>>MODERATOR: Good morning everyone thank you for joining us today. My name is Deana and I have the pleasure of getting us started today. For those on the phone and on the webinar and everyone in the room who joined our committee of working group for competitive... The California Alternative Energy and Advanced Transportation Financing Authority. For those attending the workshop in person, please be sure to sign in on the sheet in the back of the room.

There are printouts of the slides and the full report as well. Folks, attending can come comment up here. For those of you on webinar, you can click to the raise your hand icon to provide comments and questions when the time comes. The slides are on our webinar GoToMeeting platform as well as on our website.

Actually, one other safety item, sorry, in case of an emergency, we are going down the stairs and across the Capitol before we can start. There's food in the back as well as water. Light snacks because today's meeting is going to be fun, I hope.

Today's agenda, we will be giving a brief overview of the different presentations and the information we have seen in the last few workshops which have culminated in the comparative criteria which was helped to put together by Jeff Deason with Lawrence Berkeley National Laboratory, as well the Chris Kramer with Energy Futures Group. We want to give a thank you for their technical assistance as well as Department of Energy that helped us with the technical grant to help pull this together.

We will go over what we have come put together for proposed criteria and then have a question and answer about the approach and what's involved. We will take a 15 minute break and open up for comments. We encourage everyone to comment and ask questions. That's why we are doing this.

Before we get started I do want to provide a bit of background because folks may not understand the process. Last year as part of the 2015-2016 Budget package the legislature tasked CAEATFA with creating this working group to compare and assess California's energy efficiency financing programs. They specifically called out utility on bill financing, PACE and the pilots CAEATFA is administering on behalf of the Public Utilities Commission as the California Hub for Energy Efficiency

Financing.

To do this we wanted to make a public process to get the right stakeholders engaged and solicit opinions. We wanted to do a series of public workshops. The first was from Chuck Goldman from Lawrence Berkeley labs on Making it Count. That report went over in the best practices and challenges and questions folks are having evaluating energy efficiency right now.

Second workshop we had the California Public Utilities Commission's EM&V team. The Evaluation Measurement and Verification team, that put together the baseline study for the CHEEF pilots. We had a presentation by Opinion Dynamics and Dunsky Energy Consulting and how they are going to approach the pilots as well as presentation by Frank Spasaro on on-bill financing.

The last workshop we had brought PACE providers together to really discuss where PACE is and what research is being done there at this time. Today, here we are. Again, a big thank you to Jeff Deason and Chris Kramer helping to pull together the proposed criteria. We had it open to the public for the past week asking for public comments before this meeting. We will extend the public comment session after this meeting to make sure folks have a voice.

These are some of the questions I have today because it has been quite a process and thought process that CAEATFA has gone through over the last several months. You are welcome to pose your questions, but to set the frame from CAEATFA's perspective, what did we miss? That's a discussion we are not having today about methodologies because we can only go so deep.

The question on the criteria is what did we miss? Should we include others or should others not be included and are there additional issues or challenges that we should raise? Because ultimately this goes into a report that goes back to legislative staff, if there are other issues that should be considered from a policy level, that should be raised, too.

While we are early and fresh I want to say thank you for everyone for being here and taken the time. We know you have taken time

out of your schedules and that life is busy.   Thanks for making this a priority.

With that I will pass it over to Jeff Deason and Chris Kramer.... Jeff has been a big contributor and Chris Kramer is an energy consultant with Energy Futures Group and will be joining us over the phone.

>>:   Good morning.   Thank you, Deana has given most of the instruction that I would have thought to give.   It's been really exciting to work with CAEATFA and others on this process and we did publish a report called Making it Count late last year that was very much about understanding, you know, the impact of energy efficiency financing programs and it came at a good moment for CAEATFA.   We got involved in this discussion.   It's exciting to not be just writing for a national audience and participating to figure out how the rubber meets the road in California.   That's exciting for us and we are happy to be here.

This is a bit of a outline of the talking points.   Deana has given the introduction part of this.   I will give background and perspective on how we approach this task, then dive into the proposed criteria themselves.   The vast majority of what you see in the slides and what I say here today is reflected directly in the document that was noticed to the public a week and a half ago.   We will stay pretty true to that document.   We will walk through the criteria themselves as well as issues.

We will talk about a couple other categories of issues of perspective future criteria that we don't think are quite ready to go at the moment and also diagnostic information that we think is very relatively relevant.

Let's start with... I should also mention that I will start this off and then part way through the criteria I will hand over to Chris Kramer at Energy Futures Group who will take us the rest of the way home.

For background and perspective a few unrelated, but important framing points about how we approach this task... first a principal goal is to enable consistency and comparison across the different programs we are assessing and those programs have a lot of very important differences.   That led us to focus on criteria that are

meaningful for all the financing programs and products that we are looking at and not focus on individual program goals, so an evaluation of any of one of these individual programs... and whether the program is moving towards those goals, we are doing less of that. We are looking at more of goals that it's pretty clear all programs hold in common and are consistent with the state's policy goals. That's point number one.

Point number two, objectives. This is very important. We didn't interpret this task just to come up with some metric that would rank the programs or say this program is doing better than that. I think that would be a pretty reductionist way to look at this task. So we are not just comparing performance. We are trying to understand whether and how programs complement each other and what the right mix of offerings going into the future will be. There's a lot of different ways in which programs might be complimentary, why you wouldn't want one program serving all sectors or one program serving one sector.

There are different segments and different projects that we encourage users to install and customers have different perspectives about how they go about doing that. An important part of our objective here is to understand that as a suite, and offerings as a suite and how they do or don't complement each other and not come up with a score for programs that compares one to another.

Finally, very importantly, our focus is on criteria here. That's the task we were addressing, not on methodology for evaluating them. Financing is under development right now. That's a lot of what our Making it Count report discussed. There will probably be a lot of evolution in the next few years as jurisdictions start to grapple with what different financing products and programs are delivering. Also the financing programs that Deana mentioned are in very different stages of development. Some are just getting off the ground and don't have data to inform the evaluation at this point. We are thinking a bit forward when we were devising these criteria and to an extent to lead a discussion and not restrict ourselves to what's going on right now.

So there's your background and perspective. Before I dive into the criteria themselves, I highlighted a few items on this slide because I want to conceptually distinguish a few things here.

Proposed criteria and prospective future criteria and market transformation and diagnostic information.

So the proposed criteria are kind of the crux of what we are suggesting here. These are the criteria we suggest using to compare to evaluate program performance directly.

Prospective criteria are criteria that we think are logically promote. If you are thinking about how do you really want to understand comparative program performance, these are things to get at, but more work is necessary to see if financing programs can really include them. Chris will talk more about that in the second half of this presentation.

Third, diagnoses: These are lots of pieces of information that yield a lot of helpful information for understanding programs and for understanding and putting into context the results of an assessment evaluation. We are not saying these aren't appropriate to directly compare performance for a variety of reasons, and often times that is because, and when we get to the criteria this will become clear, but a lot of those diagnostics sort of feed into the primary criteria that we've already suggested, so their impact would be sort of directly assessed there through those proposed… the primary criteria.

With that we are going to launch into a discussion of proposed criteria. First I will present the entire list as it were and then we will step through them one by one and discuss some of the issues that arose for us as we developed and thought about them.

So this slide is rather directly from the proposal itself that was noticed, but we stripped it back and will add text to add complexity to each category.

There are four categories of proposed criteria here, first energy savings attributable to financing. Second cost-effectiveness as assessed by a couple of different metrics: total net benefits and benefit-cost ratios. Third a few different metrics, so savings and cost-effectiveness, as well as market penetration, but not measured at the sort of at the statewide level or program level, but measured at the level of differing market segments and then also breaking things down by different project types and project characteristics.

For example here we want to look at not just what kind of volumes and kind of savings the programs are delivering, but how are they delivered to the residential sector as opposed to a commercial sector or a public sector and how far the programs penetrating in those sectors, who are they serving and how does that differ? That could go to the subsector as well, in terms of, for example, single versus multifamily residential, small versus large commercial.

We are also disaggregating by measuring project characteristics. So first disaggregation is market segment, second disaggregation is the types of projects that each financing program is delivering, so we want to know about measure mix, here we mean what types of program is being successful in rolling out. How many programs are installed for each project? Are some programs serving more single measure kind of needs or some serving more measures or whole house or building kinds of projects?

We want to look at savings per project and how at a project level savings are coming out.

The fourth category is customer experience. I think this is conceptually to understand this includes customer satisfaction concerns and consumer protection concerns. That's the whole picture and we now we are going to step through it bit by bit in more detail.

First, energy savings attributable to program financing. That is a bit of a mouthful. At one point we cut this back to energy savings and then we thought, no we need to talk about attribution in the title because it's that important.

We will start with the importance of attribution. It's one thing to go out and assess and look at different projects supported by different programmatic financing options and do some assessments of what the change in energy usage is as a result of use of those projects.

But in terms of understanding the place of financing programs and their contribution towards energy savings goals, one of the things we feel is kind of fundamental is understanding how much financing products are quote-unquote growing the pie? How

much is the availability of these programs is leading to installation measures and energy savings that wouldn't happen if these products weren't available? That's in practice a difficult question to answer for sure. But it's a fundamentally important thing to grapple with.

In terms of flushing out what that means, there are a few key questions that we pose here. One, would the project... let's suppose we are looking at a particular project, would that project have happened as we are looking at a particular project supported by a financing product, would that project have happened anyway irrespective of whether the financing product had not been available? That's kind of a threshold question, but perhaps it's too blunt of a question. You could also ask would the project have happened at the same time. Maybe the end-user wanted to do the project and would have found a way to do it eventually, but the availability of the financing product led that to happen sooner and that matters, and we would want to give some credit to that.

Or would the project have happened at the same efficiency level or did the availability of the financing lead the end user install a more efficient boiler that they otherwise would have either because the financial product required that boiler to be more efficient or because the availability of the financing enabled the user to install something that was more expensive and more efficient than otherwise.

Two different graphical ways of thinking about this attribution thing, I will take a bit of time with this because we feel it's important. This is a graphic we included in the Making it Count report that I mentioned before, in thinking through attribution to energy efficiency programs.

We have some energy savings—we start with that there at the top of the figure, and we want to think through few adjustments. We have energy savings that were supported by a financing product. And this graphic kind of helps us think through the attribution.

First adjustment might be, did financing matter at all irrespective of whether the financing was program financing or some sort of non-programmatic financing alternative be it a credit card be it a personal or a business loan or what have you? Did the fact the project was financed in the first place lead it to generate more

savings than what would have occurred without that? If the answer was no, then we probably won't be able to attribute anything financing, programmatic or otherwise.

If the answer is yes, let's think about the program financing itself, specifically did the fact that there was program financing itself generate new savings or did we just redirect someone from an existing non programmatic option to a programmatic option. Again, if all we did was redirect, we didn't accelerate a project we didn't deepen the project, we didn’t make the project more efficient, then we probably don’t have energy savings attributable to the financing program.

If the answer to this question is yes, and the presence of the financing program did move the project forward in terms of the savings, then the third adjustment is parsing that impact between the financing program itself and potential impact of any other programmatic offerings that supported the project, be it utility rebates or what have you. This is a common thing for program evaluations to grapple with if more than one programmatic offering has touched a project. You could have a variety of answers to this question. If the project would have occurred without those other incentives, you need think about how to parse that out. Otherwise you attribute savings to the financing program.

Another way to think of this is this is a graphic from the Opinion Dynamics….

>>: Jeff, can I make a comment on that last slide?

>>: We have a comment, briefly. Is this on?

>>: Barbara Lloyd, one of your committee members. Just for future consideration what I have found is that it's really confusing to people when yes is good and yes is good and then suddenly yes is bad. If you were to rephrase that last question so that yes would actually result in the same kind of conclusion, it would just be a lot easier for people to grasp what this is telling them, just a simple observation about how to communicate.

>>: Thanks. Ok, so just another way to frame this. This is a slide from workshop two, the Opinion Dynamics and Dunsky

presentation that walks through some of the results they had and work that they did to understand how people are supporting residential energy efficiency upgrades in California. There's a wide variety of ways as this slide indicates. All of numbers are not necessarily relevant for our purposes here, but is another way of thinking about this attribution question.

We have PACE here. So what the evaluator is going to have to grapple with is conceptually, if PACE weren't there, what would happen to those customers who are currently going through that channel? To the extent they would redirect to some of these other financing channels or even not use financing at all but still do the project, the attribution becomes more challenging, the potential attribution there is if we accelerated or deepened the project as opposed to creating it.

On the other hand, if some of these people wouldn't have been in this graphic at all and wouldn't have done a home energy upgrade otherwise, then it's pretty clear those are attributable to the financing program. You could think about inserting the CHEEF pilots into this graphic and say, okay, in that case to what extent will we redirect people from some of these existing options and to what extent our end will get bigger because we are pulling people in because we are generating additional projects? In all of these cases the answer is probably some of both and that's the key the assessment would need to piece out.

Jump back, a couple of challenges, and again we don't want to get deep into methodology here. That's not our charter, nor do we want to be blind to challenges or what's doable or not.

First of all, methods are still absolutely under discussion for this kind of thing. We haven't seen a real impact evaluation anywhere that teases these things apart and says there's the contribution of the energy efficiency financing program and here's other other's contributions. I think those will start to spring up and that's part of again how we are trying to lead this discussion and emphasize their importance.

Second bullet, this is very important, financing programs are not just financing. We heard about this particularly in workshop three that a lot of the value some of these programs deliver is in marketing and customer service, trying to facilitate these

transactions and the actual extension of financing is only one aspect. So we want to carefully define the boundaries around what the evaluator is looking at. We are proposing to evaluate the program not try to split out the financing part of it from the rest of the programmatic offering.

Finally, access to data, of course is always a challenge in various ways. Depending on the method, there are different types of data you are looking for: measures installed, billing data, access to customers in order to survey them. These are things we should address sooner than later.

Finally, emphasis on consistency and third-party verification as the program evaluation industry standard. We want the data to be as consistent as possible to compare apples to apples. We want some sort of independent verification of the data. That's criteria one, or category one with one criteria in it. This is category two, cost-effectiveness.

>>: Can we pause for a minute and see if people have issues with this one criteria? I know I will lose track what my thoughts were by the time end if we have to go through all of it.

>>MODERATOR: We had originally intended to, because I feel like sometimes questions get answered throughout the process, we had originally intended to run all the way through. However, I am open to pivot if folks agree it may be more compelling to take 10 minutes. It's more of a time management question.

>>: I can wait if we come back to each one in turn after the full presentation.

>>: So we have a half an hour for clarifying questions and we could go through each criteria at that point.

>>: Should we pause for just a minute for notes or anything to make sure you everyone captured where they are at? We okay?

>>: Thanks.

>>: Good suggestion. Category two, cost-effectiveness. Here we are talking about various ways of comparing a program's benefits to its costs. We will get into what those benefits and

costs may be in a moment.

There are a couple of metrics here, total-net benefits and benefit-cost ratio. At a conceptual level, these are actually not that complicated. Total net benefits is total benefits minus total costs, benefit-cost ratio is total net benefits divided by total costs. They both have their place and we will step through that issue right now.

So I already defined them. Our sense is that the total-net benefits in general we propose leaning on that to provide generally a better since of our overall program value. This example, which is a modification of an example we gave in workshop one, walks through this.

You might have Program A, and Program A is reaching customers is a cost of $800,000 and achieving $2 million in benefits, however, those are measured. So those numbers are a benefit-cost ratio of 2.5 and a total net-benefit of $1.2 million. One is division, and one is subtraction. The let's imagine Program B that's operating in another region of the state and operating in a similar market and for whatever reason spends a bit more money to acquire additional customers and additional benefits. The program spends an additional $700,000 for a total of $1.5 million and it generates an additional $1 million in benefits for a total of $3 million. So in this case the division implies a benefit-cost ratio of two and subtraction implies a total net-benefit of 1.5. So Program A looks better in one test and Program B looks better in the other.

We think there's virtue in looking at both. We would generally emphasize the primacy of the total net-benefits number because that's a reflection of exactly what the program is delivering to the state. There's certainly value in the benefit-cost ratio as well, and one of the things that a B/C ratio may signal, for example, is if you have a high benefit-cost ratio but relatively low net benefits, there may be opportunity for program expansion or maybe some other explanation for why those numbers come out the way they did. So to be clear we are recommending that both have their place and criteria in the assessment.

Another important point here is a prospective point and existing benefit cost tests addresses this as well. You can take a more

holistic perspective where you are counting costs regardless of who is paying those costs and counting some additional benefits as well. This is determining whether a program is sort of a good investment overall and in the... in utility customer funded efficiency programs in California, the Total Resource Cost test is attempting to address this question, or then you can take a program administer prospective where you are essentially determining whether program resources is procuring energy savings efficiency or something else efficiently.

This is the Program Administrator Cost test framework—sorry I didn’t spell out that acronym there...acronym city. So there is kind of a sign post for both those perspectives. We are recommending to basically stay consistent with existing California practice and look at both of these perspectives in understanding what the programs are delivering.

Of course, adapting these tests to programs that are not funded by utility customers, such as PACE, requires some careful thinking. We talked about this a bit in workshop one because these tests do so explicitly live within the utility framework. An example would be do you want to use the utility weighted average cost of capital as a discount rate for non-utility programs or not. There's a whole variety of issues that the evaluator would need to think through carefully.

There's also a question of non-energy benefits when we are looking at the holistic perspective. Energy savings are not the only things delivered by these programs that we might consider to be benefits. So, in theory you might want to include a variety of non-energy benefits. In practice this is, again, a developing area of evaluation. As a methodological point, the evaluator would have to think carefully about which non-energy benefits go into the calculations and exactly how those would be measured and assessed.

I think I am going to skip these in the interest of time to make sure we stay on track. We can come back if we need to refer to the pie charts. Let's move on to slide 21.

So a couple of additional issues for cost-effectiveness. So we have to think about calculating financing costs, which in some cases that will be a bit more complicated than some of the other

costs that cost-effectiveness tests usually look at.

For one thing some costs may be uncertain. For example costs stemming from future loan defaults when we don't know what the loan default rate will be. The way to think about future costs in general in cost-effectiveness analysis there's a lot of subtlety there and this is an additional level of that.

You may also need to think about the cost of offering below market rate financing if that is being offered. So if the finance is implicitly or explicitly supported by public or utility customer funds in order to lower the interest rate, someone is bearing that cost and someone may also be enjoying that benefit. So that maybe a more or less difficult, or more or less subtle, calculation depending on exactly the structure of the program, but something to think about.

Also, we may need to think about opportunity costs of things like loan loss reserves. If we are setting money aside in an account to be drawn on when needed, we are not using that money for things and there may be an economic opportunity cost for doing so. You could have used that money for something else which would have had some benefit.

<20:24>There's a lot of discussion on evaluating these types costs here and elsewhere. We would need to channel the latest thinking on these points.

Project level versus program level savings: There are a couple of places, well, really one I can think of in the criteria, where we are suggesting looking at project-level information, but for the most part we are suggesting this assessment or evaluation be done at the program level which is consistent again with the way evaluation typically happens in California and in other places. We know that results on individual projects may vary. We want to get some sense of that variation. When we are measuring energy savings and cost-effectiveness of the program itself, we're typically going to do that at the program level and not at the level of every individual project.

Finally, program maturity. We mentioned this at the beginning, but this may be particularly salient here; the programs we are looking at are at quite different stages of maturity in their life cycles, with

on-bill financing having been around for the longest time, PACE being somewhere in the middle, and then the CHEEF programs just getting underway. There are a variety of reasons that you might expect that a program at different stages of maturity might perform differently on a cost-effectiveness test just because it has or hasn't yet experienced certain costs of benefits during its lifecycle. We want to make sure to interpret the results of... interpret the results of the cost-effectiveness evaluations in the context of the program maturity when we think hard about what they mean.

And with that, maybe I will pause again. We just completed criterion two, if anyone wants to make sure you have your thoughts together for subsequent questions or discussion and then I am going to figuratively pass the baton to Chris Kramer who is on the webinar for the remainder of this.

>>: Hello, can you all hear me?

>>: Yes.

>>: Thanks, Jeff. That was great and I promise that three and four are more intuitive and easier to understand. Jeff did a great job in the intro when we ran through the four criteria of actually explaining these to some extent. I will go back over them and give a bit more detail here. Number three includes impacts by market segment and sub-segment as well as measure and project characteristics.

The point here again as Jeff mentioned earlier on is that we don't just want to look at how financing programs are doing across the board or across all market segments, but we also want to understand how they are doing within particular market segments and sub-segments. This goes back to the earlier point about complimentarity as well, a word we have been throwing around, but how financing programs may operate together in a single given market, but perhaps reach different customers, perhaps facilitate different kinds of projects and that kind of thing.

You can see under impacts and market segments, we talk about sub-segments reached and as well applying some of the criteria we were just about to within those sub segments so understanding energy savings within that particular segment or

sub-segment and understanding cost-effectiveness as well.

Within measure and project characteristics we talk about measure mixed by programs, what types of measures or measure bundles are we seeing within a particular financing program? How many measures are typical in a project within a given kind of program and that speaks to how many activities are being captured.

And a Jeff mentioned, savings per project, which is similar to the number of measures per project, it's slightly different in the sense it's really an overall number that gives you a sense of how much did I get in savings. That might be one big measure or it might be from doing a number of individual measures.

Slide 23 here, and here we go through a few of the various segments and sub-segments you might think about. Certainly some of the more obvious are broad swath market sectors like residential, multifamily, commercial, and industrial, and the MUSH sector, so municipalities, university, schools, and hospitals.

Within each of those sectors, and these aren't broken down within each of those broad sectors, but within each of those sectors, you might have sub-segments such as low-to-moderate income, which you can actually have in a few of these different sectors, even commercial might be buildings that serve low-to-moderate income populations, and you can use things like census tract information. Credit-challenged customers, so you might look at things like FICO score, which is a little bit more complicated on the C&I side, but there are ways of looking at that, as well: Are you serving small businesses particularly well, or is that an area of focus for that particular program. Certainly within C&I (commercial and industrial) sectors there are lots of different types of building owners, relationships, and so are there different business sectors you are serving and what are characteristics of those sectors?

Particularly in California, which is a large state, there may be different geographies that you are serving with a particular program. All of those things can be helpful to understand and understanding savings and cost-effectiveness within some of those segments. Maybe not down at the granular level, but certainly at the broader sector level can be helpful in understanding what's going on in a program.

One last point on this which is just to say at the broad sector level it's probably fairly straightforward to understand what sectors are being served by a particular program. As you get down to more granular sectors, particularly when looking at things like credit worthiness or income levels, it may be necessary to cooperate with particular financing programs to understand what customers they are actually reaching.

Slide 24: Here we talk about project characteristics. We were just talking about market characteristics and segments and sub-segments. Here we talk about different project characteristics, so different financing programs may have a different focus in terms of the number of measures they reach or types of measures.

For example you might have a financing program that does a whole lot of HVAC or does a lot of windows or, as Jeff mentioned, you might have a financing program that's particularly focused on whole house or whole building retrofits. Understanding all of those kinds of things can be helpful in understanding how the financing programs fit together in a given market.

Even for that, within a single market two different financing programs might be playing complimentary roles. So, that’s helpful to understand.

Savings and measures per project, you may have certain targeted financing programs, some of the markets that I often work in, I am familiar with financing products that are smaller and targeted toward certain measures and other products going after larger more comprehensive projects and they each play a role in that same market.

Next couple of slides provide a little bit of information, 25 and 26, on a few of the programs that were presented during the PACE webinar and how measure mix and different kinds of projects break down within those particular programs. We don't need to go over the details of each one of those, but it gives you a sense that each one of these different financing programs have certain kinds of projects they typically see.

That can be especially important to understand if you have certain goals or priorities that you are trying to reach or if you are aware of

where the savings potential lies. For example if you know in a given market there's a lot of savings potential within a given measure category, like there's a lot of HVAC measure savings potential or there's a lot of installation potential, then it can be helpful to look at what a financing program is reaching and helping facilitate to understand whether it's really going after the kinds of projects that would help you reach that potential.

Next slide: That was all on number three. These last two criteria are a bit more intuitive. Number four is in some ways the most intuitive. It goes back to, as Jeff was mentioning, customer experience. We've included a couple different subcategories within that overall criterion.

We talk about both customer satisfaction and consumer protection, and customer satisfaction, essentially we define that as are customers happy with what they got and to some extent as well did they get what they expected? Those are slightly different concepts. A project may be pitched to a customer in a particular way and it can be helpful to understand whether the customer feels they got the value that was marketed to them at the time of sale. But it can also be helpful to understand if customers are happy with the project retrospectively. Sometimes it may be the case customers are happy even if they got slightly different value out of the project than they expected. Maybe they went after the savings and they ended up getting a lot of comfort value. That's just a typical example that we often see.

Customer protection has more to do with what the customer experience was with the contractor and their ability to sort of repay their loan obligations and also whether they had any experiences that they weren't expecting that led to problems in those areas.

Next slide, 28, again, customers satisfaction: what value do the customers feel they are receiving from the program. Often this kind of information will be gathered through customer surveys. As I mentioned it may have something to do with whether they got what they felt they were expecting as well as other benefits they might have received. Consumer protection experience with the contractor as well as other parties that were involved in the program, such as the administrator and the lender, and disclosures can be an important part of this as well. Were they

given enough information upfront to really understand the transaction they were getting into? Did they feel like their obligations after the fact were different than what they expected to see?

There was some information presented on this in the PACE webinar from some of the different programs and we included a couple of examples on this slide.

Next slide, 29, so Jeff talked a little bit different criteria. One in particular we really focus on here that we call prospective future criteria. Here we focus on the concept of market transformation. Market transformation, conceptually before we get into the details, essentially has to do with attempts to impact, not just to generate energy savings directly through your program, but to actually impact the broader market in structural ways that are lasting and that go beyond perhaps what you do through your program to actually generate savings outside of your program by impacting other market players.

Next slide, here we have a definition. We talk about scaling up savings largely in the future through systemic change as a market as a whole, not just specific projects implemented. So, for example, you wouldn't be looking at just what did I get this year through my financing program? How much savings, how many projects? You would be looking at longer term trajectory: how did I impact other lenders in the market, for example, or perhaps how did I impact the way customers think about energy efficiency value proposition of energy efficiency, and how does financing help achieve that?

In the Making it Count report we do go through a number of key elements in understanding and evaluating market transformation impacts particularly within the context of financing. It's important to point out the discussion in that pauper was primarily conceptual, although various programs are talking about looking at financing through this lens; it hasn't really been done yet. So we feel there is some additional work that would need to be done before this could be included in a comparative criteria.

That said just to briefly touch on a few key elements we think are important if you are going down this road. The first is to develop a logic model. That is sort of a technical term, but it really just

has to do with laying out the concept and the steps along the way toward your market transformation goal. What is it about your program that you expect to impact the market in the long run? What is the actual goal of impacting the broader market and how do you expect to get there? It's important to lay out each one of the steps along the way, both inputs and program activities and outcomes to understand how and when you expect to get to that market transformation goal.

Then it's also important to understand the baseline characteristics of a certain market, so essentially understanding where you are today. What is the market currently doing? Actually, the slide Jeff gave from the ODC-Dunsky update on current market characterization speaks to that in some extent in California. It can give you some sense, for example, of how energy efficiency projects are being supported today, how they are being paid for. Of those being financed, how many are being financed through energy efficiency programs per-se, financing programs, versus other financing that's available. That kind of thing can help you understand how effective you are being over the time period of the market transformation effort and how effective you are in the future.

Interim metrics, it's really critical if you are looking at market transformation, particularly over a longer time period than say what did I do this year, to develop some key concrete metrics to understand exactly where you think you are going and how you will get there and what you will be measuring along the way to tell you if you are making progress.

All of this said, we feel like there's more work that needs to be done before this can be included in a comparative assessment. In part, just to understand, well what are the various goals of the various programs? If we are talking about comparative assessment we are talking about a lot of different financing programs operating in a given market. Some of them may be more focused on market transformation. Even those that are thinking how they impact the broader market, some of those may be focused on how they impact the market in different ways. They may have not developed their logic models yet and they may not have interim metrics or specific timelines. While this is certainly conceptually important and logically consistent in comparing different programs, we feel like there's more work that

would need to be done in order to understand how to apply this type of criteria to financial programs on a comparative basis.

Last slide, slide 31, diagnostic information: As Jeff mentioned diagnostic information is essentially information that can be helpful to understanding the criteria, the information that you may gather by applying the criteria to your financing programs. But it's not information that we suggest be used as criteria themselves.

That information might include, for example in slide 32, go to the next slide -- some financial metrics for example: loan volume, loan amounts, private capital leverage, and loan performance data, those are all important financial metrics to understand, you know, how your program is doing just in terms of getting dollars out the door, how those dollars have been raised, and how those dollars have been repaid. But they don't ultimately tell you how or whether you are reaching your policy goals and whether you are reaching those policy goals is ultimately captured in the policy-related metrics that we have discussed so far. So for example, whether you are actually generating energy savings with those dollars, one could imagine dollars going out the door, I like the term Jeff used, redirecting projects to programs, that you could have a lot of dollars there, but not necessarily be achieving energy-related goals if you are doing a lot of redirection as opposed to new generation of savings.

So while each of these things is helpful and important to understand and can be very helpful from a contextual standpoint, we wouldn't suggest using them as ultimate criteria.

Finally verified gross energy savings, it's essentially the savings an energy program just reports. When they do a project, you have to mark something in the books in terms of how much you would say that that program generated without yet having looked at well, would that same level of savings been generated had that program not been offered? Again, for all the reasons that Jeff went through in terms of attribution, we feel that gross energy savings is not an appropriate criterion, and that attribution is a key issue. To verify we just include that term because the industry standard practice is to actually -- even for gross energy savings -- to do some third-party independent verification of that

reporting. So, even at that level there's important review of the savings numbers that can going on.

Finally these are not necessarily quantified criteria or metrics. But we do want to point out a holistic assessment of comparative assessment of financing programs would look at other important contextual information like other policy goals and program structures and constraints and a few other pieces of information here.

I guess there are two last slides in terms of diagnostic information. One is on other policy related metrics, just that last point on the previous slide. We do understand that different programs may have different policy goals that they are going after. CAEATFA can speak to this in a follow up, but when we look at the charge for this comparative assessment, we in part looked at language that spoke about an assessment of energy efficiency financing programs and took that to mean the focus is primarily on the energy efficiency components and goals of these programs.

The other point about this is to conceptually understand that, in so far that we are talking about a comparative assessment, it may be difficult as we start to think about how exactly would you do... not just a single individual assessment of a single program and whether it's achieving its policy goals, but if different programs have different policy goals, how exactly would you compare those different programs to each other when those policy goals may be different for different programs. For those various reasons, we focused here on the energy efficiency aspect of these programs.

That said it is possible that some of those policy related metrics would be captured in a holistic cost-effectiveness assessment. So for example, a total resource or an even broader test like a societal test, which is the test looks at a wide range of policy goals and metrics, might include some of these things in a cost-effectiveness assessment. To the extent they are not captured, our suggestion is that a comparative assessment would note that these programs may have these other policy goals incorporated into them, but might not necessarily focus on trying to compare programs along those dimensions.

I think with that, I will turn it back over to CAEATFA.

>>MODERATOR: Great.

>>: Right on time.

>>MODERATOR: Well done in keeping us on time, Chris. I will suggest we go back to slide 11. And that was... I think I got that number right. Or any of these that...

>>: There are a bunch of versions of the slide.

>>MODERATOR: Yeah. And our hope... this was our initial plan, but I am open to pivot. We will spend 30 minutes kind of discussing some clarifying questions about the approach and what is being proposed and then to take a break and then to come back and get some more specific comments on what else should be included or shouldn't. That was our concept organizationally.

Let's take it item by item. Here we are starting with a specific criteria.

>>: Is this proposed criteria specifically for the REEL programs? Are we using our hats thinking for all the programs? And the next question after that is as this criteria … was launched the financial pilots over time, will these change? There are two questions.

>>MODERATOR: For those on the phone we received two questions, one whether this criteria is specific to the reel program. I will substitute the word CHEEF there which is statewide public... the other question was if it is specific to that program, will this shift over time?

The simple answer is no, but yes. No in the sense that we were tasked by the legislature to come up with working group for a comparative criteria for all of California's energy efficiency programs. So I could see this being a useful tool for the legislature in looking at all the programs, but specifically PACE, OBF and CHEEF were called out. I think because in the room that that day was CAEATFA and PUC staff kind of talking through this.

If you think about what other elements California has on its plate, there are…we have a variety of programs with a variety of policy goals. So that's the tricky part. We have Prop 39 funds being

funded for schools out of the Energy Commission. The IBank is developing its programs for energy efficiency, which also expect a return on dollars.

We have credit enhancement dollars and direct financing, so this truly is the challenge of originally CAEATFA kind of teed this up as how do we compare apples to oranges to lemons to bananas because they all have a different role, there areratepayer funds or public funds or funds from public internally. If you think how PACE as evolved from locally administered to public-private partnerships that evolved and created a great secondary market and volume.

The answer is no, it's not specific to the CHEEF. It very much was drawn out how do we evaluate energy efficiency financing. I think for two reasons related to the ratepayer fund and credit enhancement programs the public utility commission is one of the key evaluators in looking at each of these funds and have technical expertise.

This will evolve over time. Thank you for that clarification. I think even today some of the things I wrote down and we have been thinking about this a lot, us proposing this criteria means that it's able to be evaluated and identified and I think both Chris and Jeff have mentioned that it's very early on in attribution to think through this. One of my key questions is both an implementer and tasked with this is how do you balance the cost of both?

We have a few other questions in the room.

>>: Did you want people to get to the mic?

>>MODERATOR: Yes please. That way I don't have to restate and people can hear your questions, and I hear it helps brain activity to move.

>>: We should ask the question from your seat and then move and see if it changed.

>>: This is Jewel James at Renovate America. Is there a catalog somewhere of all the energy efficiency programs in California and how much each of those programs have allotted in terms of budget. Assuming the criteria is going to be applied to

all energy efficiency programs is there a catalog of all those programs?

>>MODERATOR: So I know of a number of informal lists of California's EE financing programs, none that are a specific document that I can think of offhand. But we'll work on getting that to folks.

>>: I don't think we have just a...

>>MODERATOR: Nini is recognizing that I should just say no.

>>: I doubt there is.

>>MODERATOR: The Energy Commission did recently provide... there's probably a partial list, a mostly comprehensive list at a specific moment of time and a DOE report that was recently done. I think that's part of the question.

>>: Follow up...

>>MODERATOR: We need music for walk time for those on the phone.

>>: I would say for our purposes, as in Renovate America's purposes, as we are thinking about the proposed criteria and how to provide comment on what's been provided, we would do so with the lens of Renovate America, however, knowing that the criteria would be applied to all energy efficiency programs and you would want the group to think globally about it and hopefully create it by Friday, but maybe that's part of this process in some way.

>>MODERATOR: Right. So you are hearing some staff discussion on this end as well. I am happy to share the DOE report. I don't have the power to review legislative intent beyond the language. So if I could guess where this criteria would ultimately go and the exact mix, I just can't. That's another caveat while we have been asked to identify criteria for California's EE financing programs, the language mentions PACE, on-bill financing and the CHEEF pilots.

California does have a number of other programs that I think this could be potentially used for, but I can't predict. I am happy to

pass it along, I also don't want us to go beyond our scope or what is recently achievable within of the time periods we have. Thank you.

>>: This is Jeanne Clinton with the PUC, in the context of clarifying, I would say when people today talk about the criteria for all programs, let's be clear the focus is on finance related programs, not all energy efficiency programs or all customer improvement programs. In that context I would just say as Deana mentioned, the PUC has a long history of having evaluation protocols for all the funds that are spent on energy efficiency and solar programs and there's a whole national industry of professional evaluators. There are all kinds of protocols out there for evaluating programs of different types. This is perhaps an evolving new specialized niche set of issues about how to apply evaluation principles when it comes to financing and particularly comparative financing approaches.

>>MODERATOR: Thank you for that clarification. We have more moving bodies in the room.

>>: Barbara Lloyd representing the California Clean Energy Fund. So I think my basic questions or observations come to this measure of cost-effectiveness, at least at this point, because I think a bit confused as to whether or not there's a recognition of cost-effectiveness upfront versus over time. There's some reference to the idea you only want to be focusing on the cost of the financing. You are talking about fees and interest only because principal is what you would have to pay for it if you paid with cash, presumably, maybe even principal goes up if you bundle the fees into financing or whatever.

But this issue how do you measure it if you pull the actual cost of investment out and just look at the cost of financing, that's I think what you are proposing, but then some of the criteria that are listed later put the principal cost back in. So I think you are going to have to be really careful as to how you look at measures that treat that differently. So that was one observation.

The other is I think that you have got an opportunity, maybe, to distill this down using the cash-flow analysis. What's the net present value of the program and that can take care of a lot of these differences, but I never saw that mentioned once other than

a vague reference to a discount rate.

I understand we are not talking about methodologies, but if we don't put these criteria in the context of how they would be used, it's so amorphous, I don't understand how you would use it. That was just an observation, and then I guess I really wanted to understand, again, if we are looking at the costs, are we looking at the cost-effectiveness of the programs. Are we ever looking at cost-effectiveness to the customers? Where do we draw that line and how do we get measures that may be cover more than one perspective in the defining of cost-effectiveness? That's it for now.

>>: I can make a couple of quick comments. First on the interest and fees only question, I don't think we have thought of that as a hard line, that we were just going to toss principal out of the analysis, particularly because, relating to your second question, if you are looking at this from a net present value perspective, one of the things these programs do is… you are paying the principal at a different time. So you would definitely need to think about this I think in a discounted cash-flow context and that would imply not necessarily just taking the principal out because the interest rate and discount rate may not be the same, it would be a very reductionist way to think of it.

>>: I have a couple.

>>: You are walking.

>>: Al Gaspari from P.G.&E. If we look at financing programs as a great way to enhance delivery of all customer programs and helps to reduce the costs for participants and stakeholders and ratepayers because you can get better capital into the market. Couple of things I had in a list, but I am going to switch my list around. First, I think it would be important to define stakeholders. I heard a couple of times where it's like, this financing program will deliver energy savings, but that's not true the finance program is going to enable a contractor to deliver energy savings. So, I think it would be good, as you are laying out a logic model and saying here are the stakeholders that are going to be considered in the logic models and make it clear across different programs to have those stakeholders laid out, so like, contractors, program participants, project developers, IOUs, and different advocates.

Thinking about those you can put together a list of what that would look like.

Two, another thing, and I don’t know how this would be incorporated. I started in energy efficiency in 2009. I didn't see any discussion about the macroeconomic factors. We will have different thoughts about what we should be doing for a financing program in 2009 than what we should be doing now when the economy is bit better for certain segments and capital is a bit more loose, making sure that's incorporated.

In the criteria, I think source of funds is very important. There's a difference between taxpayer funds and ratepayer funds. Utility ratepayer funds should be used to derive rate benefits for the utility for participants and nonparticipants. That is something that could be included.

Finally, a lot of the slides, I fear that for a criteria, a comparative criteria, we are going a little too far into some of typical evaluation and making some assumptions. For instance, I would exclude slides 14, which is the savings attribution. Because that's sort of an assumption of something is fact versus laying out... that's the savings attribution and EE financing to say did the financing generate more savings or would it have occurred without it?

With these things, in terms of evaluations, you can get so wrapped up around the axle, and I think what you are looking for especially when considering privately funded programs and publicly funded programs and ratepayer funded programs, all these different aspects is a broad criteria that allows you to look at things comparative and to get too far down including things like how do you do attribution and things like that because as you start to introduce these things, the numbers... you get a false precision where people are really working toward the numbers. You can have where you get competition between programs. If I lose my attribution on this project, it's not going to work, so I don't want to work in conjunction. There's a lot of good examples of PACE programs and residential pay-for-performance potentially working together. We work with third party financiers all the time to try to get them in our programs. I don't want to create the misinterpretation that we are competing. We need to figure out how to make attribution so that it’s driving collaboration amongst programs and different participants.

>>: Can I make one very minor clarification is that slide 14 in question is not in the criterion document, it was explanatory, but I take your point.

>>: Al, I have a question. This gets to the very issue of attribute, which is… I struggled with this question a lot over the last several of the months and longer, in thinking about at a broader -- at a broader macro level we want to get energy efficiency in at least 50% more of our existing buildings and we are putting public dollars or ratepayer dollars or a local government's public dollar or sometimes it is local government's authority and it's, you know, a big bank that's putting the money there.

And if we don't get to energy efficiency savings, then why do this? So how do we get away, as good stewards of funds and public goals, how do we get away from attribution if that's what you are suggesting?

>>: I think evaluation is very important. I think what you want to steer away from is the false precision you can sometimes get to. You want to make sure you are getting directionally ood information about here's where we need to be going. Especially as you are setting up these programs and trying to engage multiple different parties who have different interests, like, capital providers don't care about free riders. How do you engage all of these things? You want to make sure you are looking at this from a directional level, but you don't want to get… like some evaluation factors for the CPUC and other programs, there's in statute that we need to have a TRC of one for portfolios. That can become a very rigorous program. You be seeing it in setting up the CHEEF pilots where you want make sure to get things right on the front-end versus setting criteria of here's what we are going to look at, here’s the feedback loops we want to make sure are established, here's the directional information we expect to see, but you don't get so wrapped up that you can't do anything and you get to a point you are going towards what's essentially a false precision versus saying here's what we are trying to achieve and want to get to that. So I would say I don't think we have to get away from attribution. I would just be careful about setting up a comparative criteria versus your number will be 1.534. If it's 1.52 you will argue about it.

>>MODERATOR: Yep.

>>: I am back.

>>MODERATOR: great. Then we are going open up from the web.

>>: This Jewel James from Renovate America again. To piggy back off the attribution thing, I think is where I was getting confused and there was a little bit blurring of the lines in using the traditional programmatic evaluation methods and applying to this criteria in the financing. I think you have to be clear about the purpose of financing. This isn't a formal comment from Renovate America. I am just thinking through this as we sit here.

I think if the idea we want to evaluate the financing, you want to think about the goal of financing as lowering the cost barriers for consumers if that is the goal. I think that is what we would see as the goal. As I think through this conversation and clarifying questions, it makes the distinction is becoming clearer and I think it will help the overall purpose because ultimately what you don't want to do is apply a criteria to a program in a way that doesn't fit the program.

>>: Do you want to go next?

>>MODERATOR: We have another comment in the room and then we will go to the web.

>>: One more comment in the room.

>>: A couple of questions, Courtney Jensen from California & Nevada Credit Union League. One of the things I was thinking about within financing and some of this is new green energy technology; have we thought at all, and I don't know where this would go in the proposed criteria, the term of the financing compared to the term of the technology.

>>: You mean linking it?

>>: Yes, useful life, the Department of Energy has talked about this a little bit; I was just wondering if that has been thought about

in the criteria at all?

>>MODERATOR: I have not specifically used the term useful life in talking about this, but I think it does fall under some of the consumer protection elements and it would probably also fall under some of the energy savings of looking at what a consumer is buying and just how we typically time financing.

>>: Without being able to speak to all the details off the top of my head, certainly that is something that it deals with is the relationship between the term of the installment.

>>MODERATOR: I don't think specifically pulling it into criteria, but thinking through it, I think it's probably incorporated in some. I think that gets to where we talk each program's design and what they are designed for and how to make sure that products are designed appropriately.

>>: Yeah.

>>: This is Jeanne Clinton. The question is how do you think this is a relevant issue? I'm not questioning it. And it would seem to me as I am listening to you, what is relevant in terms of evaluating different financing instruments? For instance, if you have one program that says we are risk averse capital providers and won't go longer than five years and you have another product that is willing to go 10 or 15 years, then from an evaluation perspective the question should be does the five-year term product versus the 10 or 15-year product, do they appeal differently to the marketplace? Do they affect cash flows in such a way that customers or borrowers are more likely to take one versus the other?

The flip side would be does the 10 or 15 year term product end up causing higher default rates because of ultimate performance degradation? And if so, does that raise default costs or write off costs? So the loan loss reserve draws down.

I think the challenge when you are evaluating financing instruments or mechanisms is to relate it back to the purpose of the finance and the cost of the finance, which is somewhat removed from the underlying technology or improvement that's being made and when you are evaluating finance you have to

bring it back to finance terms and relative to the original purpose, what was the hope for the financing instrument to begin with, just a thought.

>>: And then the question I had on slide 32, the finance program elements, the information to be collected, you talk about and this kind of goes back to the interest rate question, you talk about loan volume, median and average loan amounts. Within that median and average loan amount, is that just the principal you are solely looking at? Are you going to collect data on interest rates, APR, principal interests, payments, that kind of stuff? Because I think when you are about to just the loan amount, there may need to be some comparison between the programs.

>>MODERATOR: I would agree just the principal loan amount doesn't tell the full story of the cost of financing. I think it will largely depend on whether this criteria is used moving forward is what data is available from the different programs. Under the CHEEF program that's something we will be collecting.

>>: In some cases if you have a program that has a fixed interest rate, there's nothing to collect. Some don't have a fixed interest rate, in which case we should collect them.

>>: Thank you.

>>MODERATOR: Ashley has some questions that are coming in online.

>>: I have a few questions here. So, Jenine Windeshausen asks, can you describe the research process and timeline, please expand on the use of surveys and how many passes you may make with each survey participant? There's some evidence that responses erode over time related to multiple passes with energy consumers.

>>MODERATOR: Jenine are you still on the phone, and if so can you raise your hand? My guess is that this question is either related to the baseline study that the PUC EM&V team did or potentially about how would we do this overall, which is probably the latter. I think that question is still outstanding. Because we were... CAEATFA is coming up the criteria, not evaluating or actually carrying out a study.

Jeff, maybe you could talk about what those steps look like broadly?

>>: I hate to hide behind the fact we are on criteria and not method. Really in part and based on couple of the comments here, we don't want to necessarily prejudge the method, so I am not sure. I absolutely take to your point and we should address those. Whoever works in evaluation needs to address those carefully. I know there are concerns with repeated surveys of customers, but I'm not sure I can speak more.

>>MODERATOR: Jenine if you are still with us, you are unmuted.

>>: I guess not. We will move on to the next question. Angela Hacker. You should be unmuted.

>>: Yes, Hi, this is Angie Hacker in Santa Barbara County and we have the Empower Central Coast Program. This has been very informative, thank you for inviting us. I have a bigger picture and clarifying question just to see if there's more information we can glean out of the legislature and their intent of this study about the overall or long-term goals of energy efficiency financing for the state. I am asking because I am interested the approach in this draft criteria seems very favorable to a long-term strategy to chase kilowatts and therms and look closely at energy efficiency and cost-effectiveness. I am wondering if that's where the state intends to go.

Another approach would be to look more at a market development approach. I am coming from a history of being in the Better Buildings program where the financing approach was much different. I am concerned that looking at financing programs in this way could favor programs that have perhaps very high savings, but maybe have very low volume, don't have potential to scale. I guess I am wondering if a longer term goal would be in mind. If I am looking at what the state maybe intends to glean out of this study, they are probably looking at where is the best place to invest in the future. I would hate to prop up programs that are sort of giving a false or skewed impression of where the best long-term strategy might fall.

One goal that the state could have would be rather be in year two, x number of energy savings, maybe thinking in year ten, government or public agencies no longer have to actually intervene because the market is strong, robust, healthy, competitive and attractive and there are enough lenders participating and program partners participating that the market is doing well enough and scaling and we are getting better energy savings than we would have otherwise by looking short-term.

So that's my comment. My clarifying question is if there is some definition of success that the state has given to us?

>>: So this is Nini Redway. I am not going to answer your question because I am not able to. I don't think we really know exactly what the legislature is looking for. I think probably all of what you are saying is what they are looking for.

So I think because many of these programs are varied, almost either an initial years of implementation or nascent at this point, I think the -- nascent at this point, I think the legislature wants one, to ensure they understand how consumers are being impacted if there is too much fraud out there because there are subsidized loan products being offered, so they are always conscious of that.

I think they want to understand if consumers are being benefited by lower costs of borrowing and the follow up to that is if they are, does that mean we are getting additional energy savings? Because ultimately I think the state's biggest goal is being articulated in the ARB's implementation plan for GHG reductions, which I think energy efficiency has a big piece of that and the state is definitely grappling with how we are going to meet that portion of the ARB implementation plan.

Your question specifically about market development and whether that isn't ultimately a better long-term strategy rather than government subsidized loan products is how I am understanding your question, I think it's a very good one. I don't think we are quite at a point yet where we feel we could offer criteria for that, but by including a prospective criteria on market transformation, that was our attempt to kind of bookmark that issue and say we need in two or three years, the state needs to try to look forward to that to see whether we should start pulling back government subsidized programs and letting the market fill that space if that's

working. If it's not working, then we will have to figure out a different way to reach our GHG goals. That’s how I would answer the questions. I hope that's helpful.

>>MODERATOR: I think that is exactly where we are today.

>>: We have a couple of other follow up questions from Jenine. So, Jenine Windeshausen from Placer County also asks or says in research costs how will you verify costs when given different delivery modes, i.e. public-private partnerships that may reserve proprietary information versus government programs that operate with complete transparency?

There's a follow up, slide 15 refers to a survey that has already been done. What assurance is there that 23% of customers received financing from their contract versus perceived contractor such as where a PACE program is deployed through contractors?

>>MODERATOR: I will take that last question first because I think it's easier to answer. I don't know. We would have to connect with Opinion Dynamics and Dunsky Energy Consulting on their methodology. This is a study that was already done on the baseline study with respect to the impact of the CHEEF pilots. I don't know if Jeff or Chris have other insight into their sampling size.

>>: It's on there. The numbers are on there.

>>MODERATOR: Right. Just in their questions and how you actually know.

>>: The other thing about this is I think it was done as of 2013 or so. So the definition of what current is...

>>MODERATOR: Jenine if you didn't hear that comment. We think the sample size or survey was done in 2013 and so current is relative.

>>: I would offer to connect her with them.

>>MODERATOR: Yeah. I know they would be happy to talk about it.

>>: Certainly our point in introducing this slide was more about the conceptual attribution thing than sticking on the numbers. I encourage you to get with them to talk about those numbers.

>>MODERATOR: It's a bit past break time. It's 11:07. Let's take a 15 minute break and be back, well it would be a little more than 15 minutes, be back at 11:30 to wrap up the discussion. Great, thank you. Folks of the phone we going to go ahead and put you on mute and we will be back at 11:30.

(break)

>>MODERATOR: Ok good morning everybody. We are back. After we paused for a break some of my colleagues told me they had been following the rules in keeping the first session of questions to the clarifying questions and had a number of other issues to raise. Before we bring it back to comments in the room, we would like to address some of the questions that we have online. So Ashley is going to do that for us.

>>: The first question we have: regarding cost-effectiveness for PACE, is the calculation energy savings less of cost providing the loan loss reserve. So, I guess if we are looking at cost-effectiveness for the PACE loss reserve program verses PACE itself.

>>MODERATOR: So my answer is I don't know and I would think that the approach would be that each program would go through its own internal analysis and then compare those analyses between each other, but I am not an EM&V expert. I think this is where we get into methodology and concern around one number meaning a lot between different programs versus headed in the right direction. So I'm going to pass that to Chris and Jeff to see if they want to add anything to that, or the challenges of that. Part of what we are doing is compiling, if we were to do a comparative evaluation, what would that look like and what are the challenges and issues related to that criteria?

>>: I don't think have much to add. I think it's mostly a method question, which again we are ducking as much as possible it seems. Implicit to your question what are the costs of PACE aside from the cost of providing the loss reserve or what are the taxpayer or utility customer cost of PACE aside from the loss

reserve, and I think that's a good questions and I don't want to prejudge the answer to it., but I think I understand the motivation for the question and it's a good one.

>>: Next question we have is from Alex Hill. Can the authors clarify the pros and cons including gross savings supported as a comparative criteria considering the specific needs expressed by the LAO and their request.

>>: I guess I would ask a clarifying, which specific needs we are talking about.

>>MODERATOR: Alex are you still on the phone? This might be a better dialogue than us reading your question 30 minutes later. Alex, it looks like you are un-muted.

>>: Do we have a slide with the legislative language on it.

>>: Yeah. So that was the language.

>>: Yeah.

>>: Hello?

>>: Alex?

>>: Yes.

>>MODERATOR: We can hear you.

>>: Great. Yeah, I wasn't necessarily referring to any of the specific parts. I was just wondering from the language if the team had seen any opportunity for that. Because as Al pointed out, as you go from gross savings to attribution for each level of that analysis, you increase greater levels of uncertainty when you are comparing programs which have very different delivery-based models and also have very different access to information and databases.

>>: Yeah.

>>: I was wondering if alongside of attribution considering the language of the LAO, what's the team's thoughts were on

considering gross savings supported as a let's call it a companion criterion in doing that assessment, so you get an idea to what degree do the program's overall scope is even if we can't necessarily drill down accurately on the attribution?

>>: Yeah.

>>MODERATOR: So, Alex, we will put you back on mute because you sound like you are in a really long tunnel and I am going to ask Jeff to paraphrase that tension a little bit.

>>: I think the question is just, you know, attribution is hard. There are several levels we have to address that a couple of the graphics are teased out. Kind of is there a place for gross savings as a criterion? Unsurprisingly we talk about this a lot. I will give my first answer. The concern is as we talk through, if you are understanding the contribution of these programs to broader policy goals and, you know, if you are not considering whether you are redirecting as opposed to generating, you know, additional projects and additional savings, then, you know, I would argue that you are sort of fundamentally not addressing the question.

So we did include gross savings as you probably noted, as a diagnostic, certainly a piece of information you want to know and understand in terms of coming to grips with what's going on. But that's our motivation for focusing on attribution as the criterion.

>>: Jeff said everything I would say.

>>MODERATOR: Thanks, Chris.

>>: Next question from Pat McGuckin, which cost-effectiveness test is being proposed, the Program Administrator Cost test, the Total Resource Cost test, or both?

>>: Thanks, that’s a good clarifying questions. I think I said this not as clear as I should have. Yeah, we are definitely anticipating echoing California practice by looking at both and considering both. That said I want to caution as I said as we were going along that, you know, since we are applying these tests to some programs that are not utility customer funded programs, the actual tests themselves will be something analogous to, but not the

same as the PAC and the TRC.

>>MODERATOR: If folks don't go that that the suite of questions was all from a very robust EM&V perspective I think. Which is helpful for the discussion. There are a lot comments here in the room, so we are going to move back to the room on questions and comments.

>>: We will start with Jeanne, I think.

>>: So this is Jeanne Clinton from the PUC. I wanted to start out by putting at least two of the three financing families in context, the ones the PUCs has put money on that being the utility legacy on bill financing and the CHEEF pilots.

So there are perspectives I want to bring to this basically leads me to the conclusion that market transformation needs to be part of the initial framing of the evaluation just to let you know my punch line and also I want to speak this similar context to what Angela had raised in Santa Barbara.

The context is this, for energy reasons, California wants to maximize cost effective energy efficiency. That means getting more than what we were going getting. For greenhouse gas reasons we want to double the pace of energy efficiency in California.

Increasing and doubling means we need to get either broader participation in the market or deeper investment in the market. The assessments that were done in 2010 and 2011, which were by the way legislatively mandated at the time, was that there were certain market segments that are not participating in energy efficiency for lack of access to capital or for lack of affordability of capital or for lack of sufficiently long tenures to the financing transactions that were available.

So if you think about access to capital and the tenures or terms, length in years of the financing products that are offered in the marketplace and the ability for those terms to better match cash flow and ultimate repayment of principal, I think you come back to sort of a framing of the question is that we need to make financing more affordable and we need to have more players in the financing market and we need to have capital that is comfortable

and confident with the returns on their commitment to capital.

For those reasons I think, yes, at the end of the day this is all about getting more energy savings. But what we are trying to say is in order to reach our policy goals of doubling our standing and enabling wider participation, financing is a tool or instrument that we think can help, and what we want to understand better is among a family of transaction possibilities, which ones are effective and which ones work and under which circumstances and at what costs? The comparative assessment is great, but I think we need to do it in the context of not just what are the energy savings, but are we mobilizing a market environment so that we can ultimately get to the goal of energy savings which is huge.

I want to put that in context. Therefore I think that some of the criteria that are important to make sure are in the final set to look at to what extent does it look like the different mechanisms are or have the potential to scale capital? To what extent do they look like they are going to enable public dollars or ratepayer dollars to leverage larger-scale investment? Leverage has to be a part of the cost-effectiveness dimension.

When we look at not just at energy savings, but are we broadening the market segmentation of borrowers, or of power purchase agreement enterers or PACE lien adopters, are we borrowing... I am sorry, broadening the breadth of the participants and sort of another element of this is at what cost of capital? What sort of implied cost where there's interesting in transaction fees, etc.

One of the aspects of the needs assessment that we had in 2011 and which I think is also contained by research in Lawrence Berkeley National lab has done, is that if you look at middle income households, not even a full 50% have access to credit other than 18% credit card rates. So the idea of investing five, 10, $20,000 in energy related improvements was a really tough decision to make when that's the choice. I think when one looks at that slide about how many people did not take financing and how many did take financing of some kind, we have to look at how many people didn't act at all because they didn't like the financing options that were on the table.

Secondly, of those who took financing product A, if that financing

product had not been available, what would their alternative have been? What was the next best choice to try to get an understanding of the relative importance or need of the different kinds of products that are out there. So I want to put that in perspective.

And finally, I endorsed the idea of maybe moving to the back of the pack or sort of prospective future criteria, putting much less emphasis on the customer experience, what I call with the transactions. The reason I say that is we are looking at financing as a tool or an instrument, but it's one layer in a complicated program delivery system that involves looking at energy use and looking at contractors and looking at building or property evaluation and relative returns.

You know, the financing, it's an enabling tool, but it's not a stand-alone motivation. It's not a stand-alone transaction and to try to bring in the satisfaction with all these other dimensions, seems to be confounding the evaluation challenge, which I think is really about if we have limited ratepayer and public taxpayer funds to help scale and broaden the access to financing in order to do these things that we think are important for energy and the environment, you know, what are the best bets for making these investment choices of public and ratepayer dollars?

With that I think I covered the broad framing of issues and just to reinforce the slide 19 on the... 19 is probably the visual. But let me get to 17, which is the example of program A and program B.

Somehow in this I would really like to see an additional indicator that's developed, which is how well does the public or ratepayer dollars leverage total dollars? So to really get at the leveraging scale and not just benefit cost analysis or net benefits, but to come up with some sort of a metric for leverage.

So if you think of a loan loss reserve program and assume you are putting in 10% and you are getting ten times that in investment, that's an important thing to know, as opposed to a utility on-bill financing mechanism where ratepayers are providing 100% the capital, zero leverage, even if you might say what are the net benefits? Even though the capital is repaid in both cases, you are not getting the same dimension of leverage. I think we need to bring in the leverage and make sure that's there.

I had lots of more specific questions. I think I will stop for now and leave it at framing.

>>: Can I ask a clarifying question... are you suggesting that your, that the four points you raised that they are or have the potential to scale, they are or have potential to leverage ratepayer or government dollars, broadening the breadth of participants and at what cost of capital, that those should be four criteria?

>>: Yes, absolutely. Just to reinforce I think right now the slide, it’s on 32, which is called supplemental diagnostic information, there's, the third bullet point there private capital leverage, that absolutely, that's a policy goal and should be evaluated.

Another one that's not on here but I wrote it on mine, is that we need to get the data on credit scores or the ability of potential borrows to have access to credit if the criteria suggests that type of scores or whatever could be lower, then that expands the base of potential borrows. That information is important to understand the policy goal of allowing more participants.

>>: I think we tried do that and impact by market segment. We mention FICO scores.

>>: Yeah, you have income and credit challenge or something. I agree. Yeah, I would just say here the absolute interest rates paid I think are important. So if you have one product that is on the market, say, you have a credit card at 18% and PACE transaction for 8 or 9% and a credit union product for 6 or 7%, I think looking at these absolute percentage rates, along with the transaction fees, etc., are important because it's definitely a higher ultimate cost that the borrower is paying and we need to know about that, so not just the case of the project, but the cost of financing. I think the hope would be that if we get enough products and enough serious capital and enough scale and enough data to inform the risk, that hopefully we will see the cost of capital come down. That's a policy question, so I would like to encourage us to look at that like where are costs dropping and where are they not dropping?

>>: So if I could, a more clarifying question for you than anything else, so a number of the things you mentioned kind of could be

argued they are entering the criteria sort of indirectly right now.

So for example, the question about leverage, depending on the perspective taken by your cost-effectiveness tests, if you got, you know, if you've got private money and you are taking a program administrator test, then you wouldn't necessarily be counting that private money. So it's indirectly entering the calculation.

There was one other example that I had written down and I can't find it now. The question is about the value of having broader criteria that incorporated a lot of the things you are describing verses calling them out explicitly as their own criteria. The way we handled that was making them supplemental but not primary. I want to understand the extent you are challenging that as the way to go.

>>: Yeah, maybe something Angela Hacker called market development. I would be thrilled if the evaluation document could not just report on energy savings per dollar of public investment, but could speak to could we get from a market of $500 million to $4 billion with prospect to go to $8 billion a year and what does that mean in economic development terms? I think a report that could have a little discussion about those dimensions would be very informative to the legislative interests that have requested that this kind of analysis be done.

>>: Okay. Thanks.

>>: I think Dan is next.

>>: I am claiming that seat.

>>: Can you say your name.

>>: Dan Buch from the Office of Ratepayer Advocates at the California Public Utilities Commission. I'm going to do something kind of risky which is disagree with Jeanne. That often doesn't go very well for me. I am going to disagree in part.

So the piece where I agree, I agree wholly both with the proposed criteria that the market transformation outcomes are probably paramount. In the end the reason financing is an enabling tool and indeed we are trying to transform a market in order to support

greater energy savings from energy efficiency and other measures.

The piece where I disagree is that the legislative mandate for the language is specific about a comparative assessment and the difficulty in doing a comparative assessment within a market transformation framework is that you will need to have some sort of way of understanding the relative contribution of the different programs to the transformation of the market. And I know that we are leaving methods aside, and I won't get down in the weeds. But I find the prospect of attributing the transformation of a market individually to different efforts with public dollars unlikely to happen and to the extent that it does happen, the better metric is still most likely to use attributable savings. So I am supportive of the current structure of the criteria in that sense.

That is not to say that I disagree with the overall goal and that indeed, measuring the transformation of the market and the end point of withdrawing public dollars from supporting financing when you have transformed the market, that is indeed the appropriate vision and other studies may be appropriate for understanding the transformation of the market itself, but in a comparative framework, I find it very difficult to imagine a study that can attribute the differential contributions of the different programs and types of funding, etc.

And so some of the -- I guess the other piece that I want to raise, this goes in a slightly different direction and maybe it's a question for the CAEATFA staff, is when we talk about costs and benefits, the benefits here in terms of energy savings attributable to a program, that really talks about the savings due to the public dollars, to what would have happened in the absence of the program, but the cost also should match that. So it really should be some measure of the cost to the public be it public dollars or ratepayer dollars rather than a sort of the overall, to the extent that leverages private capital and public dollars are not at stake, the greater the ratio there, the more cost effective the program from my point of view and certainly as a ratepayer advocate, ideally the most cost effective programs are the ones that require zero ratepayer dollars and achieve extraordinary energy savings. That is, I think one of the goals, at least from a ratepayer point of view. I may have more later, but I'll stop there and put those two on the table. Thank you.

>>: Can I ask a follow up question? I am just trying to think.

>>: Trying to sneak away.

>>: I just want to understand because I am still learning these issues. If we were to have the criteria somewhat along the lines of what we have in terms of energy efficiency savings, attributable savings, but we also had some sort of criteria not looking program by program, but statistics that track overall investment dollars, how much private capital was being attracted in... I am trying to think... so the state can see that the market transformation is occurring. I take market transformation as smaller public dollars and larger private dollars.

>>: Overall growth.

>>: Overall growth is market. I am sensitive to your comment that I would be difficult to try to... if I understood you correctly... to attribute market transformation to each program, but I also think Jeanne made a good point that we need to early on to start looking at that and tracking, diagnosing in some way whether we are having any impact in transforming the market.

I am trying to figure out if there's a way to not... as part of a comparative assessment, you would be looking at energy savings in each program, but that we look at globally more some market transformation numbers, whether that would serve... am I making any sense?

>>: I think you made all sorts of sense. My only contention is that the market transformation doesn't really go to the comparative piece. So in that sense it's not directly on the legislative mandate. On the other hand in the broader sense, I agree that it aligns with the state's goals and to the extent that anyone wants to take on that work, it's valuable. I thought that just the comparative assessment piece, the market transformation is a difficult framework for that piece that is sort of the specific language from the legislature.

>>: I was asking Jeanne if there was a way to have more comparative for the energy savings, but if you have... I keep saying global, but one large number to look at rather than program

by program, the state of the energy efficiency market.

>>: Yeah, so let me respond to that point. I will let everybody chime in with different perspectives. I am all for getting and comparing information. I want to dispel the notion that I am looking, just tell me one side of the market and tell me are getting close because I think from a public policy perspective we want to know how well are we succeeding in each of the markets segments we define are important. Not residential, single family and multifamily and commercial and there’s low income, high income. There’s fortunate 500 companies and there’s Class B and C commercial property owners, and if we want to reach our ultimate energy in greenhouse gas goals, we need to make progress on all fronts.

I would suspect that if you do a comparative valuation, if you boil it up to, well Product A has a 1.9 benefit-cost ratio and Product B has a 1.7 and Product C has a 1.1, we should not necessarily think we shouldn't do Product C. The point is to understand how do each of those products help us get traction in the respective markets and all of the above may be an acceptable answer, but the metrics may help us say why are we only get 1.1? How could we improve or fix that area? I am all for the comparative, but we have to keep it relative to our overall goals, which is getting traction in a market that is not a homogeneous, uniform market.

>>: I had a couple of ideas specific to this issue of market penetration if you want to go first. Barbara Lloyd again, so what I had written down before coming here today was, how do you get at an individual program’s contribution to market transformation? Maybe there are some measures of innovation that you can do. Can you track whether a program is being implemented that isn't a replica of something else, that is in fact something new. Is there any way of looking at that? Again, that's more qualitative than quantitative and requires digging in a bit deeper to understand what makes each of these programs tick.

The other thing is to evaluate the growth of programs as compared to the growth of the markets. And if you think of people voting with their feet for the things that are somehow more effective, at least as customers, you are going to look at market share and you are going to look at overall rate of growth of the program. If you have the overall industry growing at 12%, but

somebody is growing at 7%, Ok, maybe they are underperforming, but if they are growing at 25%, maybe they know something the rest of us should be paying attention to.

It's a little bit like benchmarking investments. You have sort of that industry average for your type of program that gets developed and we are not as sophisticated as pension funds investments, but there are benchmarks. And when you are underperforming benchmarks, it's not an indictment, but it is a red flag. So I think it wouldn't be impossible to develop some things that would look at those issues. That's about it on that.

>>: Thank you.

>>: I don't know... I know a couple of things that you mentioned maybe you wonder if Chris Kramer has anything to say about this in terms of logic models or metrics and stuff in terms of market transformation.

>>MODERATOR: Chris, that was an invitation to pipe up.

>>: Yeah, there've been a lot of comments, I'm not quite sure where to jump in there. And I think I heard a lot of different things being said that relate to in some ways the market transformation piece. Although I do want to point out as Jeff was sort of saying, some of these things I think are captured in some of the criteria, not just cost-effectiveness, but also in criteria number three, although it's a bit more vague in terms of what would we actually be looking at in terms of how programs break down within one market or another. I do just want to emphasize there's an element of that particular criteria, which maybe isn't fully flushed out yet and isn't fully defined and it's good to have feedback there.

If programs are reach, or doing a good job of reaching for particular segment and particularly effective there, that's important to understand as well.

But on the question about leverage and you know, I do want to make clear that from a program administrator's standpoint, that is importantly captured in that program administrator perspective on cost-effectiveness. We agree that that is something that should be looked at, but it should be looked at in the context how does that leverage ultimately help your achieve your goals.

The way we distinguish this in diagnostic criteria we list leverage itself, but in cost-effectiveness we talk about a program administrator view, which is only one view, but is a view of how you are achieving your goals. Leverage for the sake of leverage, if I put in $1 and leverage $100, that's great, but it doesn't tell me what I got out of the $100 I raised, but when you attach that $100 to other savings and benefits and subtract out the costs that then tells you what you got with the money you raised.

We tried to emphasize there's a difference between financial criteria which are important contextually for understanding what your program is getting and how it's getting there, verses ultimate metrics and ultimate criteria which tell you how you are achieving your policy goals.

>>: If I could make one more point. that I was fishing for Chris to make, those are all good points and none of them was the point I was looking for… which goes to this question of attribution, it's a great conversation. I basically agree with everything everybody said, but there's a point. So, we did, and if you look at criteria document, we didn't go through this in-depth today, but there is a little and we talk about it in our Making it Count report. There's a discussion you want some sort of logic model that tells you how you expect your program to impact the market and then so we have channels by which the program should be touching thing and changing things. Then you think, well what would logically change? What kind of metrics can we define that should be moving in one direction or the other if this is actually working?

I don't pretend that that solves all of the attribution problems and there's a reason this is a real challenge and in some ways... I don't think we are completely lost in terms of thinking about how we go about that. There's a little bit of the criteria that speaks to that not specifically in the attribution context.

>>MODERATOR: I think what we are hearing is concern about making sure that we flush out of the issues and tensions related to the criteria. I hear a lot of agreement on just some of the risk involved in the criteria depending on how it's implemented.

>>: Right. So Al from PG&E. I think the points that were just made and my earlier point about being clear about finding the

stakeholders in an individual program, I think we need to be clear about what financing program is. Because you're going to have a securitization structure; so, PACE is a securitization structure that's a market transformation model, and then you're going to have on-the-utility bill, that is another securitization model, a credit enhancement is another securitization model. Those are things that you would want to look at comparatively, but then you're going to have the actual program administration because I think one of the things that we see is that there's a lot of opportunity where from a lender's perspective they might say give me 100% security and I will lend all day. That doesn't really impact the energy savings. Then you look at the program on top of that in terms of where energy savings gets tied in ultimately in terms of market transformation it would be great across multiple segments if we got to a point where the energy aspect was being considered in the lending decision. That would help alleviate the concerns of the lenders who might be feel that people are going in front of them in terms of the securitization model. It will help the ratepayer advocates to make sure people are getting what they paid for.

If you had those sort of broken out, it goes back to the logic model of laying out what's the securitization model? what's the intervention strategy? What's the contractor engagement? All these things are part of what a financing program is and they are important for being considered in terms of, you know, for full evaluation because you might have some that just say, I'm going to take a very light touch and let people innovate on top of us. And then there's some that are going to say, we going to have soup to nuts, the Solar City model of you know, we are going to do the installation and financing and everything and... You want to look at both of those because they might have certain merit in those perspectives.

>>MODERATOR: I did hear or see a flurry of discussion happening on this side of the table, a little bit, and then we have other issues raised online that we will raise after.

>>: This Susan Davison of CalCERTS. I will reframe what we have been talking about and it touches what everybody has been saying on the market transformation and criteria itself. When we look at the criteria it's very defined and very narrow. It's got a very specific purpose and yet we have this goal of policy growing

the market, market transformation. What is happening we are sitting here with a specific silo of information in where we want to go someplace ten years from now? What I am hearing in the room is this consideration and concern about not framing that starting point correctly, not actually getting the right criteria at the table. When I look at the criteria the piece that's missing is in the back.

You've got financial program element. I would actually pull that up and call it something else. That's slide 32. My specific thing, statement would be, consider adding another piece of criteria that's actually the financial marketplace. Just like Al was talking about there's this marketplace that you are moving into, that you are seeking to impact. So defining that marketplace will help you then measure in the next ten years, but not actually doing it now we miss the opportunity to actually... one, clarify what we are touching, but number two, start to gather the data now and then measure correctly about where we are going. I heard around the room it's like we don't have a clue what the marketplace is in some ways. We don't have one place at the table where everybody knows what's happening in that residential market and what's happening in that commercial market. So if you don't understand that marketplace in the playing field in a very simple manner, and how do you fit into that? Then you might be measuring the energy savings, but are you measuring other things? Are you measuring the policy goals? Are you measuring the capital market is going to come to the table. If I am a capital market and want to understand how to insert myself in the California market and you put out a report that tells me what the playing field is, I am either going to determine, am I going to insert myself somewhere in there because there's a hole, or am I going to help lower interest rates because I am going to be more competitive? What don't know what the playing field is. So if you are going to measure something, at least tell us what the marketplace is.

>>: Can you explain what you mean by the marketplace?

>>: If I was a REEL product, who are the players out there? How does that fit into that marketplace? Literally, how many providers are out there and what are they doing?

>>MODERATOR: So the PUC's baseline efforts did to make an effort to define the current market.

>>: It goes back from that slide earlier that came from Dunsky where PACE is 9% of the market. It may be as simple as that who are the players in the market and how does this piece..this product fit into that market?

>>: I think the PUC is attempting to do that through -- PUC is attempting to do that from the baseline study. From what I understand of it--it could be used universally for all funding programs as a baseline. It will be a challenge to keep it current, but that's the challenge in evaluation.

So you are right and we sort of skipped over that because I think we could get lost in that rabbit hole, but it is there and hopefully it can be used.

>>: It goes back about us pushing about the larger framework. If that work is done, that helps us clarify where we're going forward.

>>: (Indiscernible).

>>: Right.

>>MODERATOR: Angie Hacker has a quite a few comments. Angie, instead of reading your comments and questions, we are going to un-mute you.

>>: Hi. One of my questions was about…back to attribution; I like the direction the conversation is going. There's a lot of discussion about trimming attribution away from financing programs in various ways and I am wondering given these various co-benefits of financing programs, that they are more than just a loan product, are there ways to formally calculate and embed into these calculations the outcomes associated with what these programs are offering the market? So we are talking about--it could be workforce development, projects that occurred because of a result of program assistance but chose a different financing option than the one provided directly by the program; whether or not a lender who is participating in the program decided to offer additional loan products as a result of what is in the market right now; consumer education and market transformation indicators. So for those types of things, I am wondering how that can be built

into the attribution model? And I would add finally to that the attribution to the rebate program? I am not sure if financing programs right now are actually getting any attribution, if they are tied to rebate programs, from those rebate programs.

>>: I am not familiar enough with the CPUC to answer that myself. Jeanne, why don't you go ahead Jeanne, and I will address the other part.

>>: Dan's former path was working on the evaluation of the financing programs.

>>: Dan Buch from the Office of Ratepayer Advocates with CPUC. There were a number of questions there, a few of them were about benefits other than energy savings potentially, some of them might align with either program goals or state goals. In general for a program evaluation, you would probably certainly for a process evaluation, and an evaluation that tries to improve the program more for certain types of impact evaluations, you would want to have indicators that would give you that information in a global assessment either in a program evaluation or a comparative assessment like what's being developed here, many of the things would be quantified as non-energy benefits. That is the first part of your question.

My own point of view is I would be cautious about including non-energy benefits as part of a comparative assessment in part because there are multiple state goals. As I read the mandate from the legislature, you were to evaluate the energy efficiency. I take CAEATFA's direction as probably the right one to use savings as the single indicator of that achievement, of the policy goal rather than do these programs achieve the state's many goals? I find that unwieldy and potentially it does not give you the information at the end of the day that you want about which one will, for example, go the farthest in accomplishing greenhouse gas reductions. It may be useful for a different assessment, but I think it starts to move afield of the legislative mandate.

Angie, I forgot your second question.

>>: It was how you attribute...

>>: Attributions between financing and rebates?

>>: Yeah, thank you. I think technically, currently, this is just in PUC world, and I apologize for going all the way down in the weeds. There's supposed to be some attribution to financing programs. They are considered resource programs at the PUC, but I don't know and Al might be able to answer this, I don’t know that they’ve actually--that's what they are supposed to be doing and working towards, but I don't know if actually it's been done yet.

>>: (Indiscernible).

>>: That's aspirationally the goal to have a separate attribution of savings for the financing portion and the rebate portion.

>>: That's PUC world.

>>: That's in the PUC world for PUC financing. I don't imagine that's done elsewhere.

>>: Can I make a quick clarifying point. This is Chris on the phone related to this whole question of non-energy benefits. I want to say because I noted on the slides it talked about including that from a holistic perspective which is one reason you might do it. I want to be clear why that issue is an issue. There are plenty of people in the room who know this and are yawning and other people in the room who are not familiar with this.

Just to be clear as much as being holistic just for the sake of being holistic it's also a matter of parity between costs and benefits. The point is, you don't want to disadvantage a program conceptually where some of the costs may not be backed out that are really costs that are paid as a premium for things that are not energy related. So if in certain kinds of projects and if those kinds of projects are more typically of a particular financing program, you have costs, project or measure costs, that are not really energy costs and you are counting those, but not counting the non-energy related benefits, it's possible, at least conceptually you are disadvantaging that program. It's not just for the sake of being holistic. It's for the sake of isolating. There's basically two ways to go. You can be holistic about all of it or you can isolate the energy related costs and energy related benefits.

Conceptually, probably the latter makes more sense, but at a minimum you want to make sure that there's parity between costs and benefits. I wanted to make that clarifying technical point.

>>: This is Jeanne Clinton... one more dimension of the attribution challenge, in the case of PACE and in the case of non residential, on-bill repayment through the CHEEF program, the lending is not limited to energy efficiency. It can include solar and can include water conservation or efficiency. When we talk about benefits and costs and leverage and all of that, I think there's added complexity. I was just looking at the data that are in the slides.

So on the Sonoma County PACE slides, 56% of whatever the units here are, I assume it's dollars. 56% are energy efficiency, 42% are solar and 2% are water. And for the Western Riverside Council of Governments, solar’s 36, efficiency 61, water’s one, other is two. So, if we have efficiency at the moment coming in let's say at a 55 to 65% range depending upon the transaction, it just further complicates the ability to do attribution because you... with solar at least you can bring it into energy units, I guess if you want, in terms of kilowatt hours and therms saved, if one does it that way. It's just another complication.

>>: Can I jump back one point that Angie made to make sure it doesn't get lost, you offered an interesting example I hadn't directly thought about it before. What about a project that is done that interacts with the program and doesn't take up the financing and does that count? I think it gets back to the question what of the boundaries, are you analyzing the program? Are you analyzing the financing? And I think you could probably make a reasonable choice to do either, but I suspect you will get less tangled up if you do the program as opposed to the financing. That's something which is... (Indiscernible). And of course there may be data challenges--do you see that participant after they benefit from your advice and walk out the door?

>>: This is Barbara Lloyd again. My question really gets to the concept of these logic models and whether or not it's at all practical to be able to get into that level of granularity on any program, even state run or locally run public programs, if you look at all beyond that and look at programs being run by nonprofit entities or by profit-making, you are not going to get that data. So

if you are go and try to somehow make a comparison based on relying on that level of sort of in-house or proprietary business planning, I just think one needs to look carefully at whether or not you are barking up the wrong tree, because it really seem to me you are asking people to develop the business model, tell you how they plan to go about it and then evaluate, you have all these external parties evaluate whether or not they were successful. That's what shareholders do and that's what owners of companies do and that's what individual programs may do. But they are in competition with one another at one level. So one really has to ask yourself are you being realistic if you need to rely on something like that.

>>: Do we have more on the web?

>>MODERATOR: We do have more. We do have some on the web. I think they can emphasize that point we can only evaluate the data that's available. One is from Pat McGuckin about estimating energy savings…how do you know… how you get that data? Pat has been the lead in evaluating the HERO Program from a process evaluation perspective, but one of the issues we have on some of these elements is that we don't have the energy savings data. We will for the CHEEF and we do for on-bill financing. We likely could for any program where there's a public dollar or ratepayer dollar attached.

When it comes to PACE programs, two of the PACE programs collect a form, a borrower form in essence saying yes, you can see my energy data, but even collecting it and analyzing it is a whole different story, but the largest PACE programs that have the largest volume, actually don't have that procedural requirement right now.

Another item from the web is also from Pat talking about again the cost-effectiveness and how to evaluate. His point is that sometimes homeowners sometimes choose the higher cost financing over the lower cost options because the higher cost option is faster and more convenient. Someone is in your home able to do it right then. It goes back how do you compare different business models and business structures in this way. Just the delivery mechanism, or whether it's energy efficiency and solar or in terms of CHEEF within different IOU ratepayer territories and different levels of complexity and implementations.

Those are two other comments from the phone.

>>: I agree. Particularly data will be--whether the evaluators get paid the big bucks... (Indiscernible).

>>: Laurie Franke with PFM. On page 13 of the slides that we looked at earlier, again the hot topic of attribution, I think this has been tossed around, so I am probably piling on at some level, but I think that I would take a bit of an issue with backing out projects that don't generate more savings because of the financing program. To me any project that creates savings is a legitimate project and whether it's using financing program A, B, C or none, if it was a product of... if the improvement was made as a result of the program, then it should be given credit for making savings.

And so I guess, the reality is if somebody is in Riverside and their air conditioner goes out and it's 110 degrees out they will fix their air conditioner and they might evaluate one or two different options, but the reality is, to Pat's point, it may not be the lowest cost option but they need an air conditioner, it's 110 degrees out and they live in Riverside. So the reality is access to capital sometimes drives decisions in our experience more so than cost-effectiveness of the decision that's being made and the ability to provide a variety of options to the consumer, we think is a valid reason for giving them a lot of different options.

And I like the idea to another point, the dollars in and dollars out, there's a conversation going on about how do you measure the value of public dollars, and to me it seems that programs should be able to identify public dollars versus private dollars and that is not a difficult thing to ask people to provide, you know, and I think to that point it really should be included in the comparative data because ultimately that is to Jeanne's point where the market, where you are getting into the market transformation is, how much public dollars versus private dollars and maybe you are not able to get the degree of magnitude of energy efficiency data that you want when it's private dollars, but if you are trying to transform the market to do private dollars, shouldn't you be happy that you are doing improvements that meet certain criteria? As long as program is established with the efficiency goals at the outset, there should be some ability to extract at least high level data as you see, you know, the PACE programs are able to provide the categories of savings. Maybe you are not getting down to the

infinitesimal this property owner had this credit score, this bucket had this credit score and that credit score, but if you are using private dollars, could you evaluate it differently?

I don't know. I want to make it more complicated than it needs to be, but I think taking into account all of these different variations and the fact of the reality of how a program operates needs to be a part of this conversation. If we are setting a policy that will be in place for program operators for years to come, you don't want to deter them from entering into the market because the compliance is so difficult. That's where I constantly battle within this whole conversation is what's the reality of implementation versus policy?

>>MODERATOR: Thanks, Laura. We have a few other comments on the phone. I don't think I paraphrased Pat well. He raised his hand. So Pat, you can now speak for yourself.

>>: With regards to the TRC test, you pointed out my question about sometimes there are non-financial benefits that go along with choosing a higher cost option for financing over a lower cost option and so clearly in those instances the benefits have a higher financial value to the homeowner or businessperson than the higher cost does, but I am just curious how... what the proposal is for quantifying the financial value of those additional benefits of speed and convenience?

>>: Yeah, that's definitely a methodology question, so I'm not sure. Yeah, I don't know if we can wade into that. I understand. It's a good question.

>>MODERATOR: Other folks have answers?

>>: No.

>>: My question is in that methodology are you going to weigh into that about how that homeowner got to that decision making? Is that part of the methodology? I was thinking more about market transformation?

>>: I am going to try to answer that question. I think there's two places. I am assuming in whatever methodology is used to get these criteria, there will be customer surveys done to get this information. I mean, there just will be. We will be talking to

people who have some energy efficiency retrofit done. So there may be some opportunity there.

And then there's the customer satisfaction criteria where we have questions. You are asking does it matter to you that you can find the document on your table and get the loan versus going into your credit union and get it if we want to get to that level of detail.

I think there was a question earlier that said repeated or lengthy surveying affects your ability to get answers, so we have to balance that.

>>: There are ways other than surveys to answer certain questions although surveys are certainly by far the most used way of getting answers. I want to make sure you didn't mistake my comment. It's a great question. You do need to close quickly and sometimes you take the higher cost, that's a real phenomenon and ask the question how to account for that in an assessment.

>>: I had a question or comment. So to Barbara's point, I completely agree about not dissuading people from participating because they have to disclose too much information, but I think we should still have in certain places we shouldn't have ratepayer dollars competing against ratepayer dollars for programs or taxpayer dollars competing against taxpayer dollars. If a private participant wants to come in and do something, that's hopefully good competition to drive down costs. We have to be careful and this is at the root of the legislature's request, they have all these different programs, how do you know we are using ratepayer dollars competing ratepayer dollars, where I'll offer a 15% incentive versus you offer a 10% loan loss reserve.

You want to make sure the criteria does allow for that, where being effective and where it's important and I think you can lay out that criteria in terms of what you do have to disclose and don't have to disclose. If you are private and trying to make a return for your shareholders, it's different than if you are using ratepayer dollars to try and generate a program.

>>MODERATOR: With private financing, we can politely ask can you provide this information.

>>: Yeah, you can politely ask. What we are getting to around with this private financing, and there are different iterations, but really it's the whole infrastructure that enables it—how to you get the contractors engaged, how do you get the effective marketing, how do you solve a problem for your customers? It's really the secret sauce of the private financiers.

>>MODERATOR: How to get a small business to say yes? And split incentive building.

>>: Right.

>>MODERATOR: There's a number of structural market challenges, some of which financing, as we discussed, won't address alone.

There's a clarifying comment online from Jane Elias at Sonoma. The numbers are based on activity number, the number of projects, not dollars, on her slide. So another clarification. And then Jenine Windeshausen in Placer asks me to explain, once the evaluation criteria are established, who will CAEATFA report the criteria to, what next steps or actions will be necessary for the state to move forward on actually doing the research to apply the criteria?

I will answer what I know, and then frame what I don't know. So CAEATFA's next steps is to take input from this working group and it's to take input from this working group and propose actual criteria. It will then go to our board for approval before it gets submitted to the legislature.

I know when talking to PUC staff, that they intend to use some of this information in their next steps. What form that takes and how I can't speak to. If the legislature were to move forward, I think there's a few different ways it could. It could direct an entity to do that with I'm sure a chunk of funding for the research to be done and it would need to be further explored. But I am just guessing at those points because I believe the legislature probably has a few different approaches it could take in moving forward.

And we have one more hand raised. Angie, your hand is raised. You're off mute if you'd like to comment.

>>: This is a question again in my mind comparative assessments we will look across different financing options depending on how you do cost-effectiveness for something else, there probably will be questions why is one performing or succeeding or is more cost effective than another? I am wondering to what extent this assessment can look at some of the different attributes, program models, obstacles associated with administering these different programs.

I will give you an example. There are certain rules that apply to publicly subsidized programs that might not apply to others that are not. I wonder if those are going to be factored in.

Some people may think I go on a tangent, sometimes when I talk about qualifications or project eligibility, but to me those are some of the most important factors that will make a program scale or not. So there are certain restrictions for some programs that don't allow projects to qualify if they don't have a rebate associated with it. There's not allowability for progress payments, solar projects cannot be included, so sort of the impact of those types of obstacles, will that be talked about at all in this study?

>>MODERATOR: I hope so is my response. Angie, you and I come from, as we wear a hat in different places in different areas of that implementer in thinking about what challenges are raised that we need to work through and be successful in in establishing what may feel like arbitrary constraints or clear constraints of ratepayer dollars and the divide that California seems to have with energy efficiency and solar and some of those hurdles and barriers that different programs need to get through.

So at one point in this process from an implementer perspective, I had wanted to put this slide of the diagnostics of the activity front and center because my thought… and Jeff is smiling at me because we had a lot of robust discussions about this. How do you compare programs without knowing the palace goal, what constraints it has and resources and dollars leveraged, that qualitative… the color, the landscape within that comparative evaluation needs to be there. It will be a balance and a tension. My hope is that we can as a group identify the issues and concerns and tradeoffs and that's with each one of these criteria so when it's proposed to the legislature, they have the speed

bumps already identified for them in knowing that whatever we come up with it's part of the picture and not all of it. That's a very long way for me to say I hope so, but from a program implementer perspective when we are looking at trying to increase transactions and scope and broaden the market, those are the different elements that I think of right away.

>>: I would add quickly-- what we have control of right now is our recommendations in the criteria document, but we attempted to raise several types of issues during the presentation and we do so in the document itself because we need to give context and that a number is not just a number itself, but we want to understand what is going on. You want to say here's the absolute truth cost-effectiveness of this program and take it or leave it. You want to understand why that is so you make a more informed decision on what right way to move forward is. I think we are attempting to feed the document with that, and certainly you can comment on whether we have done so enough.

>>: One observation I had in response to that, I think there are ways to qualitatively categorize programs so that those are closer to apples to apples are compared with those that are and then the oranges are compared to the oranges just a little bit and some of those can be around some of these other policy objectives and whether or not, for instance, they have a higher cost because they are reaching factor into that market segment.

>>: Which is why we have to have a category.

>>: It's an entire category, but it's not an entire category simply because they are different, but because there's actually policy value around those differences and that's the part that has to actually kind of get put out there. It's not just oh, these are different colors of things. Well, you know, we are saying there's a policy objective behind these differences and I think articulating that somehow is what people are talking about.

>>MODERATOR: Recognizing whenever this material comes from someone is going to look at from their own policy goals at that point in time.

>>: This is Jeanne Clinton. I wanted to add to this question to what extent do we look at some of the attributes of the programs

or values that different products make to present to the borrowers. I specifically want to do that in the context of saying we have residential and consumer examples because they are easier to talk about. I am wondering what extent are there any special evaluations challenges or questions that are more relevant for commercial or business institutional, leases and loans and transactions. One thought that occurred to me is the way we characterize the actual structure of the finance product is going to vary.

Let me be clear. A straight loan is considered debt and an energy services agreements maybe considered an operating expense or energy efficiency as a service and treated differently for accounting and tax purposes. A lease is different from a capital improvement. And with the utility on-bill financing, the underwriting process will look at the utility bill payment history, but maybe not at the debt ratio of the corporation.

So each product could be categorized as a different kind of entity or thing and those characteristics may in turn appeal more or less to the borrow depending upon their unique financial circumstances and accounting principles and requirements.

Somehow when you get into the commercial business space or tax space with schools and debt ratios and things like that, it may be certain products are off the table entirely because of these other constraints that they have. So I don't know how to work that into the evaluation, a comparative evaluation, but it maybe it comes back to market segmentation issues and being able to talk about which products are even relevant to certain market segments or if some have more appeal than others to do that market segmentation discussion.

>>MODERATOR: So I think from here I want to try to get a sense in the room, Sandy, I think we might be on the cusp of wrapping up.

>>: Yes.

>>: Al will walk it to you.

>>: Chivalry.

>>: I am Sandy Goldberg with the Governor's Office of Planning and Research. I apologize if these have been asked and answered or if these are really basic questions that are not helpful. I had some questions about… like, to me, I would want to know some other criteria that I see them more in the supplemental diagnostic information, like the median and average loan amounts in there and I think to compare programs I would want to also know if they have a maximum allowed loan amount and if they have a maximum allowed loan term? And then the, you know, maybe median and average loan term? And if they are secured or unsecured loans to the extent, you know that the program either has a requirement? It must be secured or some are and some aren't, just to compare the programs.

And then this is something Jeanne was talking about, whether you could compare the programs, the borrower's FICO scores, the average FICO score of a borrower in one program versus another might be useful information and also whether the loans in one program are required to be cost effective, so meaning that the energy cost savings is enough to pay back the loan.

In PACE I'm not really sure that that's ever a requirement. So that would be a difference from OBF, for sure and I don't really know about CHEEP, but that... CHEEP, is that right?

>>: CHEEF.

>>MODERATOR: CHEEP might be better, depending on who you are talking to. Bill neutrality is not required under the CHEEF. I have not seen it implemented in consumer programs as effectively as it has been in some of the commercial projects.

>>: There are different ways to get at bill neutrality. They way that I believe the PACE programs, not all of the PACE programs, have a list of approved eligible measures. There may be varying level of cost-effectiveness analyses that were done setting those terms in the first place.

>>: Yeah. I think the maximum allowed loan amount and the actual average loan amount is important and the term because I work with state buildings and they are actually finding now for these large buildings, multimillion dollar projects that they can't do with a five-year payback period. They are needing a 12 or 13

year payback period. So, there may be programs that offer that and programs that don't.

I had some questions about the attribution. I'm not sure that I totally understand what would be done. It seems highly speculative to rely on customers saying would you have done this anyway or would you have done a smaller project? But I wonder whether that information is going to be used to actually reduce the energy savings that's attributed to the financing. That would later come in when you are doing your cost-effectiveness, the benefits would be less. I didn't know if you were going to have a special attribution percentage adjustment for each separate program or say across the board? It seems like all these programs attribution adjustment should be 40% or 40% wouldn't have done it, 20% would have done something smaller, things like that. So I wasn't really comfortable with relying on that information to reduce the benefits. I think it would be useful to know what people answer. Did 20% of the people in this program said they wouldn't have done with without this? 20% said they would have done something smaller? Anyway, so you could compare programs based on how people respond to those questions, certainly.

Let me see if there are any other questions. For market segments, I wondered if the state facilities are included in MUSH? They are, okay. I also wondered if you were going to look at single family residential, or single family and duplex as one segment, and multifamily residential which is mostly renters -- I was trying to get at how would you look at renters versus owner occupants, if that would be one segment?

Also about the project types I had a question about renewable energy, which some programs might cover. So would that be included in the measure mix and in the benefits? No, okay.

>>MODERATOR: I think it would need to be noted structurally whether some programs allowed it.

>>: We are only comparing the energy efficiency.

>>: You need to be careful about the cost side. That will be difficult to disentangle the costs.

>>: Right.

>>: I am putting it all on somebody else.

>>: You don't want to penalize programs that are doing good work. To their own benefit, they need to figure it out.

>>: I think those were the issues that popped out at me. Let's see if there's anything I didn't...

About the attribution where the methods are still being developed, who is developing them and when are they going to be established methods to use to that because you are saying there's criteria to use, but no methods to apply them yet. It doesn't seem great.

>>MODERATOR: It makes a hard recommendation.

>>: So we have the same challenge. We are farther along, Jeanne can talk about attribution. The market transformation should be... needs to be a part of this in the recommendation and I think just so you know, the ability... how we do that is you must be clear. Although, Jeanne has some good suggestions.

>>: I did agree with Jeanne that the leveraging of private funds should definitely be a criteria of comparison.

>>: This is Jeanne. So I am going to characterize it in general that there's stuff happening on trying to figure out the attribution challenges of financing as in PUC resource program. It's under development. There was a directive to the utilities to come back with a methodology. I think that was done a couple of years ago. It wasn't something everybody felt was ready for primetime, so there was a delay and the date to have it done by has been put off and we haven't reached that date yet.

I actually don't know, Al or Dan may know, whether at this point whether funding has been given to the finance evaluation contractors or where it's still on the utility plate. I know it's not done yet, but it's required to be done because when the PUC embarked on expanding the level of funding that was committed to financing activities, it was with the expectation that there should be some incremental savings being achieved as a result of getting into financing, number one, and number two, from a policy

perspective the bigger question was if financing looks to be a useful tool, intervention technique, can we reduce the amount of money we put into rebates and incentives by letting financing perform an important solution?

>>: Yeah.

>>: This is Dan from the Office of Ratepayer Advocates. Just to answer Jeanne's question. I think at this point it is on the evaluation contractors. I haven't followed it in the last few months. My understanding was that the utilities came over with a proposal that was not accepted, but that was their requirement, so they met the bar in that they made the proposal. I don't think it was put back on them unless it has been more recently. I think for the PUC programs the evaluation contractors are tasked with coming up with methodology at this point.

One thing I will say is that I think there are number of different methods. We don't want to get way down in the weeds, just there're a number of methods doing attribution, not all of which require customer surveys and customers response you are speaking to. So there are options, but I won't go any deeper than that. Just to say the point of view I expressed earlier the attribution is very important and do think there are a number of options. None of them are perfect and sometimes using multiple methods is your best bet. There are some ways beyond just asking someone that very difficult to answer question what would you have done if... some sort of version of that.

>>: Do you think that there would be a reliable enough method that you could come up with different rate of attribution for different programs?

>>: I actually do. It depends on the data collected, but I actually do think there are reliable methods to get differential rates of attribution potentially. I won't say specifically in every case, that it will work well. I actually do believe that. One I mentioned, that AI should get a nod for, is the PG&E proposed a financing program that's stand-alone essentially. There at least we get a very clear, you know... at least on the sort of the savings, we get a clear measure not tied up with rebates and other incentives. It won't get perfectly to the attribution, but will be easier to determine attribution for that sort of a program and that model might work for

other types of programs.

>>: Would that method that method that the PUC is developing be used to reduce the benefits you can claim from a finance program?

>>: I believe all. It depends on the policy context we are talking about, but at least in some policy contexts all programs are reduced by varying attribution factors coming from different methods of determining the attribution.

>>: This is Jeff. One important point, for context, we are saying this is all under developments specifically for financing programs, but we have been assessing other kinds of energy efficiency program and doing the analogous things for a long, long time. Reducing claimable savings by notions of some of what was done in the baseline it would have happened anyway. That's fairly standard. So there are legitimate questions and challenges to applying that framework to financing, but we are not coming out of nowhere from a methodological perspective.

>>: One other thing I thought would be useful when you are comparing a program and their average loans amount, average loan terms, that you should do it on an annual basis for each program to see if there's a trend. This program is doing bigger loans and this one isn't or whatever.

>>MODERATOR: I think that folds into some of the discussion we had earlier about maybe milestones and the market transformation and identifying them.
Thanks Sandy, I appreciate you coming back to raise those issues. I know this wasn't quite as long as an Energy Commission meeting.

>>: And we provided food.

>>: If I could speak really quickly to a set of your comments which were about more descriptive information about the programs and again we are looking at each other. The perspective I was taking and I suspect Chris would agree with this, we were really focusing on this notion we were supposed to develop criteria and these criteria would be outcomes of an assessment. If you have some descriptive information about the

program that's known from the start it's sometimes not an outcome of the assessment, but absolutely information that anyone reviewing this should know and understand and there should be a section of that. The fact we, or I argue that we put it at the end of our criteria document was so it wouldn't get in the way of the punch line, which is here is what we think the criteria should be. But, if you are writing the report, yeah, it should be in the beginning so everyone knows what you're talking about.

>>: I am biting my tongue.

>>MODERATOR: I think Al might have had a second comment and then I am inclined to wrap up.

>>: OBF is good example of the alternative pathways in the room; we have submission for getting approval now. A couple of things we do there that could be picked up in the criteria, is one, OBF is not market-based. We are able to do alternative underwriting, zero interest, cannot be beat in the market. We have also been able to prove that we have, even at PG&E and across the utilities, that it works. We get paid back even with the alternative criteria and the projects perform very well in terms of the loan repayment.

With the alternate pathway because we have this carat of money that is zero interest and is capped, at depending on business you are, capped at $100,000 or up to a million for government agency customers, but we are going to require the contractors and participants to do more than you would have to do if you were doing a market based financing program. We are requiring O&M and taking advantages of technology coming up. Before it was not possible to do measuring or monitoring on every project, but we are seeing the costs of that monitoring through the AMI data and other things come down to a point to do a project for $20,000. Because of these technological advances are happening, we can use the financing carat, which is a very under market or is zero interest, so it's very attractive to customers to drive them in that direction moving the ideas that supports movement in that direction where you can start to... as a contractor you can start to offer energy efficiency in service. We hear from financial providers they don't have the contractors to be able to do this. It provides a good way we say comparative criteria, it's really collaborative criteria around how we can all work target in this

area.

>>: Thank you.

>>: Did you have anything you wanted to say?

>>MODERATOR: I think with that I want to thank everyone for participating and for the lively discussion today. I know that you raised some additional issues were raised that we need to think about and incorporate.

We have the public comment period scheduled to this Friday and over break I had some requests if we could extend that time. Because we are not under a formal process we will extend that to the following Friday. We will send your... we will send... (Indiscernible). That would be May 6th. So that would be by May 6th and that will give us some time, one, time for everyone to think and marinate a little bit. We would like to get written comments from folks that we will either... the end result will be a corporation to the criteria that will go to the CAEATFA board. There will be additional periods to that process as well as for CAEATFA staff, with the technical assistance help that we have to identify some of these issues and comments.

Just a reminder that all comments are part of a public record.

>>: In your report you probably won't go out of your way to attribute them, but if anybody wanted to know where they came from they could ask.

>>: Or there will be transcripts or they can listen to this.

>>: So, these are formal comments? They get posted?

>>MODERATOR: They will be part of the public record.

>>: Just a clarifying question, how many written comments have you already received based on having released the... two? Okay.

>>MODERATOR: One public comment was submitted early in the process to help tease out some of the issues we discussed and another one was distributed to the workshop members, I think on Monday.

>>: Yeah.

>>: Otherwise it's all been part of the discussion.

>>MODERATOR: We got questions from LAO, can this happen? Is attribution feasible and is the market study feasible?

>>: We can give them a cost estimate of what's attribution and let them decide.

>>: I did appreciate that some of the considerations that you guys mentioned several times was availability of data, cost of data and how do you weigh the value of developing the criteria against the cost of the data that you need to comment on it.

>>MODERATOR: And we didn't identify that sweet spot either. So that's the part I appreciated of costs versus benefits.

>>: Yeah, it's ultimately not for you to decide. It's not your money, but it's a big question to raise.

>>MODERATOR: So folks on the phone we will also be sending that notice out online on our website. If you could submit comments by next Friday, we would appreciate it. Thank you all for your time.

>>: Thank you.

>>MODERATOR: And a big thank you to Ashley Bonnett who has been spearheading this effort. I should have said thank you earlier on in the process.