawatts of green energy. We built about 1,400 megawatts so far, all under union agreements. We ranged from -- I guess on one of the original projects that I had down there we had about 65 percent of the folks that came onto that project from the community. But my intent was always to get as many folks as I possibly could from that local community.

Imperial Valley is one of the hardest hit and low-income areas in our state. It averages about 29 percent unemployment. Nationwide is -- and it's always in the top five nationwide. Later on, as we went through these projects, we got up as high as 90 percent local employment on those projects.

It's a farming community. Most of the folks that graduate high school down there go on into the farming industry. And the folks that don't want to be farmers wind up leaving the area, thus the old theory, brain drain.

We were able to, in Imperial Valley, grow our membership from 50 members to 900 members. And make no mistake, this is important. You know, solar work, as well as energy efficiency work, is the electrical industry. We don't need other classifications for that. We brought these folks into apprenticeship programs. We not only have taught them solar energy efficiency, we've taught them how to work on schools, we've taught them how to work on high-rise, we've taught them how to work on every aspect of the electrical industry.

So as the solar industry, especially utility-grade, begins to decline as our grid becomes full and those sort of things, these folks will still have a future. It's not a matter of bringing someone out of a low-income area and giving them a job for a few months or even a few years, and when that industry is done or over they go right back into that community. You've got to make sure that these folks go on into high-paying jobs and have a path to the middle class going into the future.

And that's where the IBEW and many others, Ironworkers are involved, Laborers, many of the other unionized organizations, we have existing apprenticeship programs. We work with Greenlining, we work with several other groups that feed into our apprenticeship programs to make sure that we bring low-income folks into there, and we do this by making sure that we have targets in those areas.

So that's kind of what I do.

MR. KOTLIER: Hi. My name is Bernie Kotlier. I work with the Labor Management Cooperation Committee in California. And I represent over 1,000 electrical contractors who are members of the National Electrical Contractors Association, and over 30,000 electrical workers who are members of the IBEW.

Our contractors and our electricians do a tremendous amount of energy efficiency and renewable energy work. And I do want to talk about that, and I want to talk about the nexus between the development of the workforce, and also the delivery of those programs to low-income communities.

But before I do that, in looking at our agenda and our panel, I noticed that we don't necessarily have the EJ community, the environmental justice community, well represented on this panel. And so I wanted to take a minute just to communicate some of the things that they have said in asking them what their concerns would be about these issues.

And just to summarize it quickly, we can talk more later, but some of the quotes I heard from organizations like Greenlining and others in the EJ community is that job training and hiring should prioritize and be accessible to low-income communities and communities of color. And in terms of the issue of job quality, energy efficiency and renewable energy jobs for low-income individuals should be high quality jobs, they should be career jobs, they should be jobs with transferrable skills, and, of course, they should emphasize local hire.

Some other comments that the environmental justice community has made is that they feel that the focus on very low income alone is not necessarily as comprehensive as it should be, that energy programs should also include lower-middle income, because in many cases they also cannot afford these types of projects, that there should be more buckets and it should be more consumer-centric. And in terms of funding that, their comment was is that there's quite a bit of unspent money in some of these programs that should be used to extend to some of these other groups.

So I do want to talk more about the barriers to both development and delivery of services in that nexus, but I've probably used up my introductory time.

MR. GRESCHNER: No, but I want to build off of both -- a couple of comments that both of you made which is letters of opportunity for individuals living in disadvantaged communities or low-income families, and how each of the programs that you run target those, you're getting your job trainees from disadvantaged communities, where those folks are getting hired after they leave your programs. Are they staying in energy efficiency? Renewables? Are they going to construction or other trades?

And then your thoughts on, you know, what is the state of the job market for those trainees? I mean, is it expanding? Where is it expanding? And do you have any sort of visibility into where you're seeing, you know, more opportunities for your folks?

MR. SIMPSON: Oh, absolutely. The industry is expanding quite a bit. And especially with the 50 percent, we're seeing even more jobs coming on.

MR. GRESCHNER: Which industry specifically, solar, renewable, everything?

MR. SIMPSON: Renewables. We've got even some geothermal.

MR. GRESCHNER: Okay.

MR. SIMPSON: With energy management, more and more of our contractors are into that. In fact, in our apprenticeship programs now, in order to graduate the IBEW Apprenticeship Program, you have to complete the CalSEP (phonetic) classes and get your certification in order to complete those programs.

So our industry is moving forward. And although some of these folks might start out in the solar industry, it does not behoove a trained -- you can call yourself an electrician, but unless you've actually worked in several different areas you're really kind of a one-trick pony there. And as industries rise and fall, which they have traditionally in our world forever, you have to be able to -- if you're building -- if the state is building water plants, you've got to be able to work on a water plant. If you're building a solar plant, you've got to do that. If it's energy efficiency, if it's schools, whatever that industry is, you better know how to do that or you're not going to have a job, and thus you're going to go right back into that poverty situation.

So it's not just bringing someone in for one job, as I believe you were stating. We want to make sure that these folks have jobs for the rest of their lives, and you do that with skilled training and quality, not low wage, low rent.

Does that answer your question?

MR. GRESCHNER: Yeah.

MR. SIMPSON: Yeah.

MR. PARHAM: So during both of our programs, we have a construction program. And our focus is to place our participants in the solar -- I mean, in the construction careers, the building trades, that you can gain entry in zero to three months. Most of our participants have already been out of work for six months at a time. So certain building trade unions, it would take them like a year to get into because some unions only test once a year. As far as like the laborers, that's straight entry into the Laborers. The carpenters is straight entry into the Carpenters. So we focused on those trades just to get them employment immediately.

Once they are employed into the unions, they are doing so much construction right now in Alameda County, fulfilling the local-hire requirement, being that we are the only training provider in the city of Berkeley, to where we can place clients at a quicker rate than to send them anywhere else.

For our solar program, our solar program is kind of like booming. Solar right now is like very, very booming in the job market to where after we conduct our three weeks' training, providing them prevalence skills development, and providing with the skills of being up on the roof and installing the PV, they gain certain jobs, earning a wage anywhere from $16.00 an hour to $23.00 an hour, and they're staying in the jobs. So the market is pretty straight right now.

MR. GRESCHNER: Janine, do you have any thoughts?

MS. MEDINA: Well, I mean, I take from what both of these gentlemen are saying. Our goal, of course, is to get someone, you know, on a career path. And that's our ultimate goal, but we have short-term goals, as well. Like what Melvin is saying, sometimes with some of our population, we're taking them -- the majority of our student population is, we reside in the agricultural heart of the state, is to get them out of the fields, working in the fields, and get them employed in something that's more sustainable for their family.

So we have to look at it as kind of a two-pronged approach. We have those customers that want entry-level, quick employment, but we have those that we want to, you know, put along a career pathway, as well, that might bridge over to like the IBEW, or might bridge over to a community college program.

So, I mean, I think that's the only input I have. I think those are both very valid. But I think it's also a challenge. What Johnny is saying, the work, especially on the solar farms, is a challenge because sometimes people have to be put back into a situation where they're seasonal again. But we have a population that's used to being seasonal, but at a lower wage.

So, you know, I have heard -- we're entry-level training. And some of the criticism that I've heard on entry-level training is just that, you're putting somebody back into a cycle of having seasonal work or temporary work. And, of course, we work with customers as long as they like. So we tell them, once you're done with a project come back and we're going to help you, unless that developer carries you on to another project. But that's still something that's a challenge for us is to get to a point where there's long-term employment that's year-round.

MR. GRESCHNER: Melvin, you had a follow-up comment on --

MR. PARHAM: Yeah. I just want to add to what Janine said, that one of our biggest challenges is when we place our participants in the construction field, there's that down period that is hard to prepare for when you are low income, and that's that period in construction from November to January, maybe February, to where there's no work, so us preparing them for that time period.

One of the things that we found as being successful is starting them off with financial literacy earlier, and then letting them consecrate the aftercare process of financial literacy throughout their whole career. So we found that as being helpful, but it's still a big barrier of the down period.

MR. GRESCHNER: Thanks.

Bernie?

MR. KOTLIER: Yeah. So I guess to sort of sum up what we've been hearing, what I would say is that there's really an important aspect to all this, and that is strength and diversity. Whether it's biosystems or it's economies or it's careers, when someone is trained to do multiple aspects of a trade, and I think Mr. Simpson did a good job of talking about a lot of different things an electrician can do, and that's true whether you're a sheet metal worker or you're a pipe fitter or whatever, but when you can work in various sectors of the energy economy, and also work on traditional work, what you find is that that diversity and skills allows you to continue working on a year-round basis year after year in a long-term career.

And what, you know, I think we've learned sort of the hard way in some of these well-intentioned programs, like when ARRA funds were used to train solar panel installers, well, obviously they weren't electricians. They weren't working with dangerous voltage. They were basically racking and stacking and things like that. But as the solar industry went up and down, depending on, you know, the market, a lot of those people were out of a job because they had one skill. And that's the opposite of the diversity I think we're talking about here.

MR. GRESCHNER: Another issue that was discussed in earlier panels was, you know, specifically to low-income programs and making sure that, you know, as we make investments into bringing services to low-income families that, you know, the folks working in those programs are also low income. And I think several folks from the previous panel talked about, you know, on the energy efficiency side, that those programs can hire and do deliver, you know, jobs for the local folks, solar, as well.

And again, GRID Alternatives we're the statewide program administrator for the SASH Program. So if you all have any questions about that, I helped create and direct that for eight years, and would be happy to chat about that.

CHAIR WEISENMILLER: Well, again, I think I certainly would like to hear better from GRID Alternatives on those programs. How do we scale them up more? What are the key steps we need to do to get bigger programs there?

MR. GRESCHNER: Let me finish my thought on serving low-income families.

But in scaling the workforce development component, which has been a key part of it and the success of, I think, the SASH and MASH Programs, is that you have a strong solar economy that others have talked about here. We're training, you know, 1,000-plus people per year. They're not all going to be working in the low-income solar investment programs, but there's a strong solar economy that is serving the entire state. And that's where, you know, those jobs are growing. And as they grow, we want to make sure that the folks being hired for those jobs are also coming from the communities that we're serving.

So I think having a strong, you know, I think low-income job training program also means having a strong general market sector to hire into.

How do you scale SASH and MASH? You know, it comes down to a funding issue. It's scaled funding. It's been incentives.

In the first iteration of the SASH Program, you know, there were aggressive incentives, as there were for the general market, to incentivize, you know, those even early adopter low-income folks. The program did not allow third-party ownership in the first program, the SASH Program. When it was created we were going through a housing crisis that had a very negative impact on low-income families, and no one wanted to see, you know, the subprime financing, you know, problems hitting the solar program. That was very explicit in the PUC discussion there, so it was excluded.

But as the financing models have matured, as the PPA models, and as prices have come down, even the SASH 2.0 and MASH 2.0 Programs have been able to provide as much as the first programs with half of the budgets. And we now include PPAs that have prepaid PPAs that gets around the FICO score, gets around -- you know, I know someone had mention the predatory lending concern where the PUC approved a rigorously evaluated PPA structure that could be used specifically for the SASH Program. So providing more -- you know, we can only scale the program to the level of the funding source, and that's where we're at.

CHAIR WEISENMILLER: You know, certainly, I mean, if we want to get it to 10 or 100 times bigger, 1,000 times bigger --

MR. GRESCHNER: Uh-huh.

CHAIR WEISENMILLER: -- you know, in three years, I mean, basically, that's one of the things they want to know.

MR. GRESCHNER: Yeah. Well, I'm not going to monopolize the time here, but there are other models that you can get economies of scale, and they've been mentioned in some of the previous panels, like community solar which provides a different type of opportunity for jobs, you know, that's off the rooftop and bigger scale. But it's got to be structured in a way that provides real benefits to the low-income families. It can't be a premium, you know, in my view, a premium tariff. You still have all of the challenges, even in community solar. Some threw it out as a panacea, if we can do it, it just solves all the rental and roof problems, and it does.

But there's still the financing piece which is the biggest challenge. Low-income families can't purchase a share in that solar garden. And, you know, if it's a financed structure, they still have FICO score requirements, even with a community solar project.

So all of those barriers still remain and you still do have to look for ways to overcome, you know, those financing challenges. And incentives are an appropriate way. But with scaled solar, you know, you could get more megawatts per dollar invested.

COMMISSIONER MCALLISTER: It seems like there's a couple of -- I'm sorry, I just want to -- it seems like there's a couple of trends that would kind of need to be made to be compatible or complimentary, maybe. I mean, to go down to, you know, folks with less, with fewer resources, you have to get cost down. I mean, you've got to be efficient. You've got to install stuff, you know, quality, but you've got to sort of really get some economies of scale that will allow you to lower costs and get it done at a price people can afford; right?

MR. GRESCHNER: Right.

COMMISSIONER MCALLISTER: But you also want -- you know, we have all these other goals, you know, workforce, and some other ones we've talked about.

So, you know, is there a way all these pieces fit together such that, you know, okay, the SASH Program is over here producing good, you know, entry level, and then beyond folks that then can be hired into a more kind of mainstream market that doesn't requirement full subsidy and can scale? You know, is anybody working on a strategy like that, you know, say CALSEIA, or is that maybe going to fall to us in the barriers report?

MR. GRESCHNER: I think that --

COMMISSIONER MCALLISTER: I don't know.

MR. GRESCHNER: -- the challenges with workforce development and the solar programs, whether it's SASH, MASH, LIWP, any of them, is that workforce development is a stated goal of the programs. It's a co-benefit. Everyone wants it. ARB wants it for, you know, the investments made there. SASH and MASH want it. It's totally unfunded-. There's not a dollar coming from the GHG Reduction Fund that goes towards workforce development. It's, you know, it's on the program implementers to incorporate in the design of their program workforce development that, you know, can be done in some way. We've been able to do it on the solar side. I don't know how others have been able to do in other investments. But it's often an unfunded goal.

And I don't know, I've got panelists here. How are you funded? And, you know, how do -- are you funded -- is you're workforce funded out of energy programs or out of other sources?

MS. MEDINA: Well, I mean, we have -- well, and funding, of course, is one of the things I wanted to bring up because, of course, we're talking about the educational side to this. And for the students we serve that are not on a traditional school pathway, who lack a formal education, many times don't have a high school diploma or equivalent and are coming from the rural communities, funding is probably the largest issue which, of course, is always a large issue.

But we don't receive funding from any type of energy sources as of right now to help with training, not only the training stipends but also the supportive services that need to go along with it. And people have talked about it already today.

In my opinion, when I measure success, of course, we have metrics that we have to use to measure success in any of the grants that fund our programs. We have tuition slots built in where our organization receives funding from both WIOA Title 1 and Title 2. So in Title 1, of course, there are training dollars in there. But you are -- the customers that we serve sometimes cannot even access that funding because of their legal right to work status.

So funding from energy for energy-training programs would be great. But we can't also forget about what they need to live while they're training. Our solar training program is six weeks. They need help with transportation, with childcare, with paying the rent just to get to school. And when I'm measuring success, in my opinion, their first kind of success is getting through the process to start job training.

And so we all know here that there's a lack of knowledge in the community about available services. But even when the knowledge is given that there is a service out there, the process to get to that service is sometimes very cumbersome for someone who has a language barrier, who has an education barrier.

I wrote a couple other things down here, but those are the main ones. I know we're talking about funding, but Department of Labor, we have some CSBG money from the state, and that basically is what pays for tuition funding.

Now we also are on the Eligible Training

Providers List for the state of California, which means that we can receive tuition slots from referrals from the local workforce development offices. But even staying eligible under the regulations of a private school in the state of California, sometimes those measurements to get the funding are very difficult because a school is measured on things like retention. And when the performance measures on retention, when you're working with a population who may not pass a drug test, may not show up for an interview, that negatively affects the school's performance rate, which directly leads to the funding that we can -- the students can use to come to school.

MR. GRESCHNER: Thank you.

MR. KOTLIER: So, Commissioner McAllister, thank you for that question. And this may be a little bit off base because the study I'm about to refer to comes from the CPUC-funded study, but I know you're working together more closely than ever so I think it's relevant.

The CPUC commissioned the Don Vial Center at UC Berkeley to do two studies over three years. They were back to back. The final study was published in May of 2014, about $1.5 million of public money was spent to finance those two studies. And think the recommendations and the research that was done is very applicable to the questions you've asked and the discussion we're having.

One thing that the study emphasized was the effectiveness and the way that apprenticeship helps deal with these issues. And, you know, we heard about the challenges that people from low-income communities and other under-represented groups are having getting into this type of work.

Where I think state funding or public money is very helpful is in pre-apprenticeship programs because most of the trades have a little bit higher entry requirements. Certainly in electrical, you need to have algebra skills. In pre-apprenticeship and boot camps and things like that, that are funded somewhat with public money or partially with public money, can be helpful.

But once a candidate is apprenticed, becomes an apprentice, they have a job right away. The on-the-job training is part of their education from their first days in school. They work about 8,000 hours over the course of their apprenticeship on on-the-job training, and about 1,000 hours in school. Their school is completely paid for. They are earning while they learn. They graduate a five-year apprenticeship program, which is essentially a college education in the craft, with a solid career and no debt. And that's at least 97 percent privately funded in California. There's a few percentage of Montoya Funds.

So this is a way that underserved and

underprivileged community members can get a great education, a great, great training, great career, and overcome some of these hardships. Because they earn while they learn and they're paid right from the beginning, because we have over 1,000 employers that are built into the system. So I think that's important.

Some other things at the Don Vial Center report talks about that I think are really important are the, as I said, the nexus between workforce development and delivery of energy efficiency services. And what I don't think has been really addressed very much today is how those intersect.

And when we do workforce education and training very well, we also address a critical issue in terms of the delivery of those services, especially to low-income and disadvantaged communities. The return on investment and the cost effectiveness of those services has increased. And I know this is contrary to the common wisdom. The common wisdom is that the lower the cost the lower, you know, the barriers, the more people are going to participate, and this is going to be particularly helpful in disadvantaged and low-income communities.

But actually, there's ample evidence, and I once again refer to the Don Vial Center study, the UC Berkeley study, that this is actually not the case. The lowest cost does not provide the greatest benefits. And that's because by definition a low-cost contractor, low-cost supplier, cannot afford to do ample training. They can't afford to do the training to make sure that whatever kind of worker, whether we're talking about HVAC, whether we're talking about solar or we're talking about energy efficiency, whatever it might be, that they're able to do this work well. And there's a number of studies that are referenced in the DVC report about this.

And I think what is also really critical is that the low-cost communities are least able to suffer poor quality work. Because someone who has greater income and has greater means, well, they might get a bad job and say, okay, I learned my lesson, next time I'm going to get a better quality contractor, a better quality job. Somebody from a low-income community who scrapes together some money and puts together these subsidies to get that work, if it doesn't perform for them, they're out. They can least afford to gamble and least afford to have poor work so it really falls hardest on them. And that's something, I think, that's not often considered. And I think --

CHAIR WEISENMILLER: I would --

MR. KOTLIER: Just one closing remark --

CHAIR WEISENMILLER: Sure.

MR. KOTLIER: -- that I think where we need to go is to better train a low-income workforce, put them to work doing higher quality work to provide more energy efficiency and higher performance projects for low-income communities and for all of California.

CHAIR WEISENMILLER: Okay. Let me just follow-up for a couple things. I was going to first note, in the first Brown administration, I can remember at the Governor's Cabinet meetings on Energy Policy that one of the people sitting next to me was Don Vial. And I Don Vial, a phenomenal gentleman, anyway, he certainly raised those issues of getting good jobs as part of these programs.

And I think one of the questions for you, I'm thinking back to one of the things that basically the Boilermakers did in the '80s was they put aside some of their pension funds, a small part, you know, into basically investing in alternative energy projects which used boilers, and obviously had some sort of participant labor agreements as part of the package.

So we've talked about some of the solar community options. You know, you've got a pretty large pension fund. If there's a way to direct some of those funds to really help grow the industry and deal with some of the financing hurdles that you're panelists talked about, that may be a real win-win for all of us.

MR. KOTLIER: John, you're going to take that?

MR. SIMPSON: Yeah, I'll take that.

As Business Manager of Local 569, I sat on our Pension Trust, and we heavily invested in green energy in California and around the country. Most of our pension funds are looking throughout the nation. Most of them are looking at those types of investments. There's a J-curve involved, and we are trustees and responsible personally, so we've got to make sure they make money. We can't just go, you know, willy nilly. But we have heavily invested in many, many jobs to put Californians, and across the nation, to work. And it's been very beneficial for us, I will say.

CHAIR WEISENMILLER: That's great. Obviously, you've got diversity.

Also, can I ask people generally, what are we doing for veterans on jobs?

MR. SIMPSON: The Building Trades runs a program called Helmets to Hard Hats. So most of us have a program that if you are a military veteran you can just go straight over to our apprenticeship program and go straight to the interview process without having to test, as long as you meet the requirement, meaning you're a high school graduate and that's sort of thing, for the skill trades. You still have to be able to interview well and those sort of things.

It has, in some cases -- we've done a very good job, I would say, of bringing -- in San Diego, where I'm from, we're a military town. So probably at least a third to a half of our apprenticeship program was always military. And I think that's gone up significantly since Helmets to Hard Hats. So we've been able to do that.

Many of our contractors have partnered with us on those projects, and been able to help us out with some of the funding and be able to continue those programs. So we've got a lot of veterans working throughout our apprenticeship programs.

MR. GRESCHNER: I'll note, as well, that GRID Alternatives has a Troops to Solar Program. So we work with troops and veterans' groups throughout the state to get their folks an opportunity to get out on a roof. And I know the Solar Energy Industries Association has a Troops to Solar initiative for companies to also sign on to and support.

CHAIR WEISENMILLER: No, that's great.

MR. GRESCHNER: A lot of focus across --

CHAIR WEISENMILLER: Yeah, it's got it be.

MR. GRESCHNER: -- the solar industry. Yeah.

CHAIR WEISENMILLER: It's got to be.

MR. GRESCHNER: Yeah.

CHAIR WEISENMILLER: Also, just in trying to understand, how much are you looking at Richard Corey's electrical charging infrastructure, you know, in terms of future jobs? I guess at this point with the utility scaling up, certainly Energy Commission has it. But, I mean, Richard's going big time in that direction, and that certainly is electrical, maybe not complicated.

MR. COREY: Yeah. I'm glad you -- and I'll be brief on this point, Bob, but it's probably good timing, and that is, is that if you look at the transportation sector, and if I even take another step back, if you look at from a climate, from a GHG standpoint, I mean, we've talked a lot about AB 32, we've talked a lot about a 2020 target, but that was just a start. The 2030 target is actually much steeper to climb, and then there's a 2050. And from an air quality agency, there's also NOx, which we're looking at an 80 percent reduction.

So these plans, the scoping plan, we're in the middle of working on that now with a number of agencies, which will be what is a game plan for meeting these longer-term targets? But they all lead us to the same place, much, much cleaner energy, much, much more efficiency.

Which goes back to Chair Weisenmiller's point about the governor's targets, both in terms of 50 percent renewable, cleaning up and having a much more efficiency existing building stock or transportation sector, we can't get to the long-term GHG or health-based targets. The ozone, the NOx reductions target is actually more binding that the GHGs. They all lead us to the same place, much, much more significant light duty electrification on the transportation side.

You know, we've talked about 1.5 million vehicles in 2025. We have many, many millions more than that in 2030 and beyond that, and they'll also need the infrastructure. These are going to create massive opportunities.

As I've thought about this conversation, that is one thing is, have clear targets. Have clear long-term targets and be supporting that, not just through regulation but other policies. And, you know, this whole conversation, to me, has got me thinking about the scoping plan and the infrastructure and the kind of job opportunities, and what it's going to take in terms of those numbers. In other words, are we going to have enough trained people? And are we taking the right steps to actually make sure that we do?

Because these changes are going to -- you know, I talk, about 2030, 2040, these are going to happen actually relatively quickly. They're happening right in front of us right now. So I think it is creating a tremendous opportunity, and not just in the state. We've got a lot of folks that are following us, nationally and internationally. So this is actually really insightful in terms of these comments.

MR. GRESCHNER: And I would just note, specific on the low-income programs, no matter what they are, I think it would be a huge missed opportunity if we didn't try to incorporate workforce development into every single one of those, in whatever form it needs to take to happen, but it should be incorporated. And from my perspective, it's a way to not only get the services and technologies to the communities that we're all trying to serve, but also to make sure that they are part of -- you know, have opportunities for those jobs in the future, as well.

CHAIR WEISENMILLER: Well, that's great. I mean, the one thing, probably, in terms of, you know, greenhouse gas funds, the problem that Richard and I are both struggling with, we're being sued. And there's got to be a nexus between every dollar spent in greenhouse gas reductions. And there are things which certainly get you there, workforce development, R&D. But at this point where the cases are, we've got to be very conservative on the funding or else we're going to lose, you know, what's a huge program. So, I mean, we need to find funding for it, but unfortunately that's sort of being fenced off.

COMMISSIONER SCOTT: Maybe there are some other options there. I didn't -- so the Energy Commission also has a program that's part of Assembly Bill 8 which used to be 118, got reauthorized as Assembly Bill 8. It gives the Energy Commission up to $100 million each year to spend in transforming the transportation sector. And there is a workforce training component to that program.

And, honestly, when I'm listening to this discussion, I didn't realize that that was as unique as it is. But perhaps the Greenhouse Gas Reduction Funds won't work for the workforce training component, but there are other funding programs out there that can potentially have a workforce training component similar to what we have under our portion of AB 8.

CHAIR WEISENMILLER: Yeah. I mean, we may need to ask the PUC to think about it in the energy efficiency and renewables programs so that --

MR. GRESCHNER: And it's another opportunity to --

CHAIR WEISENMILLER: And I'm sure it's a "cost effectiveness" question, quote unquote, but --

MR. GRESCHNER: For integration among your agencies and your programs and your funding sources, and how do we, when we're developing a program, how do we look to leverage, not just similar energy efficiency programs or different solar programs, but on the workforce side, too, looking at bringing all the stakeholders and partners into the conversation to create -- you know, help identify those solutions.

CHAIR WEISENMILLER: You might be able to access some additional money at the PUC, to the extent you're building in water efficiency --

MR. GRESCHNER: Uh-huh.

CHAIR WEISENMILLER: -- into the programs. Obviously, water is, you know, I mean, god knows in California, right, you know, it's sort of water's for fighting and whiskey's for drinking, but anyway, you know, anything we can do to deal with saving water. And there's just an awful lot of existing, or I'm sure low-income where, you know, there's just a lot of opportunities there on a retrofit.

MR. GRESCHNER: Yes. And we're having some -- we've had some conversations recently with rural farm workers who have their own wells, who've got to go deeper now to pump water, and potentially integrating solar into, you know, the high cost of, as someone mentioned, pumping water, moving water around --

CHAIR WEISENMILLER: You know, I think we --

MR. GRESCHNER: -- for rural community families.

CHAIR WEISENMILLER: I think we were, maybe solar, anyways, I think we were shipping water to like 50,000 homes, different, you know, obviously a lot of different communities that just the wells had gone dry in the drought. Yeah.

MR. SIMPSON: Can I expand on Commissioner Doughty's statement for a second?

That, actually, in the IBEW, that's one of our biggest issues, car charging and charging in general, that is big for us. And Local 569 in San Diego, my training center, I have, what, four charging units there, free to the public. They can come in. I've got 95 kW on my roof, solar, on my training facility. The public can drive in, charge up their cars. I've got a nice Tesla that pulls in and charges up every day. It's free to us, so we share it with the community.

At our union hall I have one charging unit there with two hoses on it, free to the public again. It is a big deal and it's something we're looking into, we're training for it now, and we're trying to make sure that we're ready. And depending on which local you go, around the state, IBEW Local, they're at various stages of completion. And San Jose, Net Zero Energy Facility, go check out that facility if you get a chance. I'd love to show it to you. That's what we're all working towards, and getting off the -- you know, you have your own micro grid right there you run yourself. That's what we're all getting to and that's what we're training our members for.

And transportation is a big part of that.

And that's why in our jurisdiction -- I heard you say you're from San Diego -- in our jurisdiction right now we're having a big issue with SANDAG, and that's exactly the issue: Are we going to expand roads or are we going to build some mass transit with some green energy to power it?

So those are some of the things that we're talking about, so I'm right there with you, brother.

MR. COREY: Yeah. That's actually really helpful. And I know there was talk earlier about the IOUs and the role that they're playing and will be playing in terms of the charging infrastructure.

I didn't want to let the opportunity pass without mentioning the Volkswagen. It's a partial consent decree, so that's still in front of the judge. But I did want to connect the dots in terms of the point that I made about the transformation, the transformation of the transportation sector. It's very real. We know it needs to happen, and it needs to happen. It's a public health issue. It's a public health and climate related issue.

So within that partial consent decree there are investments on the part of Volkswagen in the EV infrastructure space for California. Those investments have to be made. And again, this needs to be ratified and agreed to by the judge. It's being reviewed now. It's out for public review. But it's to the tune of $800 million to California over several years, focused on this transformation. That will create opportunities. That will create opportunities. And it's a significant, not -- you know, we certainly need more, but it's not something to be ignored. And to me, it goes to the point of recognizing where we need to go. It's sending a clear signal in having some funding behind it.

MR. GRESCHNER: Let me just say, I was supposed to make a hard stop at 4:25. We're seven minutes over, so I did want to give the dais a chance to ask last questions, if you have them, or last remarks from our --

CHAIR WEISENMILLER: I guess the one thing I was -- and Jean Fuller has talked to me about when -- before she became a senator, a state senator, you know, she was an educator, you know, in Kern County. And at that time in Kern County there was an understanding from oil and gas, well, these are the workers we need, which meant the community colleges could do the training to really bring them forth. But it was a circle there.

So part of it is, again, trying to encourage the renewable industry going forward, to the extent they can realize that we have a lot of boom and bust in various ways, but be making commitments on the sort of growth they're anticipating, then that can be feedback into the educational system, certainly back into the apprenticeship programs to really get us, you know, the human resources we're going to need for the transformation.

MR. GRESCHNER: I would ask for just some final thoughts, 30 seconds on where you all think the opportunities are for integrating workforce development into future programs?

MS. MEDINA: I mean, I think you said it, workforce development is an integral part of any of this that we've talked about today, so I would just like to thank you for listening.

And I do want to make a comment to what you're saying. Right now in Kern County, we've actually seen an influx of people coming and asking about our training programs that are recent layoffs from the oil fields. So they've recognized that they can transfer over to another energy and get into the renewable field, because they already have a background and they're looking for another opportunity. So I actually relate directly to that by sitting and talking to the students who have been effected by that recently.

So I just wanted to thank you for allowing us to be here. Thank you.

MR. PARHAM: Yeah, I'd also like to thank you guys for having me, as well.

One thing that I want to point out is that with our job development program, what we train for is for the need. So we noticed that there is a need for just more than PV installers, that there's a need for some of the back office work, as far as like sales and admin. So we actually train them for that need, as well. We're actually revamping our whole solar program to make it a six-week program so we can train for different positions in the solar field, as well.

So if there's a need, then we definitely will accomplish filling a need. So thank you.

MR. SIMPSON: I just wanted to thank you for your time and energy. I know it takes a great deal of work to be on these committees, and thank you for all that hard work.

MR. KOTLIER: Well, certainly I want to make it unanimous in our appreciation to speak here today and share some thoughts with you.

My closing remark really relates to the headline on this sheet on this study workshop. It says SB 350 Barriers Study Workshop. And one of the things that is in 350 that I think pulls this all together is a requirement for responsible contractors. That's part of SB 350, and I know the Energy Commission is looking at that. And I think all the comments that we've made here today do bring a special emphasis and focus on the need for well-trained and effective and responsible contractors and workers in the field. Thank you.

MR. GRESCHNER: I'd just reiterate what I said at the beginning, which is I appreciate the holistic approach that you're taking to this low-income energy question, and looking at it very comprehensively and not just a single technology or a single solution, but how do we integrate all of these different components, and hopefully all of the programs that are trying to attempt to reach these communities.

So I look forward to future conversations. Thank you.

CHAIR WEISENMILLER: Great. And again, let's --

MR. BARKER: So thank you very much. Thanks, Stan, for filling in. Thanks to all our panelists from our last panel.

(Applause.)

Before we jump into public comment, I think Bernie actually noted that he didn't notice Greenlining was on the agenda. And a number of the EJA Quality folks were actually in a meeting today. However, Sekita Grant of Greenlining was able to step out of her meeting and wanted to make a few remarks here.

So we are going to -- we think we have you, Sekita, if you can hear me. We are going to -- we have un-muted your line, so please feel free to make some remarks.

MS. GRANT: Great. Can you hear me?

MR. BARKER: Yes. Please go ahead.

MS. GRANT: Yeah. Okay. Great. Good afternoon everyone. I've been able to listen in for like the last 15 minutes. And I'm absolutely, you know, so excited and encouraged by the conversation and the depth of knowledge and really creative thinking that I've already heard in the last 15 minutes into these issues. So I just have some brief remarks.

I want to, of course, thank the Commissioners and thank the Energy Commission and the Staff for putting together this event. I'm really sorry I can't be there in person. And really thanking the experts there who made the trip to Sacramento or came out for the meeting to share their expertise and experiences.

So Sekita Grant with Greenlining, and just our focus is really how do we drive clean sustainable investments into low-income communities and disadvantaged communities? And specifically with this piece of 350, our objective has been to ensure that as we are transitioning from a fossil-fuel economy to a clean-energy economy, that there is truly equitable and a widespread access to these great technologies that are coming down the pipeline, particularly in areas that have been historically burdened by pollution.

And then along with that, which it was exiting to hear this last panel, is, you know, what are the job-workforce implications, the broader kind of economic benefits that are resulting from this conversation?

So in line with those priorities, we had two workshops that we were engaged in with key stakeholders, the June 20th workshop which was really about advancing the access to the technologies in which we've provided into the docket a series of notes that kind of outline what was said that day, and then a July 20th workshop that happened more recently that was solely focused on jobs, workforce training, and small business opportunities. And those comments are forthcoming, so just to kind of put that on everyone's radar.

And then just to kind of highlight the community involvement, I'm also serving as part of the Air Resources Board's Environmental Justice Advisory Committee. And we just completed about six, or excuse me, about eight community workshops in getting the (indiscernible) committees and getting input really focused around the scoping plan. But there was so much information that came out of there that's really relevant to the 350 studies.

And just to highlight kind of some themes from those conversations, from what we hear from the communities, there's really a strong interest in innovation and being leaders and showcasing clean energy innovation. People are very savvy about electric vehicles and solar and energy efficiency and are very excited to be engaged and to really help identify, you know, what are those barriers and how can we be more involved. And so there's a lot of opportunity to, I think, engage with communities to help ground truth whether programs are working or not and how we can improve them so that we can continue to see widespread, both behavioral changes, and also getting these technologies out into communities.

And also, it has a benefit in the political space, as well, to be very honest. The oil industry is at all of our community meetings, they're there. And I think there's an awareness that, you know, having mobilized and engaged community groups that are working closely with the Air Resources Board and with the Energy Commission and others is a big deal and it can have a lot of impact.

So I think, yeah, this is a very critical discussion. t kind of provides a counter narrative to what I think disadvantaged communities have seen in the past, and it's exciting. And I really want to thank everyone engaged for being very passionate about this. And I'm encouraged to see kind of what comes out of this report and looking for bold actionable recommendations, as well. And we have now a really great base of advocates that are engaged and our going to help to encourage and ensure that the work continues after this.

So thank you.

CHAIR WEISENMILLER: Thank you. Thanks for calling in.

MR. BARKER: So now we are moving on to public comment, the first in the room.

CHAIR WEISENMILLER: You know, let's talk to Nehemiah. Thanks for sticking around. You've been patient.

MR. STONE: Don't start the clock yet.

So Nehemiah Stone with Stone Energy Associates, formerly the Commission, Herschong Mahone Group, KEMA, and Benningfield Group in that order. I have seven comments and a little less than three minutes, so fasten your seatbelts. I'm going to go as fast as I can.

One of the things that would help solve a lot of the problems you heard about today would be labeling multi-family buildings at the unit-type level. There's been a lot of focus on whole building labeling. That doesn't help somebody who is trying to figure out, what's it going to cost me to operate this apartment in this building versus this apartment in that building? If we had that, then that would drive the owners to make changes because the prospective tenants would be speaking with their feet, and that makes a big difference to them. And I think that's the only way we're really going to see that market pick up on it, especially the nominally market rate that serves affordable housing.

I wanted to add a couple details to something somebody said earlier. Eighty-eight percent of multi-family tenants are renters rather than owners. And over 80 percent of renters in California qualify for low income. So anything you do has to have a major focus on multi-family or you're not really going to be serving the low-income community. It's very hard to deal with nominally market rate and how we get energy efficiency and solar in there. And I heard earlier today that that was an argument for not focusing on them, focusing only on deed restricted.

As you also heard, approximately 75 percent of low-income households are in nominally market rate low-income that are not deed restricted. So it may be hard, but it's extremely important we figure out how to do that in a way that doesn't just put money in the pockets of the property owners, actually serves the tenants.

Commissioner Weisenmiller, you recommended -- or you asked about using the energy savings as collateral and, you know, the problems associated with that. That's a dangerous proposition for low income. Low-income households don't buy all the energy they want. They don't even buy all the energy they need. So when we fix their places, and Jeanne was talking about broken equipment, and now the equipment is fixed and they can use it, it goes beyond that. Even if the equipment is working, if the shell sucks, they can't afford to maintain 68 degrees in the winter and 75 to 80 in the summer. They're dealing with much hotter in the summer and much colder in the winter. You fix the place, there will be take back.

And if you promise the financial community that there will be the same savings there to pay back those loans that you would have in middle income or higher income, you're setting the programs up for failure. So you need to take into -- one way of dealing with that is to get real data on what their T stat settings are for a year beforehand and modify your expectations by that, bringing it up to what you and I would have as a normal comfort level in our homes.

I strongly support StopWaste's proposal to use unspent energy efficiency funds for energy efficiency through LIHTC Program.

Multi-family as a sector, I heard that come up over and over, look at it as a sector. You need to apply that to your codes and standards, as well as to everything else. Multi-family is so different that when we create standards for commercial buildings and single-family and then try to apply them to multi-family, we end up with problems.

And my last -- I see the thing is blinking -- my last is TCAC is going through the process right now of developing their qualified -- their QAP for next year. They need to hear from anybody in the room that says tax credits are a big deal. Let's get the energy efficiency and sustainable stuff correct in that. They need to hear that from you. They're not -- they're hearing from the for-profit builders that that's too expensive, back off, that if it was a cost effective the Energy Commission would put it in Title 24. So they need to hear from you that they need to go beyond Title 24, they need to go beyond CALGreen, and they need to have it third-party verified by people that know what they're doing.

Thank you for allowing me to go over.

CHAIR WEISENMILLER: Thanks.

Ed Moreno, Sierra Club.

MR. MORENO: Good afternoon, Chair and Commissioners. Eddie Moreno on behalf of the Sierra Club California, and I'll be brief.

First off, thanks to Staff and the panelists for making this happen. The Club has a lot to digest. We'd like to echo many of the comments from the panelists. Job training and career building are so critical, not only for changing the lives of those on those pathways, but for energy efficiency savings. Proper installation of energy efficiency upgrades means brining estimated savings closer to actual savings, which adds to the legitimacy of the efforts of the state in the area of energy efficiency, which is particularly important considering there are a number of voices in the legislature who are constantly challenging the successes taking place in this building. So it's a very important investment. Thank you.

CHAIR WEISENMILLER: Thank you.

PG&E?

MS. O'DRAIN: Mary O'Drain, PG&E.

And I just wanted to answer a previously raised question about how many residential electric-only customers we have. We have 1.3 million. And I wanted to add that a subset of those customers are going to not have access to gas. Some of them will live in areas where their gas is provided by another utility, or they have electric-only homes.

And then in looking through the Public Utilities Commission's study on the Low-Income Needs Assessment, the recent study in December 2013, we spotted an interesting fact that may be of interest. Six percent of low-income households use propane, wood or coal for their primary heating source, and that is versus a general population, five percent, so --

CHAIR WEISENMILLER: Thank you. Thank you very much.

Anyone else in the room? Okay.

On the line?

MR. BARKER: And we don't have anyone on the line, but we do have four call-in users that are only on the call-in. If we can un-mute those four lines --

CHAIR WEISENMILLER: Okay. Let's find out.

MR. BARKER: -- and see if there's any callers.

CHAIR WEISENMILLER: Yeah.

MR. BARKER: Go ahead and un-mute them.

Okay, so we've un-muted. Anyone that has just called in, you're un-muted. Please let us know if you have any comments.

With that, with none, let's go to closing remarks.

CHAIR WEISENMILLER: Okay. Great. We'll start at the very end of the dais. Yes.

MR. GOMEZ: No, I just wanted to thank the Commission for organizing this workshop and for the work that's it's been doing, along with other stakeholders and community members over the last months, and particularly the last few weeks. I think the Commission is doing a wonderful job in outreach just talking to experts, but also going out and talking to the community. And I'm sure that was covered earlier in the day, but I think the amount of efforts that's going on is precedent setting of the Commission. And having all the Commissioners going out into the field is something to recognize. And I think this process is going to, you know, produce a lot of new ideas, a lot of new recommendations.

And so I just wanted to congratulate you all for your work to date and look forward to what you guys produce later this fall. And thank you for having me.

COMMISSIONER HOCHSCHILD: Thanks just to the Chair and my colleagues here for getting the conversation started.

And a special thanks, also, to Stan at GRID Alternatives. I really think you guys have been the shining success story in renewables for low income, both in your administration of the state programs and your own work, and I'm really proud to have you as part of the mosaic of what's working in California. I hope to build on that going forward.

COMMISSIONER MCALLISTER: I just want to thank Alana who is not here but in absentia, and in all the staff that's been putting this together, you know, advisors across the row, and also just a lot of staff have been engaged on this. And certainly the report is coming along really nicely and I'm optimistic about it.

This was great. You know, I love a nice substantive day of workshops. And, you know, as you know, hopefully I won't be doing next year's IEPR. Well, who knows. Don't speak too soon. But this was great and a lot of meat, so hopefully we can collate it and get into the report in the right places and so that it all strings together and makes sense. A lot of good bases for recommendations, either process or, you know, specific on the programs, so good stuff. And thanks very much, everybody.

MR. COREY: I also really appreciate the conversation. I think to the point I made earlier, if you look at both climate, air quality drivers, energy independence, it all leads us, really, to the same conclusions, a transformation in the transportation and energy sector. It's playing itself out in California right now. And a clear target, which there is, is going to translate into actions. The update to the scoping plan, a multi-agency effort. And with that comes great opportunities, some of which we're already seeing across the state.

But clearly, and I think it was the key point here, is both the opportunities to use these technologies on the motor vehicle side, on the solar and energy efficiency sides, clearly more needs to be done in terms of lower income folks taking advantage of those opportunities, both on the application, as well as the job opportunity side, and I think some great ideas. Clearly, if this was an easy thing it would have been done. That's why we're having this conversation, so everyone can minimize that.

But I think I'll close on -- since someone made a reference to it early on, to Star Trek, I couldn't help myself, so I'll say it as not as framed -- as not a Kobayashi Maru. And for those that are not Star Trek fans, that's a reference to an unsolvable problem, so this is solvable.

COMMISSIONER SCOTT: That's very awesome.

I just want to echo what Commissioner McAllister said, actually. I do love a nice substantive day of workshops, especially one like this where we learned so much and had a chance to really have a dialogue across a broad set of topics. I think it can't be understated how important it is for the low- and moderate-income communities in California to be part of this revolution, this transformation in transportation and our energy sector.

So I really wanted to say thank you to all of our panelists for being today, for really taking the time to provide the thoughtful comments that they gave us. And also to the public who commented, both this morning and this afternoon.

And I'm sure Kevin will mention this in closing, but I want to really strongly encourage folks to submit their comments to us in writing, especially some of the innovative and creative solutions and ideas that folks have, and also, you know, pointing out barriers or things that you might not have heard today.

So thanks to Kevin and the team for organizing a fantastic day for us.

COMMISSIONER DOUGLAS: Well, I'll be brief and join in all of my colleagues comments here. This was a really good day. It was a very, very interesting workshop.

And I also want to thank the staff who helped put this together, the advisors who helped put this together, Alana Matthews who's done an incredible job doing outreach and setting up some kind of informal forums where Commissioners had the opportunity to really get out in the community and hear from some of the folks who we hope to allow and help bring into some of the benefits of these programs.

And so I've certainly learned a lot through the course of this. And I'm looking forward to continuing to, you know, see the report and continuing to help work on these issues.

CHAIR WEISENMILLER: You know, I'll be also very brief and just, again, thank folks for participating today. There's been great panels. Certainly thank the staff for their hard work in organizing it. It's not easily, actually, to pull these things together. And again, thank Jeanne for actually moderating two panels, two large panels, but again, made sure that they were very substantive. And obviously, thank the other moderators, particularly the pinch hitter, Stan at the end.

Again, I think we are going through a transformation to deal with climate issues. It's a massive transformation. The reality is that the innovative technologies are starting with the early adaptors, which are going to be fairly well to do and, you know, going through sequentially of, you know, doing electric vehicles, rooftop solar, the storage, you know? But to do the transformation we really have to move into mainstream, we have to move into, you know, basically, middle California.

And we have to make sure that everyone benefits, you know, and it's not just trickle down but, you know, it really reaches out and effects low-income communities, both with good jobs, and also with participation in the innovative technology, which frankly will be challenging for all of us, coming up with solutions this fall.

But, you know, the problem's there and, you know, it's on our plate to come up with some new ideas. And again, I'd certainly look for suggestions from folks on how we can scale. I mean, again, how do we get the alternatives to be, you know, fill in the blank there, whether it's 100 times bigger or 1,000 times bigger, but just how to scale this up so that we're really not leaving folks behind.

So again, thanks.

MR. BARKER: Just to reiterate, I think that's what Commissioner Scott was getting at, comments are due August 25th. That is a Thursday. I do encourage everyone online that's still listening, and thanks to the folks that have already submitted some things, submitting information early is also very helpful for us.

We have a very fast turnaround time frame to include all the comments, to digest and include all the comments that we receive in order to meet the target date in September to submit the draft report. So please feel free to not wait until the 25th, although you do have time, but go ahead and give us the information in your comments as soon as possible.

With that --

CHAIR WEISENMILLER: Then the meeting is adjourned.

(Whereupon the California Energy Commission meeting of the Energy Commission Workshop Regarding Barriers of Low-Income and Disadvantaged Communities to Energy Efficiency and Renewable Energy was adjourned at 4:58 p.m.)

REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and

place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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IN WITNESS WHEREOF, I have hereunto set my hand this 30th day of August, 2016.

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IN WITNESS WHEREOF, I have hereunto set my hand this 30th day of August, 2016.

Myra Severtson
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