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CALIFORNIA ENERGY COMMISSION

In the matter of:

Inflation Reduction Act Residential Energy Rebate Programs	Docket No. 23-DECARB-05

WORSHOP ON INFLATION REDUCTION ACT HOME EFFICIENCY REBATES (HOMES) PROGRAM

REMOTE ACCESS VIA ZOOM

THURSDAY, MARCH 21, 2024

10:00 A.M.

Reported by:

Martha Nelson

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P R O C E E D I N G S

10:03 a.m.

THURSDAY, MARCH 21, 2024

MS. ELLIS: All right, we'll get started. It looks like we have about 130, 140 people in here today, so good morning and thank you for attending. My name is Savi Ellis and I am the Manager of the Federal Incentives & Financing Branch within the Reliability, Renewable Energy, and Decarbonization Incentives, or also known as RREDI, Division at the California Energy Commission. We are part of a greater team working to deploy several building decarbonization programs at the California Energy Commission.

All right, and we'll move to the next slide.

We'll cover some housekeeping items.

All right, so as a reminder to everyone, this is a virtual meeting that is being recorded. A transcript will be used by program staff to help design and implement the HOMES Program. All presentations and the full written transcript will be posted to the CEC website after the workshop.

Members of the public connected via teleconference will be muted during presentations, but there will be opportunities for public comments and feedback during multiple public comment periods throughout

the workshop.

The CEC welcomes and encourages any written comments and supporting documentations and will provide information for that to be filed in the docket.

If you have any Zoom issues, please contact Zoom at 888-799-9666, extension 2, or you may contact CEC's public advisor at publicadvisor@energy.ca.gov, or by phone at 916-957-7910.

We also encourage everyone to fill out the optional sign-in sheet, and the link should be posted in the chat.

All right, and we'll go to the next slide.

And how you can comment and connect, if you have any questions during today's workshop, there is a Q&A window in the Zoom application, which you can use to type any questions and comments, and staff will relay these comments as appropriate.

We also have multiple public comment periods during the workshop. There is a Zoom raise-hand feature that can be used for an opportunity to speak, or if you're attending by a phone, you can press star nine to raise your hand and star six to unmute.

For public commenters, we will ask you to state and spell your name and state your affiliation, if any, when speaking. However, state law does permit you to

remain anonymous if you choose, so providing your name and affiliation is voluntary.

The presentations from this meeting will be made available through the docket after the meeting. And you can also visit CEC's IRA website for more information after today's workshop.

Any written comments in supporting documentation may be submitted to the IRA docket by April 5th, 2024, for comments to be reviewed. You may also reach out to iraresidentialenergyrebates@energy.ca.gov if there are any further questions.

The California Energy Commission is committed to hearing from all interested parties and encourages comments from the public and stakeholders. We encourage the submission of detailed comments to our docket through the links included in the notice for this workshop, and we are committed to giving equal consideration to comments submitted both orally and in written form, as well as equal consideration to input provided by both panelists and non-panelists.

And we'll cover the workshop schedule. So today we have a number of sessions. We'll cover introductions and opening remarks from the ten o'clock to 10:20 hour, and then we'll do a HOMES Program overview, a coverage of California residential performance-based incentive

landscape. At 12 o'clock we'll break for lunch and we'll come back at 1:00 for a session on program and incentive design. We'll have a short break, then cover administration and implementation considerations. And we'll have a larger public comment period on any HOMES-related topic and we'll close at 4:15. And as a reminder, there will be multiple public comment periods throughout each session.

And for now, I'd like to introduce our Lead Commissioner, Commissioner McAllister, for Energy Efficiency and Building Decarbonization.

And I'll turn it over to you, Commissioner.

COMMISSIONER MCALLISTER: Thank you, Savi. I really appreciate you and all the staff, and in particular, just a lot of work has gone into this workshop. We've had a number of workshops on a variety of issues related to building decarbonization lately. And all of them have a certain amount of urgency. There's just so much going on. There's so many programmatic initiatives, and just we really appreciate -- you know, I really appreciate our staff who is juggling a lot of balls at once and just keeping a lot of things moving.

And also all the participants here, our stakeholders, it just really, you know, doesn't happen without robust input and a process that kind of shows our

work so that people can check it and help us make it better and make it all work, and particularly in a programmatic environment that's complex and evolving and where we need some innovation, we really need to accelerate, we're just all hands on deck. And so really appreciate today as a platform for having some really substantive conversations.

And in addition to Savi, I just want to thank Miriam Joffe-Block and Diana Maneta and Jacob Wahlgren who are CEC staff that are moderating and otherwise sort of conducting the affairs of today's workshop, so thanks to you. And then also Christine and Deanna and Hally (phonetic), a lot of -- I'm not going to be able to name all the staff who's involved in this workshop or these programs, but just there's a big team that's super capable helping move all this forward. So first of all, just thanks to all of you.

So this workshop is the second workshop about HOMES, the HOMES Program, the IRA, the Inflation Reduction Act HOMES Program, and our Equitable Building Decarbonization Program is taking some of the HOMES money. That's our proposal is to put, you know, more than the majority of the HOMES money and break it into the Equitable Building Decarbonization Program, and then also have the significant portion of the HOMES funding from the federal government go into a Pay-for-Performance Program.

And so the Pay-for-Performance Program is sort of, you know, not yet a traditional program. It does incentivize performance, it does measure savings, and it does create an incentive to program operators, that could be contractors, aggregators, implementers, to really harvest the savings, to have high realization rates, to do quality installs that do live up to the expectations of those installs.

And so we're aiming to do a more broadly-accessible program, not purely targeted at low income, but open to, you know, a wide range of income levels, that will leverage some private capital, that will provide smaller rebates for each project or smaller incentives for each project, make them performance-based, and really move the market.

And the reason that we're doing this and that we think it's important to do this, the many reasons actually, but the HOMES Act was a discussion -- you know, this idea has been percolating for a long time. And, in fact, California has provided, I'd say, the main push to innovate and develop this approach, the kind of analytical methods to really make it workable and automatable, working with utilities and analytical, you know, experts over the last decade really to make this a viable program that now is actually working, you know, in different parts of the

country, and even here in California. It does work. And so it does provide -- so HOMES in the federal conversation had been, you know, trying to exist. You know, it was difficult, many difficult administrations there that really nothing was passing and it just sort of evolved over about a decade.

And then that conversation got rolled into the Inflation Reduction Act as the HOMES element of the Inflation Reduction Act. And so there is a pretty robust history of this conversation and it got its, you know, primary expression in the IRA, even though in a little bit of shorthand. And so, you know, everything got distilled down to some pretty basic language, but the core idea is there. It has a lot of merit. And California needs to continue to lead this conversation and to lead the -- sort of open up the path for more effective state, you know, just sort of state and federal subsidy money into this realm.

We cannot subsidize our way out of our building decarbonization challenge. We have to find ways to leverage private capital, to target our incentives in ways that really do make -- that leverage investment by the homeowners, building owners, private capital, you know, financing models of all different types, you know, market segmentation. Figuring that out is really important. And

so this is our portion of the IRA that we're going to leverage to do this. And so, really, I think it's really important that we do this.

The vast majority of our decarbonization funds are going to focus appropriately on under-resourced communities and disadvantaged communities, low-income, all different. You know, there are a lot of metrics out there and we're trying to really make sure already use those direct install funds as effectively as possible.

In terms of getting numbers, you know, smaller rebates per the leverage, you know, per project to leverage is also really important to get out there and compliment, you know, sort of to complete our efforts and really move the marketplace as a whole.

So I wanted to just sort of come on at the front end and really invite people to put their thinking caps on. We have some really great panelists that will describe some of the existing efforts in pay-for-performance. I want to, you know, sort of help us be thinking in the same terms and sort of singing from the same hymnal here in terms of what is pay-for-performance, because I'm not sure everybody sort of operates with the same definition. But, you know, the being account -- having program structure that creates some accountability, some transparency, some measurement, and some accountability for getting the actual savings, for

having good realization rates, and being, you know, rewarded or not for the outcomes as appropriate.

So that's how we've conceived this, our staff has conceived this workshop. And just want to, again, thank everybody for being here. I'm really excited to hear what everyone has to say. And this will be kind of the beginning of a conversation.

There is, as I said, some urgency. The IRA funds are -- you know, there's a process to access these funds. You know, staff is working feverishly to put together the HOMES application of which this will be part. And the process, the administrative process for unlocking the funds from the Department of Energy does have, you know, quite a few steps. And so the sooner we can kind of dial in the basics of the program design and get that application into DOE, the sooner we have these resources in the state to push out and into the world.

So that's why we're here today. Really appreciate everyone's attention. I know there's a lot of expertise online here, not just on the panels, but out there in the attendees. So really appreciate everybody's attendance and attention and brainpower.

So with that, I will pass it to Miriam to keep us going.

MS. JOFFE-BLOCK: Good morning. Thank you so

much, Commissioner McAllister. Welcome, everyone. I'm Miriam Joffe-Block, a member of the Federal Incentives and Financing Branch of the RREDI Division, helping to coordinate the HOMES Program development.

So next, I'm going to provide a bit of background on HOMES before we move into these. This background's going to help us with the in-depth discussion that we're going to have the rest of the day.

So the Inflation Reduction Act authorizes DOE, Department of Energy, to provide three formula funding grants to states for residential energy projects. The first two of these programs are known collectively as the Home Energy Rebates Programs. So California is going to receive $292 million through the Home Efficiency Rebates Program, which is also referred to sometimes as DOE Grant Number 50121, or just 21, for whole home efficiency, which we refer to here in California as HOMES. And HOMES is the subject of our workshop today.

The CEC will also receive $290 million in funding for electrification and appliance rebates and we refer to that program as HEEHRA. We will not be discussing HEEHRA today. The CEC is planning a workshop to discuss the HEEHRA Program later this spring.

The third related program, the Training for Residential Energy Contractors, or TREC, provides the state

with 10 million dollars to support workforce readiness for the residential electrification projects expected through both homes and HEEHRA. CEC appreciates the public input that was provided and has submitted our TREC application to Department of Energy, and we will make public announcements on TREC and contractor training later this spring.

While all three of these programs are allocated through formula funding, as the Commissioner just mentioned, the process requires an application and program approval process with Department of Energy.

Now we're going to move into the details of the HOMES Program, and I'll provide an overview of the objectives.

HOMES provides funding to encourage homeowners to make comprehensive of energy upgrades. Other goals include market transformation, widespread reach to and uptake in disadvantaged communities, encouraging states to value time of use, location, and/or greenhouse gas reductions, leveraging and stacking of the homes funds with other sources of funds, and of course, that incentives are based on actual savings so contractors and aggregators are rewarded for high impact projects.

Now we'll talk a little bit about the HOMES equity requirements.

So first, as part of the White House's Justice40

Initiative, 40 percent of rebate dollars must be deployed in disadvantaged communities. The federal government provides a definition of disadvantaged communities through the Climate and Economic Justice Screening Tool and allows states to propose utilizing their own existing definitions of disadvantaged communities.

The second requirement is that certain thresholds of rebate dollars are deployed to low-income households. This is a separate and distinct requirement from the disadvantaged community requirement. Individual households must meet income eligibility requirements to qualify as low-income. 40.7 percent of rebate dollars must be deployed to low-income households and an additional 10 percent must be deployed to low-income multifamily households. So to say it another way, a total of 50.7 percent of the HOMES rebate funds must be directed to low-income, single-family, or multifamily households.

This slide describes a few components of HOMES, and these rules are relevant to our program design and our implementation. We've already talked about the comprehensive energy efficiency, so I'll highlight some of the others.

Both single-family and multifamily buildings are eligible. DOE provides broad flexibility in terms of project scope, as long as energy savings requirements are

met. So projects may include measures like electric panel upgrades or remediation as long as the project meets a threshold of energy savings. We'll talk more specifically about these energy savings requirements in a few minutes. I will mention that HVAC equipment and water heaters must be ENERGY STAR certified.

HOMES also includes pre- and post-installation requirements, including BPI 1100 home assessments prior to installation, along with data collection and reporting. There are required consumer protections, including protections for tenants and renters, as well as that states establish installation standards and maintain contractor lists. So because of these requirements, HOMES lends itself well to an implementer-driven model as CEC has proposed with incorporation of funding as part of the EBD Direct Install Program. HOMES also provides for an aggregator pathway in which approved entities receive payments based on measured energy savings for portfolios of projects.

HOMES also requires states to put forth a Community Benefits Plan that describes plans for supporting meaningful community and labor engagement, supporting a skilled workforce, and achieving other equity goals.

I mentioned earlier that HOMES projects must meet the savings requirements. So within HOMES, states can

choose one of two pathways, or choose both, to calculate savings and determine rebate values. So the measured pathway requires calculating 9 to 12 months of post-installation savings using a DOE-approved open source M&V methodology. Within the measured pathway, states can choose to set the rebate to cover either a fixed percentage of project costs or to be valued based on actual energy savings.

The quote "savings-based methodology" is what we will be talking about today with the Pay-for-Performance Program. The modeled pathway requires performing audits consistent with BPI 2400 to estimate savings.

So within the measured pathway, in order to receive any payment of any level, a portfolio of projects must meet a 15 percent energy savings threshold measured in kilowatt hour equivalents. Statute sets the incentive level for the savings-based payments based on the average home in the state of California saving 20 percent in energy. And we're going to talk a bit more about this later, but this essentially places a value of $0.55 for every kilowatt hour saved for non low-income customers and double the value, or $1.10, for every kilowatt hour saved for low-income customers. And in our one o'clock session, we're going to talk about how to align our incentive structure in California with this guidance from DOE.

One other thing to note is that states can ask the DOE to increase the value of the incentive structure for low-income customers.

While the savings-based pathway facilitates a pay-for-performance approach for states, one challenge is that it contains requirements that are more typical of deemed or Direct Install Programs. For example, we've already mentioned pre- and post-installation requirements and data collections. HOMES also includes many eligibility checks, some of which we will talk about in the last session today, as well as things like post-project certificates that value energy benefits for customers.

A second challenge is that the federal money cannot be paid out as rebates until the 9- to 12-month M&V process has been completed. DOE has communicated that they cannot permit advances of the HOMES funding ahead of a true-up at the end of the measurement period as is common in the commercial world. This will require contractors, aggregators, and or implementers to finance the value of the rebate for some time. And CEC staff is continuing the conversation with DOE on this challenging topic.

A third challenge has to do with the $0.55 and $1.10 kilowatt hour that I mentioned as the statutory rebate value. As you'll hear more in our one o'clock session, all kilowatt savings are considered equal under

the HOMES Program. And CEC is working with Department of energy to interpret the HOMES guidance and how it can be best applied to an existing framework for -- or to the existing framework for pay-for-performance, similar to what we have in California. The CEC encourages public comment on how to best overlay the requirements and structures of the HOMES guidance with our goals here in the state.

So reflecting back on the RFI that was released in December of 2023 for the HOMES Program development, we received dozens of responses and want to thank all that commented. There were many themes that emerged from the comments and I'm going to highlight a few of them that informed the CEC's direction.

First, there was support for incorporating HOMES funding into the EBD Program with commenters noting that the braiding would simplify customer experience and streamline admin processes in addition to reaching more low-income households. However, the support was often aligned with support of alternative approaches as well, noting that the EBD Program should not be the only approach the CECD takes with HOMES funding. There was also support for a performance-based approach with commenters referring to the intent of the HOMES legislation, as well as the potential for fast and efficient deployment.

It's important to note that while there were

comments from implementers suggesting that a pay-for-performance approach could reach low-income households, many other commenters noted that there is not substantive history of Pay-for-Performance serving low-income customers in California.

Concerns were raised in the ability to meet the low-income market segment noting that low-income households may not be using sufficient energy to begin with, thus disincentivizing contractors to serve those homes. There were also concerns raised about project risk for low-income customers.

So that brings us to the approach that the Commissioner mentioned of HOMES Program development for California. CEC is considering allocating 60 percent of the state's HOMES funding toward the Equitable Building Decarbonization Direct Install Program, and then complementing that approach by allocating 40 percent to a pay-for-performance pathway. Supporting the EBD Program, as mentioned earlier, would expand the number of low-income residents that EBD can reach. The 60 percent allocation would allow the CEC to meet DOE requirements for reaching low-income households and disadvantaged communities through the proven method of a direct install approach.

At the same time, allocating a portion of the funding to a pay-for-performance approach will allow the

funding to support multiple market segments and support the innovation and market transformation needed to meet the state's building retrofit needs, while capturing energy savings and GHG reductions from customers at all income levels.

The pay-for-performance pathway also gives CEC an opportunity to send market signals to incentivize projects that will contribute to grid reliability goals.

The EBD program will use the modeled savings approach that I mentioned earlier. The pay-for-performance pathway will use the measured savings approach that we'll discuss further today.

The CEC welcomes public input on this proposed 60-40 split. If you have thoughts on this, please let us know during the public comment session at the end of today or in written comments to the docket.

Okay, I'm going to talk a little bit about our process. And I know there are some questions coming through that may have to do with timeline.

So this slide shows the parallel processes that staff will undertake to develop and launch both the Equitable Building Decarb and the Pay-for-Performance HOMES Programs. Please note this is not the HEEHRA timeline that we're showing on the screen that will be covered in a separate workshop, the electrification rebates. This is

just for HOMES.

So the CEC conducted a workshop last week to present and discuss the draft solicitation for regional administrators for the EBD Program. As you can see here, the timing of that solicitation on the top line corresponds with our workshop today and public comment period for the Pay-for-Performance Program, which is the first blue dot on the bottom line.

After we receive public input on this Pay-for-Performance pathway, staff will work on submission of the first phase of the HOMES application to DOE. We expect to run a solicitation for an implementer or implementers for Pay-for-Performance, and we will discuss the possibilities for implementation in our last session today.

After implementers are selected, staff and implementers will work together to complete the required Department of Energy plans for HOMES, which include the Community Benefits Plan, Outreach and Education Plan, Consumer Protection Plan and more, which will be followed by program launch.

So that concludes my overview for homes. We have a few minutes to see if there are questions coming in on these kind of overview topics that we want to handle, that we want to answer live and speak to, or if we're just going to go into the chat -- I mean, excuse me, into the next

session or a break.

Oh, and we have a hand raised as well. Okay. Great. Thank you very much.

Okay, I'm going to take -- there's a question about the rebates being available last to 2024. Will the rebates be available this year, 2024?

So the answer the answer for the HOMES Program is that we're expecting a launch in 2025. The answer for the HEEHRA Program, I believe we may have already answered in the chat, I'm not sure in the questions, I'm just checking. But for the HEEHRA Program, we do expect there to be a portion of that program available to Californians later this year. And I believe there is an FAQ on that on our website, and I'm hoping that someone from my team can drop that into the chat.

Why don't we go to the hand.

Okay, Nicole Davis, we will unmute you if you would like to ask your question.

MS. DAVIS: I'm sorry, I do not have a question.

MS. JOFFE-BLOCK: Oh, okay. No problem.

All right, let's see, will there be discussion on implementation of HOMES and HEEHRA income verification tools?

That is a great question. We are not going to discuss that today. I think it is a possibility that that

could be discussed at the HEEHRA workshop that is forthcoming, or that there could -- there could be a future HOMES discussion about it, but we don't have current plans to discuss that for homes.

Okay, I'm going to answer the question from Lisa Schmidt on, "Has a value for saving gas been set similar to the $0.55 for kilowatt hours." So that $0.55, that is a Department of Energy guidance. Actually, I think that comes from their interpretation of statute, and they have a conversion factor to convert therms to kilowatt hours, which ends up at that $0.55. And we will actually mention something about that conversion factor later in the afternoon session. We won't have time to get into it, but that's part of DOE guidance.

Okay, so there is a question. Let's see. Okay. "What is the timeline for implementation on the timeline shown?"

We're not able to give dates right now more than I just mentioned, that I think we're anticipating the implementer solicitation later this year and being live with the program in 2025.

> "Can you please repeat the importance of the 20 percent energy savings target based on the average California home? Does this target vary for low income or non low income households or just the incentive?"

The 20 percent savings target is for the modeled program, modeled pathway. The measured pathway has a 15 percent savings target, but I think what you're asking is what I mentioned about how the savings values are derived. The savings values of that $0.55 per kilowatt is derived based on the average home in California saving 20 percent of their energy. So hopefully that helps.

I'm just going to check the chat here.

Okay, from my team, are there any others that folks think we should answer verbally live?

Okay, there's a question on, "How much money is going to California from Inflation Reduction Act?

So there, we are getting $292 million for the HOMES Program, $292 million for the HEEHRA. Of that HOMES $292 million, we are planning to -- or we our intent is to allocate 60 percent to the Equitable Building Decarb Program and 40 percent to this Pay-for-Performance pathway that we're going to talk about more today.

Let's see here.

Okay, as for Department of Energy's reason for the advance payments, I don't want to speak for Department of Energy too much but our understanding is that this, there's language in this, in the guidance that comes from the statute of the HOMES funds needing to be paid after that that measurement period, so that 9 to 12 months

measurement period, and then whatever time it takes to actually do the calculations. And that is a conversation we are having and we welcome input on kind of challenges that that that might present or potential workarounds and solutions.

I'm going to take a question of, "Are savings of non-regulated fuels going to be included in the savings?"

We're going to actually -- so DOE does provide conversion factors for non-regulated fuels. And we do have kind of a question for panelists and for public comment later this afternoon in our one o'clock session.

There's a question from J.D. "Is the value tied to one year savings of kilowatt?"

I think if your question is, is the rebate value based on one year of savings, then yes. Well, it's a 9- to 12-month measurement period to have at least two peak seasons. And then provided that the measure has-- or that the portfolio of HOMES that that measure and that project is tied to has reached the 15 percent savings threshold, then the rebate can be paid out. I think there's some complexities as to how many the useful life of the measure and what's built in if we were to go kind of more in a more complex direction than the $0.55, and we will talk more about that incentive design in the one o'clock session.

"Why is the goal energy savings and not carbon

pollution reduction?"

I don't know if actually, Commissioner McAllister, I don't want to put you on the spot. I don't know if that's something you'd like to answer, just more of the history of the HOMES legislation. You know, our understanding is DOE has a program for whole home energy, but there are greenhouse gas goals in there.

COMMISSIONER MCALLISTER: Yeah, I mean, that comes straight from statute. So, you know, we could talk to DOE about some of the history behind it and, you know, I could, you know, make some observations. But basically, you know, the rebates are based on statute and we run with that.

It's worth saying, though, as we measure, you know, the measured performance, the measured pathway, that the greenhouse gas savings is actually one of the kind of outputs that's pretty easy to derive from the actual energy savings. So you measure energy savings, you map that onto tariffs, and you map that onto the greenhouse gas profile of the grid, which we know, you know, by hourly across the whole time we're talking about. So, you know, we will know the greenhouse gas. But the statute defines the rebate in kilowatt hour savings terms, you know, sort of combining gas and electric into kilowatt hours.

MS. JOFFE-BLOCK: Thank you.

There's a question on, "Has there been any discussion around randomly assigned HRS raters to projects for post inspections?"

If the question is sort of beyond what's already required for through California permitting, we have not had discussion and encourage, you know, comments on that, if you have thoughts on that, to submit comments on the docket.

A question about,

> "Is there any thoughts towards establishing some kind of ideal average energy consumption per resident number to reward high energy use folks more for reducing their energy more than 20 percent?"

I understand, I think, that is what the DOE statutory setup is designed to do, and that's a great question to bring up. We'll talk more about that in our one o'clock session, which I realize I keep saying.

So we'll take a few more questions and then we will move on to our first panel.

There's a question. "Do you envision the Pay-for-Performance pathway applying to both single and multifamily projects?"

We're actually posing that question back to stakeholders to ask about the feasibility of meeting multifamily housing upgrade needs through Pay-per-

Performance? So I appreciate the question and that is something that we are looking for input from the program administrators, implementers, and other stakeholders on.

> "Can you give examples of the types of efficiency upgrades that Homes Act will cover? I saw mention of insulation, attics, walls, or boats."

So the HOMES guidance is very open in terms of what projects qualify and really leaves it to states to shape what project scopes will be allowed, as long as that that either 15 percent measured or 20 percent modeled savings thresholds are met.

There's a question on,

> "Does California plan on adopting the July guidance to offer additional incentives to installers based on product type $300 payback directly to contractor for installing a split system heat pump?"

So there might be a different answer for the HEEHRA Program than the HOMES Program. I think that's -- actually, let me check on that. I don't want to answer that one yet. Maybe Carol can help me out with that. I don't want to confuse the HOMES and HEEHRA DOE guidance in my head.

Okay, and some of these, I don't know the answer to today. "If changes are done before getting any initial utility bills what will it be measured against?"

I think that's a good question. I think there's a broader question of how do we design a program? What if customers don't have interval meter data? And we do have a question for panelists devoted to that later this afternoon.

Okay, some of these I think we'll handle in the chat because they are sort of HEEHRA specific. And then I'm seeing a couple of these that we have to check on because there are specific questions about DOE guidance that I don't -- we have to sort of pull up the answer to make sure I am correct here.

So I'm just doing another scroll to see if there's anything else we can answer live accurately and precisely.

So I'm seeing a few questions about kind of applications and process for reimbursement. I just want to stress at this time, since we are in program design and submitting our application to DOE for the funds, and then contracting with implementers, there is no current application process to the State of California for rebates at this time, so we do not have more information on that.

There's a question of,

"Will there be funding for public outreach and education or an effort to partner with local CBOs to get the word out about available rebates?"

So the DOE rules for states is there are funds available for administration and project delivery, and so there are opportunities to devote a budget to include public outreach and education. For the EBD portion, well, that was covered that was covered last week and there's certainly roles for as part of that solicitation for outreach and education, and so we expect there'll be that same opportunity with HOMES.

Okay, I'm going to take this one last sort of threshold question of the difference between homes and HEEHRA, because I think that's a good distinction to make. And maybe we could have been a little more precise on that.

So the HEEHRA is rebate dollars for specific electrification upgrades and appliances, whereas HOMES covers whole house energy efficiency without very many restrictions at all from the DOE side. It's certainly possible. And, in fact, we expect that both programs will be providing rebates for heat pumps and heat pump water heaters, since that's such an integral part of California's decarbonization goals, and both of those appliances lead to significant energy efficiency savings.

We can also perhaps drop in the chat some of the DOE background on the two programs to help give folks more information.

Okay, I am going to -- we're going to pause the

questions now and our team will continue to field them in the chat.

What I want to do is I want to turn it over now to my colleague, Diana, who is going to introduce and moderate our first panel.

MS. MANETA: Thank you, Miriam.

Thanks, everybody, for the questions. And as Miriam mentioned, we'll get into some of those details that folks are asking about in more depth in some of the panels, and also encourage questions and comments to keep coming throughout the day.

My name is Diana Maneta. I am in the Equitable Building Decarbonization Branch at the CEC. And as Miriam mentioned, I'll be moderating our first panel, which will focus on lessons learned and insights from existing residential Pay-for-Performance Programs in California. I have just a couple of introductory slides and then I will introduce our panelists one by one.

So first, what do we mean by Pay-for-Performance, or P-for-P, Programs in the context of HOMES, since these terms can be used a lot of different ways in other contexts? So in this context, P-for-P refers to Energy Efficiency Programs in which the incentive amount is tied to actual energy savings that a project achieves, measured at the meter. To tie back to Miriam's presentation, this

is the measured savings-based pathway, as defined by DOE's guidance for the HOMES Program.

In California, P-for-P Programs are often referred to as NMEC programs, which stands for Normalized Metered Energy Consumption. The word normalized refers to an important aspect of these programs, which is that the energy savings analysis normalizes for variables like the weather to more accurately assess the actual impacts of the energy efficiency intervention.

I do want to be clear, though, that NMEC methodology can also be used to measure the outcomes of Energy Efficiency Programs that are not Pay-for-Performance Program, meaning programs in which the incentive amount is not actually determined by the savings achieved.

I also want to emphasize, when we say P-for-P in this context, we're not talking about the ongoing performance-based efficiency as a service contracts, which are common in the commercial world, and we're also not talking about demand response programs, though customers could enroll in a demand response program as part of a Pay-for-Performance Program.

I also want to mention the term Market Access Program because you'll hear a lot more of that today. Market Access Programs are one flavor of P-for-P Programs and they have a few defining elements.

One is that the incentive value in these programs is tied to the total system benefit, or TSB, of energy savings. TSB is a metric established by the Public Utilities Commission to represent the total dollar value of avoided energy use.

Second, Market Access Programs have uniform rules for aggregator eligibility and project qualifications as well as uniform payment terms for aggregators based on that TSB value of their savings.

And finally, Market Access Programs feature an open procurement model in which any aggregator can participate if they meet the program rules and requirements.

Next slide, please.

So for context, this slide lists the active and pending residential P-for-P Programs that we're aware of in California, as well as some programs that have recently concluded.

As Commissioner McAllister mentioned, California is a real pioneer in pay-for-performance, but it's also true that this model is still relatively new and evolving, especially when it comes to the residential sector. Many of the programs listed here have been quite small, reaching hundreds of homes or fewer, and we understand that the programs that have reached more homes have typically

involved relatively low-cost, light-touch interventions, such as smart thermostats or behavior modification.

At this point, we're not aware of any residential P-for-P Programs in the state that have done whole house efficiency or electrification projects on a large scale. That doesn't mean P-for-P isn't an appropriate model to support that type of retrofit, but it is important context as we think about how HOMES funding can best support and advance the P-for-P landscape in California. We want to be sure to understand the challenges that existing residential P-for-P Programs have faced so that we can be intentional about the design of the HOMES Program.

By the way, if we're missing any programs that you believe should appear on this slide, please let us know so we can update our information. I'll say again, our scope for this slide is limited to residential programs and to programs that fit the definition of P-for-P that I shared on the previous slide.

Next slide, please.

So that brings us to some important differences between HOMES Program requirements and the rules that have applied to most of the existing residential P-for-P Programs in the state.

For one thing, many of the existing P-for-P Programs are subject to a cost-effectiveness requirement

established by the Public Utilities Commission. There is no cost-effectiveness requirement tied to the homes funding, though there is a limit on the amount of funds that can be spent for administrative purposes.

Second, HOMES-funded projects must achieve at least 15 percent energy savings on a portfolio basis. And that means that we're talking about retrofit projects that likely go beyond a smart thermostat or other light touch-type interventions.

Third, DOE requires that a fixed portion of the incentive amount be passed through to the homeowner, whereas many existing P-for-P Programs have allowed aggregators to determine how much if any of the incentive is passed through.

Fourth, to our knowledge, all the existing P-for-P Programs include some form of advanced payment. As Miriam mentioned, based on the HOMES Program guidance, DOE has expressed some concern about payments being made before the conclusion of the full 9-12 month measurement period.

Next, regarding the incentive value, existing P-for-P Programs in California have typically valued savings using the avoided cost calculator, which accounts for the fact that the value of energy savings to the grid depends on the time of day and the time of year, and it includes separate values for each of with 8,760 hours in a

year.

In comparison, as Miriam mentioned, the HOMES guidance includes a formula to calculate a flat rate incentive payment, which comes to $0.55 per kilowatt hour equivalent or double that for low income households. However, DOE does allow states to propose an approach to valuing savings based on time, location, or greenhouse gas emissions. And we'll discuss further how to balance these approaches this afternoon.

Regarding consumer protection, as Miriam mentioned, the HOMES funding comes with a lot of rules that haven't typically been required in a P-for-P model.

And finally, HOMES requires a variety of eligibility checks related to equipment, household income, and other factors that have also not always been applied in past programs.

So the reason we wanted to share this information is that designing an effective P-for-P Program will require that we build on California's great history and experience with pay-for-performance, and also that we recognize the ways that the HOMES Program requirements will necessarily result in some innovation and some variation on the P-for-P model.

With that, I'd like to introduce our first panelist, Coby Rudolph, with the California Public

Utilities Commission. The CPUC authorized the Market Access Program and other P-for-P Programs that have operated in California to date, and Coby has graciously agreed to speak to the policy considerations that have driven the design and incentive structure of those programs.

And with that, I'll turn it over to Coby. Great,

MR. RUDOLPH: Great. Thanks, Diana, and thanks so much for giving that great overview of some of the performance-based incentive work that we've done here at the Public Utilities Commission over the last several years. I thought I'd have to kind of start off and do some definitions, but you really kind of took care of it, so appreciate it.

Thanks, everybody, for having me and for inviting us to participate today. Really excited about today's sessions.

Here at the Commission and with ratepayer funded programs, we started experimenting with this type of market access approach back in 2020 and 2021 and let other folks perhaps from MCE talk about the initial experience they had during that time.

But then in later 2021, when we were looking at options for how we could address some urgent summer reliability needs in the state, we looked to this market

access approach to help us experiment and deploy energy efficiency resources to fit that bill. So our objective at the time was summer peak reductions in consumption, especially at net peak hours, 7:00 to 9:00 p.m. in the summer. And then it was also great if the resources that we deployed and funded could have impact at other times of the year as well, and not just for a one-year period, but for years to come, so through the EUL, the estimated useful life of a project.

We also wanted to limit the risk that we would pay for savings that didn't materialize. And we wanted something that was not necessarily measure-specific. We had a sense that there was a lot of opportunity out there for additional summer peak savings, but we didn't just want to presuppose the specific measures that customers would be interested in, or what the go-to-market approach would be to get customers to make a purchase or do an installation.

And, you know, part of the reason was that if we were wrong, if we had faulty assumptions, then we could end up losing out on significant savings opportunities. It's hard for us as the regulator to really have a direct pulse on what's going on in the market. And, as we all know, things can change over time, so what's true, you know, one summer might not be true the next.

So we wanted to let market actors experiment both

with measure mixes and with go-to-market approaches. And what we saw was that this market access approach that had been tried out for a bit in MCE territory is called the flex market, which I'm sure folks will get into, helped fit the bill for a few different reasons.

One is that it was 100 percent performance-based payments using meter-based measurement and standardized global eligibility rules for projects and aggregators. That kind of standardization, and both in rules for aggregators, what we call aggregators basically, companies participating in the program for projects and for payment, helped us helped us get more flexible, helped us kind of get more comfortable being flexible on the kinds of measure mixes, projects, and go-to-market approach that would work for customers.

And, you know, traditionally, in a lot of our programs, we've used what's called deemed savings, average savings, and specifically designed go-to-market approaches where we set the incentive in advance, and we kind of predetermine how the customer interaction is going to go. And we do that because we know that the savings values that we have, those deemed savings values, are really tied to a specific set of measures getting implemented in a particular set of -- with a particular set of customers who are responding to specific market signals.

So to open that up, to get more flexible on the measure mix and the go-to-market approach, we really had to have that kind of, again, that standard set of eligibility rules and criteria, meter-based measurement that allowed us to be confident in the savings results, and the standardized pricing that, as Diana mentioned before, is set based on what we call our total system benefit dollar metric, so it's different for every hour of the year.

And then the other piece is that when we looked at this possible approach, we realized that we had a lot of the tools already developed or at least done significant development on them.

In 2021, we adopted that new TSB, total system benefit metric, the dollar value. And that's, you know, as Diana mentioned, that TSB metric values demand-side reductions by the hour. It uses our Commission-adopted avoided cost calculators, which by the way, everybody can get just by going to our Commission website. I'll post the link after I'm done. And it looks at both avoided greenhouse gas compliance costs as well as the value of a unit of consumption reduction, the value that provides to our electric and gas systems.

And then we also had some experience with NMEC Programs, normalized meter energy consumption, that I'm sure we'll get into more, other folks will get into more as

well. We adopted, first, a set of rules for what we call site level NMEC, larger projects that use customized savings calculations based on some legislation that the state legislature passed earlier in the '20-teens. And then we developed rules for what we call population level NMEC, which is really where a lot of the residential savings is done. And we adopted those rules back in 2020. So we had those two things, both the TSB metric and our experience with normalized metered energy consumption to help us stand up these Market Access Programs.

I think just getting a little bit into some of the potential and challenges that we see -- oh, I guess the other thing I'll mention is that that's what we did for summer reliability, specific funding that exempted programs from a few Commission rules meant to help with some reliability starting in 2022 and then moving on to 2023 and beyond. Those programs, the installation deadline was March 31st of this past year.

But last summer we adopted new energy -- funding for new energy efficiency portfolios, four-year funding, and as part of that, we asked all of the investor-owned utilities in the state to stand up these kinds of market access approaches in their own ongoing energy efficiency portfolios. So I think, as Diana showed, some of those programs are in development right now, and we expect them

to be rolling out through the rest of 2024 and 2025.

One thing I will note is that it can be hard for us at the Commission, in particular in our ratepayer-funded programs to do a lot of work in equipment focused residential programs. And that's because those kinds of programs frequently have a challenging time passing our total resource cost test which relies heavily on incorporating equipment costs. And so I think there could be some interesting opportunities here for both gap filling where ratepayer-funded programs have had a bit more of a challenging time and also potentially leveraging opportunities as well.

I will say, so yeah, I do think that there's some opportunity out there as we move forward to have this approach led by -- this kind of approach led by both agencies, perhaps in somewhat of a different form.

The other thing I'll mention is just a couple things that we've seen so far in our Market Access Programs.

First off, we're currently conducting a process evaluation of our Market Access Programs. It should be done later this year, so we'll be publishing that for all to see. Also I know that at least one of the utilities is engaged in their own evaluation of their own Market Access Program, as well, so we'll learn more as time goes on

throughout the rest of 2024 and perhaps early 2025.

But, yeah, I guess one or two notes.

First off, what we saw in our Summer Reliability Market Access Programs was that some of them experienced a slow ramp. It was a bit challenging to kind of get things going very quickly. We had to wrestle with some program implementation issues. But then also, it takes a little bit of time for the market to adjust and look at those savings values, the dollar values that come as incentives, and figure out how to then develop a customer offering that that they can use to go out to, in our case, both commercial and residential customers.

Residential might even take a little bit longer, and maybe Justin can speak to that, as well, because I imagine you're developing a customer offering that doesn't just need to fit one project or five projects that might be done in a commercial implementation, but you're looking for something scalable that's going to be able to serve perhaps hundreds or more customers in somewhat of a uniform fashion.

So we did see that, you know, bit of a slow initial ramp. But once the ramp happened, in particular in a couple of our program territories, things got moving pretty fast. And so we did find that flywheel effect where, you know, if we put the decisions about, again,

measure mixes, go-to-market approaches in the hands of companies, aggregators that could go out and figure out how to best install, how to best serve customers, they came up with some interesting ideas that were able to really tap into customers' needs in an effective way. And once they got going, we're able to produce some good results.

I think I may be around time, so maybe, Diana, I'll look to you on that to let me know if this is a good time to move on to the next panelist.

MS. MANETA: Yeah, that was great. Thank you so much, Coby. Really appreciate that background and that perspective from the CPUC.

We will have a chance for questions and discussion of Coby and the panel, but first I'm going to let our next panelist speak. So look forward to hearing from them.

Next we're going to have Alex Valenti from MCE. MCE has been a real pioneer in the pay-for-performance space in California and Alex will speak to their successes and challenges with their residential Market Access Program.

I'll hand it over to Alex.

MR. VALENTI: Awesome. Thanks Diana.

Good morning, everyone. And, yeah, thanks to Coby and Diana for providing a little context to

performance-based programs and sort of the history of MAP.

So, yeah, I'm here today to talk about our recent history with performance-based programs, talk a little bit about how those programs operate, and give a little bit of lessons is learned from our initial experience operating these programs.

So if you could advance the slide, please?

So a quick background on who -- our context for who MCE is. MCE is the first community choice aggregator in California. Community choice aggregators are municipal entities that aggregate our customer power and buy renewable energy and low-carbon energy for our customers.

Next slide, please.

MCE's service area is these four counties and about two dozen communities they're in, consisting of about a half million accounts and about 1.5 million customers.

Next slide, please.

In addition to being able to provide low GHG energy to our customers, we've been able to administer Energy Efficiency Programs, energy storage programs, and EV programs for over ten years. So we operate similarly to the IOUs, PG&E, SCE, and SDG&E, and administer CPUC-funded programs for energy efficiency. So, traditionally, EE programs have really focused on deemed or custom, but as Coby mentioned, there's been this recent evolution and

incorporation of performance-based programs, which is what we're here to talk about today.

Next slide. So yeah, we can advance to the next slide, please.

So just a little overview of sort of the contrast between traditional deemed programs and pay-for-performance programs, just want to set the context there. I think some of it has already been discussed, but a little refresher.

So deemed programs have been the more common program design for incentives, both in California and throughout the country and the world, where smart people using great data come up with prescribed savings, so looking at what sort of typical operating equipment consumption is and then comparing that to new equipment types, and then determining what energy savings would be typically modeled, and then depending on the incentive design, how much value to assign to those savings.

Those programs provide upfront -- or a payment upon installation. Once program documentation and all requirements are finalized, those payments are paid right then upon completion of those program requirements.

Pay-for-Performance, on the other hand, is based on meter-based savings measured at the site. So with the advent of AMI equipment, so advanced metering infrastructure equipment, we're able to really measure the

impact at a 15-minute interval to really show what grid impacts there are at an individual site due to those equipments installed. Therefore, in order to do that, we need to look at 12 months prior to the intervention, so we look at the data and the energy use prior to that intervention for 12 months and look at the intervention impacts for 12 months post-installation. And so, as mentioned, the normalized metered energy consumption is the methodology, and it really allows us to measure those impacts.

As there's a delay in payment, we've learned that providing an upfront incentive does encourage participation. So we've looked at 20 percent upfront based on forecasted savings and then paid quarterly thereon.

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There are eligibility criteria for data in order to be able to participate in these programs, And I believe this will apply for the HOMES opportunities. We have required 12 months, as I mentioned, prior and post installation. They need to have that 15-Minute interval data, but they also need to have a consistent load shape. So due to this NMEC modeling process, there are sort of statistical requirements in order to run the models, and so that consistent load shape is key.

That's one of the reasons why industrial

customers cannot participate, and, this, you know, slide indicates that it's non-industrial customers, and that's really due to the variability of load. So for residential customers, it's typically a very normal shape, so they're good candidates for these programs.

This last bullet talks about -- it's more of a guideline than an eligibility hard and fast rule, but we really want projects that have significant savings and low discretionary load, so discretionary load being variable load. So we really want like whole home residential projects that show significant impacts at the meter for these models to run and for savings to really be evaluated and measured correctly.

Next slide, please.

So in our program we have sort of three main stakeholders, ourselves, the administrator, administrating the CPC funds. We have an implementer partner who does really the day-to-day activities and manages the aggregators. And the aggregators are the ones who do the project development and they can, you know, sort of vary widely in their nature. So they could be the contractors installing the equipment. They can be consultants who design the equipment, ESCOs and the like who really do the project design and project implementation.

Next slide, please.

So we've had three programs that have been based on these NMEC processes in our pay-for-performance, Peak FLEX, which is our daily load shifting, commercial, focused on commercial customers, and our residential market as well.

Next slide.

So briefly, our commercial efficiency market was our first NMEC-based program. As Coby mentioned, we started in 2021 sort of kicking the tires, so to speak, on what the program would look like, and through 2022, we gained more momentum, and now in 2023, we had significant adoption of this model. The projects have really been lighting and HVAC-focused, but have really significant impacts, so as you can see, $50 million -- or 50 million kilowatt-hours in lifecycle savings with that $4 million total system benefit. So very significant projects that, you know, are based on real results.

And what we learned is that the upfront incentive is key, and that data management is very important. So the flow of data and measurement of the impacts through the NMEC methodology is really dependent on good quality data. so making sure that the process is in place, that there's QA/QC in place to be able to make sure the data goes into the model clean is very important.

And the other thing to mention is that aggregator

models vary widely. So the idea of understanding, maybe creating program guardrails to make sure that those program funds are being passed through and really influencing the success of projects is important in program design.

Next slide, please.

So what's most relevant for this forum is our residential efficiency market. And as Coby mentioned, these programs have had a slow ramp. So we started our residential efficiency market in 2022 with very little uptake, and into 2023, we've experienced the same. We did have one aggregator partner who had smart thermostats, so we had over a hundred sites participating via that measure. But recently we have had a few new projects installed and are excited with the potential for 2024.

What we learned is that education and training is really important in the residential space. Residential contractors are typically less sophisticated, more mom-and-pop, have smaller resources to do forecasting of energy savings or take on risk associated with these payment performance models.

We learned that we have to simplify the process. So we, instead of having a pre-installation check, we have just post-installation documentation and enrollment, so just to make it easier.

But I think the biggest impact for our program

were other program interactions, so going back to that sort of deemed versus pay-for-performance, there were deemed programs funded by the same source, CPUC, that were easier for contractors and at a significant deemed value. And so I think that took a lot of the potential away. We see that that has changed, and so there's greater potential, potential for us to braid our program with the braided Homes fund and EBD funds, so I think there's a lot of opportunity for some significant projects in the future.

From these lessons learned, you know, moving forward, we are really going to focus on whole home projects. So MCE does have two Direct Install Programs for low income. And we are really using this program to focus on sort of medium-income and whole home projects.

We're going to include our own grant funding to accelerate projects for heat pump and heat pump water heater measures. We're going to use a different marketing approach to really encourage more participation from small aggregators. And as you may hear later on, there are some programs from implementers that are now kind of breaking through to provide more impact projects for our program and for other programs throughout California.

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So sort of in summary, we do believe that these programs are going to grow, both within the HOMES Program

dynamic and others. We think that, you know, measured savings methods are more mature now and are maturing, so there are updates to these NMEC rules and processes and some of the other basis of analysis. So, you know, the methods are getting good. Aggregators are becoming more experienced in learning how to develop projects to deliver these results.

And again, the opportunity for streamlining and stacking between different funding opportunities, we see that there's like a lot of potential that will grow this opportunity and really grow the market so that there's momentum that kind of carries through even after some of these incentive programs have winded down, because developing Green Workforce Pathways, a program that we use or that we provide, as well as other workforce programs will increase the contractors and reduce first costs for equipment.

And then the last thing I'll say is that these programs will really also be kind of partner programs and projects for integrated demand-side management opportunities. So we will be coming out with IDSM programs and others to really figure out ways to how do we take these new equipment that may be flexible and really empower customers to help the grid in times of need. So these programs and projects really will allow for further value

from these type of programs.

So, with that, I appreciate the time and happy to take questions. Thank you.

MS. MANETA: Great. Thank you so much, Alex. We will have some time for questions at the end of the session.

But our final panelist this morning, I'm going to turn it over now to Justin Kjeldsen with Franklin Energy. Franklin also has a long history with Pay-for-Performance Programs in California, both as an implementer and an aggregator, and really look forward to hearing what Justin has to offer.

So go ahead, Justin.

MR. KJELDSEN: Thank you, Diana. And, yeah, what an exciting workshop to hear kind of all of this information in one place from the beginning on the regulatory side, from the CEC and the CPUC, through the administrator side and MCE. And what I'm going to talk to you today about is what it's like to be on the ground with one of these programs and actually implement and deliver in a pay-for-performance environment.

Next slide.

So just a quick orientation to us so you know what we've got, who we are, and what we're doing.

Franklin's been around for 30 years. We're one

of the largest implementers in the U.S. We work nationwide. We've got over 1,000 employees. We deliver services to 150-plus utilities across the U.S., and we have a sister company, AM Conservation, that delivers energy efficiency products.

In our role, we've worked both as the implementer and the aggregator roles that you've heard about, and we started in that implementation space with three different NMEC program models and have evolved to that aggregator role where we're now operating in a Market Access Program. And so I'm going to start orienting you to some of our earlier implementation and then move into the market access piece.

So let's go to the next slide.

I'm not going to cover definition, but I will just caveat, you know, Diana did a great job of laying out what we're talking about today. But what I'm talking about with all of our programs is, again, that residential population-based paid-for-savings program model. And so in all of these instances, Franklin was compensated wholly for savings recognized at the meter that included incentives to customers in whatever form they took, and all of our compensation as an implementer of the program. It was all based on meter-calculated savings.

What you see here is the three programs we've

really run, and so it started with our Home Energy Rewards Program. This was a very light-touch program. We've got Cool Savers in the middle. That was an early adopted program, also one of the first NMEC programs that was approved. It operated in a sweepstakes type model.

And on the right, you'll see the Comfortable Home Rebates Program. And that program, it operated the longest and it evolved from HVAC maintenance and whole home upgrade programs to become a Pay-for-Performance Program. And it operated that way for a while until we were able to see some of those meter-based savings results and really evaluate how our interventions were affecting customers. We could see the impacts of those savings compared to the deemed work papers that have historically been used when we talked about deemed programs. And we could see how the gas efficiency measures were performing.

And ultimately what we could see through all that data that we were now looking at for all the interventions we'd done is that there was a real, real motivation to move to that electrification component. And so the program evolved to deliver electrification primarily.

And so in a very short time, we pivoted the program and served well over a thousand customers with a deep electrification intervention. What that allowed us to do was focus on those HVAC and shell measures.

We moved towards a hot climate zone, and the program was compensated at an MMBtu level. And what that means is that we were looking at both gas and electric savings at a source energy level, and that allowed us to really, really focus on that electrification component because electrification can at times increase electric usage, but the decarbonization impact of removing that gas equipment is significant. And so from a decarbonization perspective, we saw great benefit in the electrification efforts we were putting forward.

This program also drove significant peak savings. As you heard, there was a strong focus over the past couple of years about summer reliability. And the price signals that were driven into this program drove us to focus on that specific intervention. And so what we were able to do was really create strong benefit in the peak and for the overall grid through this program.

I'll post a case study to this in the chat when I'm done, but you can look at Franklin Energy case study that you can search it in any browser and see the case study for this specific program.

Let's go to the next slide and we'll talk about the market access interventions.

So market access, as you've heard about, and MCE is featured right there, in this marketplace, we were

operating as an aggregator. So we stopped being the implementer and we started working directly with contractors and customers to drive projects and bring them into the marketplace. This is our newest effort because we were focused on the other program deliveries for quite a period of time, but we're excited to be in this space now and driving projects forward.

We've completely pivoted the program design. And I think that's one of the things I want to leave people with is that the flexibility and iteration component of these programs, within market access, we created a product where we're taking the incentive that would normally go directly to a customer, and we're buying down interest rates to zero percent. What that allows us to do is work directly with our partner contractors and offer them a zero percent financing product they don't normally have access to. And so when the customer's out at the site trying to sell that job, it eliminates all of that immediate upfront cost barrier to the customers and really helps move the project along.

So we're excited to see how this product works. It's fairly early in its implementation, so I don't have a ton of results to talk about, but we really think it's a great approach. And working in close collaboration with the stakeholders, the trade allies and partners we work

with in the field, we think this is a wonderful solution.

Let's go to the next slide, and I'm going to talk about successes and challenges. So this is going to get maybe a little nitty gritty, and it's going to expose some of the issues that we see within these program designs.

I think, so on the success side, that program flexibility really is key. You heard me say we moved through sweepstakes, kits, behavioral messaging, like measure iteration. All of that flexibility within the measured program design was critical to allow us to iterate over and over again to find a program model that worked, met contractors' needs, customers' needs, and led to scale. And that iteration was really what was the key to getting to scale.

I will say the clear rules obviously helped. You know, the CPUC has done a great job of outlining an NMEC rulebook and having that clear guideline, and those rules to rely on also in this environment were helpful when we were working through how to run the programs.

And one of the things that we've seen so far is still the traditional incentives still work best. And you'll hear, we've talked about, you know, recognizing customers up front and the difference with the HOMES Program having the payments on the back end. That is an issue that I think needs to be discussed and people need to

be well aware of that those incentives, money now kind of matters to customers, and so that's something to be aware of. We found that to be the most successful of all of our program designs, so I just wanted to point that out.

On the challenge side, that gas and electric data availability is critical. When you're doing meter-based evaluation, you need to be able to look at both fuel sources when you are decarbonizing and electrifying because you need to be able to recognize the reduction in that gas benefit to really capture the full value of the project you're delivering, so that data availability is critical.

Within the savings modeling, there's always challenges. You know, there are -- I'm not going to go too far down into the calculation methodologies and what underpins NMEC savings methodologies, but there are certain interventions or certain customer situations that make it a little more difficult to model. And, you know, we also saw that in some cases we were saving so much energy on the gas side that the models had to account for that. It was kind of throwing things off.

And so there are years and years of learnings through this process that I don't have time to talk about, but really making sure that the models are calibrated to fit the interventions you're driving were a key piece also.

The payment policies, mentioning that we take the

risk on in many of these cases and, you know, recoup that as a performance payment on the backend is a challenge. And smoothing that cashflow delivery is critical to scaling a market and making it operational.

All of the programs we ran ended up having interim payments and not having a final payment at the very end -- sorry, let me clarify that. They had interim payments through the process, but it had a true-up at the end. We didn't have to wait all the way until the end of the delivery to get compensated. And that was just key when you're working with a portfolio of projects to be able to smooth cash flow for implementers or contractors that are driving projects forward.

Baselines can be a challenge in a NMEC environment. You need a clean 12-month pre- and post-baseline to be able to evaluate the savings of those interventions you drive, and so that can be limiting to some customers.

You know, ESA is a large income-qualified program, and they have light interventions in some cases that can erode how customers participate. Sometimes any deemed participation in a customer's 12-month history can preclude them from participating in an NMEC program, and that's a challenge that needs to be addressed. And, you know, people move in and out of their homes. People

change names on accounts. All of those fluctuations can create challenges as well.

You know, we've addressed all of these and have worked through solutions over the years, but those are some of the key challenges that we saw as we were implementing programs.

Let's move to the next slide.

We'll talk a little bit about gaps. There are certain customers that we found were troubled to participate. Multifamily is difficult, mobile homes and parks are challenging in the NMEC space, and renters for that, you know, duration component. Renters come and go pretty quickly, and so serving them is more challenging and probably not a real good fit for rental environment in an NMEC program, depending on the duration of those savings evaluation.

And customers that can be a good fit but may need -- may not also and need to be kind of considered carefully is that low-income component. We've talked about how to serve low income and, you know, I'm excited to hear that there may be a deemed approach for low income and, you know, a pay-for-performance approach for more market rate customers. But those high intervention costs of deep retrofit measures can be a challenge to overcome for an income-qualified customer.

Solar and electric vehicles, I want to copy up this bullet that they are not -- that does not mean they are not a good fit. What I mean in there is solar and electric vehicles can cause a challenge in the modeling of the savings, and so what you end up with could be a challenging model fit where it's difficult to recognize the savings and the interventions that have been driven at that home. So those are things that you need to be careful of when you're implementing a program.

Broadly, I think when these customers come up and when there are ineligibility challenges, it's important to have a backup methodology. And we've worked in all of our program environments to come up with, you know, the case we use when we deal with those situations to account for those customers so we don't lose them.

The worst thing you want to do is go serve a customer and then tell them they're not eligible because we can't calculate your savings. That doesn't mean anything to people in the real world, and so we want to be thoughtful as we design programs about what do we do in those cases when we've got a customer in the program and we're having a challenge accounting for those savings. Setting those expectations up front in policy and program design is critical to making sure that you have a robust market of NMEC programs running.

I want to close on our last slide, which is just kind of the good news. I hit you guys with some of the challenges that we've seen, but overall, we are so excited to be in this space. We've had outstanding success with NMEC programs since 2018.

You can see here, we served 10,000 customers in just under two and a half years with our programs. That resulted in almost a million therms saved. What you'll see in these slides, and I'm going to actually draw your eyes in just for a moment, if you look at the left side with the three boxes on top of the big box on the bottom, there's an orange bar in that middle top box and it says "Peak." What you can see is a peak savings that I was talking about. That is a 20 percent reduction in peak energy use for homes where we went and had an intervention. So that's a substantial reduction in peak usage for customers that received our interventions.

Over on the right side in the bigger blue bar, you'll see that total system benefit we talk about. And what's been found is that the interventions we were leveraging and driving into these homes ultimately ended with about a $4,000 total system benefit, which is just an outstanding value for us.

So we feel that this is a very successful model. We've worked through a variety of implementations and it's

been a wonderful experience for us. We've been very pleased with the results and the outcomes and we're excited to keep iterating on program design.

I think, you know, if I leave you with anything is that the flexibility that this program design affords is critical. We do feel like we've moved the market. We engaged many contractors. Comfortable Home had over 60 contractors participating in it that have now been through that electrification process, so we're able to move the market.

And the other thing about meter-based savings is it's all accounted four at the meter. So you get that 100 percent realization rate. So when we've talked historically about low realization rates on program delivery, really what we're seeing with this type of program delivery is compensation for savings that show up at the meter, and that's where it's really important.

So with that, I'll close and turn it back over to you, Diana.

MS. MANETA: Great. Thank you so much, R.

At this point, I'd like to invite our three panelists to come on camera if you're not already. Great. Thank you. And I see we have a bunch of questions coming in from the chat. I have some questions as well. Those were really thought-provoking presentations, really appreciate

that depth of information.

And so I think I'll maybe start us off with a couple of questions. We will take some questions from the chat and then in a few minutes, just so folks are aware, we will also open it up for more of a public comment session before lunch.

So to start off, I think we heard a lot of great perspectives from all three of you on the successes we've seen in residential pay-for-performance and also some of the challenges we've seen and some of the factors that have led to many of these programs being relatively small, but also opportunities.

For example, Alex, you mentioned the slow ramp as aggregators are getting comfortable, but then once you get there, you know, really the opportunity for continued growth.

One challenge I wanted to ask a little bit more about, Coby brought this up, is the cost effectiveness, the total resource cost, and you mentioned, Coby, that you've seen that as a challenge for equipment-focused residential programs. Curious to hear from any of the panelists, the extent to which you found that to be a challenge and also the opportunity. I think Coby mentioned that's a place where layering, leveraging with other funding sources like potentially homes funding source could be really valuable.

And so I guess I'm asking a double question. What is the challenges related to that cost-effectiveness requirement? And then to the extent that layering or leveraging other funding sources could be valuable, what would that look like? Can you provide any more concrete details of what that layering or leveraging might look like?

That was a big question. I'll open that up to anybody who wants to respond.

MR. KJELDSEN: I think I can start off just that, you know, the TRC hasn't posed a great challenge for us in the programs we've delivered. We've been seeing reasonable TRCs. And as the utilities are moving to that TSB component, that's really where we're focused because I think many are looking towards that TSB value as the guiding star going forward. And we get a really good TSB value because we get, you know, such good recognition for these programs.

In the programs we were delivering, we weren't braiding funds in yet. We weren't leveraging additional deemed incentives in the P-for-P Programs. There was policy rules in place at the time we were running those programs where we weren't able to claim deemed incentives on top of pay-for-performance implementations. So they were being kept very separate at that time.

As we moved forward and were able to see those come in, you know, very exciting to incorporate bulk deemed measures into pay-for-performance environments, if that's fully allowed. And that will be interesting to see how we how we move forward with that. We are working on fundraising and bringing in multiple funding sources in a variety of programs. So it's something we're very much looking at.

MR. VALENTI: Yeah, and I can kind of build on that. From an administrator's perspective, the TRC is a challenge. I think for residential space, we, you know, don't have a lot of projects to really understand, once the program sort of matured, what it looks like, but there are a lot of resources put into projects of relatively small energy savings in TSB, so it is a challenge.

So I think, you know, moving forward we'll have more projects and experience to understand, you know, what it looks like when a program is more mature. So I'm happy to share more when that time is appropriate.

In terms of braiding funds or leveraging funds, I think there is a great opportunity. I think that is one of the challenges I mentioned that there were other programs that offered incentives that were sort of easier and more accessible than ours. And so we are going to braid our own grant funds and look forward to the opportunity to also

complement our program with the HOMES funding as well. So I do think, you know, to encourage more contractors to participate in our program, we need to offer competitive incentives. And so I do think there are a lot of opportunities in the future.

And then to talk a little bit about the slow ramp, I think, you know, we are now at a great time. This is a perfect time for this particular type of program design to be launched at the statewide level. So I think there is a great opportunity because of the lessons learned and the market sort of understanding this approach a little bit more. So I do think this ramp should be pretty steep once this type of program is launched.

MR. RUDOLPH: And I'll just mention maybe two things briefly. One is on the total resource cost test side, you know, one of the -- when you do have high total costs, including high customer costs for things like equipment, it can make it difficult to do installations in -- for, specifically, projects that are not at that very tippy top of the kind of customer targeting pyramid. In other words, you know, they may be in more moderate climate zones and just lack those kind of extremely high benefits, savings benefits that then help counteract the high costs sometimes of equipment.

When you take out some of those cost test

requirements, it can potentially open up opportunities is for a greater number of customers who maybe don't have that quite high savings potential. For example, some of the customers, maybe in MCEs territory, which I think Alex, you can correct me if I'm off on this, but maybe perhaps tends to be a bit more moderate than, for example, in the Central Valley.

And then the other thing I'll mention is that there's also potential for, you know, in instances where customer costs are brought down by funding that's external to ratepayer programs, so either from the HOMES Act or HOMES Program or some other kind of incentive, that could actually have a positive impact on our own cost effectiveness; right? It brings down the customer costs and potentially opens up some opportunities for program leveraging.

MS. MANETA: Great, thanks. Thanks to you all. That's really helpful um context.

At this point, because we have a lot of questions coming in, and I also want to leave some time for public comments, I think I'm going to look at some questions that we have coming in from the Q&A. And, folks, feel free to type in others if you have them for our panelists.

One question is just clarification. "How are current P-for-P Programs funded?"

Would one of you be willing to take that?

MR. RUDOLPH: Sure. I guess that's probably for me.

But for the most part, with some nuance that, Alex, if you want to, you're more than welcome to get into, but for the most part, the kinds of Pay-for-Performance Market Access Programs that we're talking about here, they're funded through ratepayer funding that comes in the form of a public purpose program charge, a surcharge that ratepayers pay on their bill for investor-owned utilities in California.

MS. MANETA: Great. Thanks, Coby.

Another question we have from the Q&A. This is specifically for Alex MCE. The question is: "How many of the 37 projects in 2023 were residential?" I think the 37 might have been the commercial number actually. "And what were the savings for the residential projects?"

Could you clarify those numbers if you could?

MR. VALENTI: Yeah, so you're right. The 37 projects for 2023 were commercial projects. The residential projects, I think it was 113 over the first -- or 2022 and 2023. I can't really share off the top of my head what the impacts were, but they were fairly small because it was just, you know, smart thermostats, so just that sort of set point modification, so it's a relatively

small impact.

MS. MANETA: Great. Thank you, Alex.

I've got a question for Justin now from Franklin. "Could you explain how the residential customer fits into the demand flex market model? I heard that Franklin upfronts the cost to contractors. Does the homeowner or ratepayers see any energy cost savings?"

MR. KJELDSEN: The homeowner does see the savings from the project at the meter. And so the intervention that we do, whether it's, you know, weatherization or a mechanical system like a HVAC or water heater, is installed at their home. They get the direct benefit at the meter from that.

The compensation is paid to the contractor to buy it, and we buy down that in zero percent loans. So in the market access environment, we're pointing dollars at that financing product. We're working with the lender to make sure that we can give the customer access to the project, no cost upfront financed over a period of time. The benefit to them is the zero percent loan for all the cost of the retrofit and the benefit at the meter. So they actually do end up seeing direct energy saving benefits on their bill.

MS. MANETA: Great.

MR. RUDOLPH: Diana, maybe if I can also just

mention on that?

I think there's sometimes a common misunderstanding with our Pay-for-Performance Programs and, in particular, market access, that the pay-for-performance piece of them necessarily flows through to the customer. That's not the case; right?

In some aggregator models, there is a performance payment made to the customer, but in other cases, like what Justin has been walking folks through, the aggregator, in this case, Franklin, I guess, is the one that's taking on the performance risk, and they're offering a standardized product to the customer. So the customer, you know, will see variability in their savings depending on how well the project is performing, but the incentive payment itself, the performance risk really goes to the aggregator, not the customer.

MS. MANETA: Great. Thanks for clarifying that, Coby.

We have a couple of questions on a similar theme, and this is related to, I believe it was Justin who mentioned some of the types of customers that haven't been a good fit or are harder to reach through Pay-for-Performance Programs, so multifamily buildings, manufactured homes, renters, potentially low-income households as well. Curious to hear your thoughts on

whether there are variations on a pay-for-performance approach that could be a better fit for those customers or whether you think other approaches, like for example, a Direct Install Program, like the CEC is pursuing through our Equitable Building Decarbonization Program is a better fit?

So a couple of questions in one there, but curious to your thoughts on how we best reach those customers.

MR. KJELDSEN: I think it's a complex question, and there's a bunch of different aspects to it that will probably say quite a dialogue, but I think there's the modeling component of it, and what does the modeling methodology allow for? You know, things like, you know, multifamily environments or mobile homes are more challenging on a model perspective, I think, whereas the lower income and renter components are challenging from a capital perspective, really.

So, you know, if you were to ask me if there was a design that works well, like that's a broad question as well. And how do we solve and move forward? I would say I do think for the income-qualified customer, a more deemed or direct incentivized measure up front is probably a better way to go to bring that cost down as close to zero for them as possible so they can move forward. You know,

in a more market rate environment, then the customers can carry more of the cost of the project longer.

So it is challenging and I think it's both a model and a policy component.

MR. RUDOLPH: And in our market rate energy efficiency portfolios across the state, what we did last summer is, in addition to directing the utilities to launch Market Access Programs more permanently, is we also followed up on state law from SB 350 and required that new Energy Efficiency Programs serving market rate customers use normalized metered energy consumption, NMEC, when feasible and cost-effective for their savings measurement.

And so, you know, I think both of those, both sides of that are important. One is that we have been pushing toward greater use of meter-based savings and performance incentives, performance-based incentives. But then also, as Justin mentioned, there are instances where that kind of measurement approach is not quite as feasible or ends up being more costly, significantly more costly, unique circumstances where it ends up being, you know, a lot more difficult.

And so, you know, in our own portfolios, we have a variety of different ways that programs are implemented. We are not planning for our Market Access Program approaches to subsume every other type of program

implementation or administration in our energy efficiency portfolios. But I do think they will be -- I do expect that there'll be a growing part of our ratepayer funded landscape.

So I think there's a both/and opportunity.

MS. MANETA: Great, thank you, Coby.

So we have other questions coming in, but I want to make sure we have some time before we break for lunch to allow folks to make comments, to have kind of a public comment session, allow folks to make comments verbally, so I think we will have to conclude our panel there. Thank you so much to our panelists.

And if we could share the screen again, we'll provide some instructions for public comment. We do have some questions based on what our panelists have just been presenting that we're particularly interested in getting public input on, although you are welcome to provide comments on any other topics we've been discussing today as well.

Could we go on to the next slide, please?

So as I mentioned, kind of along the lines of what we've just been discussing with the panel, these are some questions we're particularly seeking input on, either today or subsequent to the workshop in written comments to the docket.

The first one is: "Residential Pay-for-Performance Programs in California have been small. What are the opportunities for a pay-for-performance approach to scale and move tens of millions of dollars in residential decarbonization incentives quickly?"

Second: "Can existing residential Pay-for-Performance Programs adjust to incorporate homes requirements?"

And third: "How can the unique needs of multifamily properties be addressed through a residential Pay-for-Performance Program?" We're just talking about some of those challenges with the panel.

So, again, if we could move on to the next slide?

I think we'll put those questions in the chat if you'd like to refer back to them. Again, we welcome comments on those questions or on other topics that we've been discussing this morning.

If you'd like to make a verbal comment, if you are joining us on Zoom, please let us know you'd like to comment by using the raise-hand feature which looks like an open palm at the bottom of your screen. If you're joining us by phone, please press star 9 to raise your hand. When I call on you, please unmute yourself, state your name and any affiliation you might have, and then make your comment. We are going to ask comments to be limited to three minutes

or less, since our time is pretty limited here.

So I will give it a minute and see if we get any raised hands. Yes, I see a raised hand from POWERTREE. If you could unmute yourself and make your comment?

MR. REINECCIUS: Thank you. Reineccius. I'm CEO and founder of POWERTREE Services. We focus exclusively on multifamily residential. And we currently are involved in several thousand apartments worth of low-income projects.

And some of the comments I would make in regards to the things I've heard here is that the missing piece in most multifamily is consideration of the owner's equity and income pathways. Too many state programs constrain or restrict the property owner from being able to get, for example, a rent adjustment versus the utility allowances. I speak specifically of the CUAC Program that both CEC and the Treasurer's Office manage.

I'd also highlight that many of the significant property operators have properties in a portfolio across many different utility territories. And tying programs and incentives into utilities is a terrible way of getting this placed because it requires multiple different approaches based on the specific utility. Standardizing programs at the state level so that a property owner of scale can operate, whether they're in a publicly owned utility

territory, whether they're in an IOU, or whether they're in a municipal, would dramatically likely improve the uptake because now you have a standard pathway that takes less management overhead. It also makes it easier for them to understand it, and they're very busy folks.

So I would highlight that you've got to put more consideration into allowing property owners to get adjustments to their income so that they can actually afford to participate in these sorts of programs.

And given I've got a minute left, I would also highlight that it's very important to consider efficiency upgrades to other systems, such as solar and EV charging. When you feed back energy into the grid from a solar array, you lose up to 15 percent of that energy before it gets re-consumed by another destination. So upgrades to generation systems are absolutely efficiency.

And I would also highlight that electric vehicle charging is much more efficient than gasoline. It takes seven kilowatt hours of electricity to refine one gallon of gasoline, and you can go much, much further on electricity in an electric vehicle than you can on a gallon of gasoline.

So I'll conclude there. Thank you.

MS. MANETA: Great. Thank you so much for that comment. Really appreciate that.

If other folks would like to make a comment, please raise your hand. Again, you can do that by using the open-palm/raise-hand button at the bottom of your screen on Zoom or by pressing star nine if you're on the telephone.

Again, I will pause a moment here and see if anybody else would like to make a comment. I am not seeing any other comments.

I might actually take this opportunity to, since we have another couple minutes before lunch and I want to make good use of our panelists, if I could pose another question that came in?

Justin, are you still available here? We have another question that came in through the Q&A directed at you.

MR. KJELDSEN: Of course I am.

MS. MANETA: Great. So the question is: "You mentioned electrification in certain programs and peak load reduction through Market Access Programs. How do these two objectives align, since one increases electricity use while the other seeks to reduce peak electricity?"

MR. KJELDSEN: That's a good question. Really, the electrification components are focused on the decarbonization. And so what we're doing there is driving

a reduction in gas usage and the decarbonization of those end uses.

What we also see is that upgrading the old technology to newer electrification measures like heat pump technology still creates a significant peak benefit. And so what we're seeing is not only are we decarbonizing an old gas furnace and taking it out, but by moving to a heat pump technology, when we make that swap, we're still seeing a significant reduction in peak load during the hottest parts of the summer when the ACs are running by moving to that newer heat pump technology.

So they are slightly opposed but they do work really well together to drive to a common goal.

MS. MANETA: Great. Thanks Justin.

Let's see, maybe I will try to squeeze in one more here before my colleagues tell me we really got a break for lunch.

So we have a question for Alex, if you're still available here. And we got into this a little bit before, but this is related to your mention that,

> "More contractors participate in Pay-for-Performance Programs with more competitive incentives. Can you provide some numbers for what percentage of the incentive the contractors are able to take as profit and percent that passes through to the customer?" The

commenter says, "I heard earlier or the DOE homes guidance wants to see the benefits being primarily passed through to the customer."

MR. VALENTI: Yeah, so for our programs, we do not have minimum requirements for contractor pass-through to the customer, so yeah, we don't have a framework for that. We are requiring documentation of those dollars that are passed through so that we can understand how those dollars are actually impacting project costs. And if there are benefits being passed through, I think aggregators do take sort of a wide variety of approaches in terms of how those incentive funds do help, you know, foster program development, as mentioned with Frontier and the buy-down of the finance costs or there's other, you know, full pass-through to buy down the initial project costs.

So a lot of different methodologies, but yeah, we don't have a requirement in our program for minimum pass-through.

MS. MANETA: Great. Thank you, Alex.

And with that, we are going to break right on schedule for lunch. We will reconvene the workshop at one o'clock. We have some great panelists lined up for the afternoon, so I hope folks will stick around for the afternoon session. And we'll also have more public comment opportunities and opportunities for questions in the

afternoon.

So with that, we will take a break and see you all again at one o'clock. Thank you.

(Off the record at 12:00 p.m.)

(On the record at 1:01 p.m.)

MS. JOFFE-BLOCK: Welcome back, everyone. I really appreciate the panelists this morning sharing their candid learnings from their programs and the excellent questions and engagement through the chat or through the Q&A.

We're going to resume with our next session, which is designed to explore options for how HOMES Pay-for-Performance can be administered and implemented here in California.

Actually, no, that's not what we're going to do. I'm sorry, I'm on the wrong slide here.

We are going to do the session that I promised you that I kept talking about all morning long when I said we were going to talk about that when we talk about incentive design. Okay, so let me get to the right place here. All right, and I'm stepping in for Jacob Wahlgren today and helping moderate this session on incentive design.

So before I introduce our panelists, I have a few slides to help us think about how we can align the design

of the HOMES Pay-for-Performance Program with California's climate and energy goals, meet DOE requirements, and also complement the EBD Direct Install Program. Then my colleague, Tiffany Mateo, is going to provide an early preview of modeled energy impact analysis that CEC staff is developing and will be published later this summer.

So we're first going to talk about incentive design and how it relates to our policy goals.

So we can move to the -- yeah, perfect. Okay, there we go.

So with regard to climate, as a planned complement to the EBD Direct Install Program, a Pay-for-Performance Program could be an opportunity to transform the market by prioritizing strategies that have the greatest impact in decarbonizing California's building stock, including advancement toward the 6 million heat pump goal by 2030. Incentive design could also have a big impact on the state's grid reliability, peak load reduction, and resiliency goals. We also want to design the program to reach as many households as possible, while carefully considering potential impacts on household utility bills.

While staff is planning and considering these design elements, we're also cognizant of how to align the program with the HOMES Program requirements. So DOE set

some specific guidance around the structure of how and when incentives are paid. Staff mentioned these components earlier this morning, so we're putting them up here as a refresh as we think about incentive design.

So just as a refresh, rebate funds may not exceed project cost, they cannot be paid until after the 9-12 month M&V period, incentives must be estimated up front and some portion passed through to the customer, and programs must have plans in place for mitigating the risk of contractors undervaluing incentives and then capturing the excess savings.

So with regard to determining the value of incentives, the HOMES Program has two key provisions which you've now heard about, you've heard mentioned a couple of times from this morning.

The first is that statutory requirement that the rebate value be based on 20 percent energy savings in an average California home. And we talked about how that converts to $0.55 per kilowatt, per kilowatt hour equivalent for market-rate households, or $1.10 for low-income. And states do have the ability to request an increase in the incentive level for low-income households.

Second, you've heard us talk about this, the state's application must also include a plan to value energy savings based on time, location, and greenhouse gas

reduction, but this does not replace or count for the requirement to meet the minimum 15 percent energy savings threshold. So we've been in communication with DOE staff to understand what flexibility states have in meeting the statutory requirement while also aligning incentives to California's grid priorities.

I think we have a really great panel here this afternoon to talk towards these things. If you have any questions, please use the Q&A Zoom feature. There will also be a discussion portion after the panel presentations, at which point I will read questions from the Q&A.

So HOMES requires a threshold of energy efficiency savings, and at the same time, California has electrification and greenhouse gas reduction goals. So I'm going to turn it over to Tiffany Mateo, who will be presenting a preview of an energy impact analysis for building retrofits in California, so that we can get a sense of what level of energy savings and GHG reductions electrification projects may yield.

MS. MATEO: Thanks, Miriam.

Good afternoon, everyone. My name is Tiffany Mateo. I'm a Senior Mechanical Engineer working on the Equitable Building Decarbonization Program. I, along with my colleagues Erica Chac and Larry Froess, completed a model-based energy and bill impact analysis for

retrofitting existing homes in California. This is an early preview, and like Miriam said, the full analysis methodology and results will be in a report scheduled to be published this June.

In support of the Equitable Building Decarbonization Program, we performed an energy and bill impact analysis on the decarbonization of existing homes statewide. Homes in this analysis includes three vintage categories of single-family, multifamily, and manufactured homes listed here.

The modeling assumptions are based on data from the 2019 Residential Appliance Saturation Study, or RASS, U.S. Census data, RASS stock, and applicable building energy standards and common building practices at the time. There are different vintage categories modeled for the single-family and multifamily prototypes versus the manufactured home prototypes because each are subject to different standards.

Staff used CBECC, the California Building Energy Code Compliance, software to model these prototypes with heat pump and building envelope retrofits. These models were created and run in all 16 California climate zones.

This graph represents results for the three-bedroom single-family prototype built between 1976 and 1983. Energy efficiency was calculated by comparing the

total energy savings to total energy use in the baseline. Total energy was calculated by converting site electricity or kilowatt hours and gas or therms to a million BTUs. A therm is a larger energy unit than kilowatt hours, so just by switching from gas to electricity there's energy savings.

According to this analysis, heat pump water heater retrofit projects in Climate Zones 3 through 10 would likely meet the HOMES 15 percent savings threshold, as you could see with the dark blue bars. Heat pump water heater projects installed in other climate zones may not meet the threshold.

Also, heat pump space conditioning retrofit projects would likely meet the HOMES 15 percent savings threshold in all climate zones except Climate Zone 7, shown by the light green bars. A higher efficient heat pump and/or envelope measures, such as attic insulation or air sealing, could allow the heat pump HVAC retrofit projects in Climate Zone 7 to meet the homes threshold, shown at the top of the green bars in light blue and teal.

To estimate avoided GHG emissions associated both with the combustion of gas and electricity use, we applied hourly emission factors to the CBECC hourly energy outputs. The emission factors used for electricity are based on the 2022 time-dependent valuation developed for the Building

Energy Standards.

You can see on the blue bars, switching from a gas tank water heater to a heat pump water heater saved GHG emissions fairly consistently across all climate zones. Replacing a gas-fired furnace and air conditioner with a heat pump for space conditioning shows greater levels of GHG emission savings in extreme climate zones than milder climate zones, as shown by the green bars. There are higher savings with the heat pump for space conditioning retrofit in Climate Zones 1 and 16, which are the north coast and mountain areas.

As I stated earlier, a report will be published this summer of the energy and impact analysis methodology and results. The next steps of this analysis are to include several updates, mainly updating the utility rates and to include rate projection calculation capabilities. We will also include additional decarbonization measures, solar PV, and battery storage.

Also, since this is a modeling analysis, we plan to do an analysis of interval meter data for decarbonization retrofit homes to compare the energy and bill impacts. This will allow for a better understanding of how modeling results compared to the real world findings.

Thanks, and I'll pass it back to Miriam.

MS. JOFFE-BLOCK: Thank you so much -- (clears throat) excuse me -- Tiffany, for pulling that together.

So you've gotten a sense of what the modeling results are for electrification projects, and now we're going to be able to hear about some early results from the TECH Program looking at actual energy savings from electrification projects, as well as bill impacts and the effects on the TSB.

So I'm going to invite up Dylan Sarkisian with Energy Solutions. And as you heard this morning, you heard Diana and Coby speak about how the total systems benefit or TSB calculation, which captures the avoided value of energy use, is the basis for the incentive values in the market access Pay-for-Performance Programs. And so what's really interesting about Dylan's analysis is he's going to share data to show, to help us understand as we think about incentive design, how the TSB values correlate or don't correlate with bill savings, which we're concerned about for particular project types, as well as share other insights from their data.

So thank you so much for being here, Dylan.

MR. SARKISIAN: Thanks for having me and for that very thorough intro. Happy to jump into things now.

So on our next slide, I'll be able to start things off with just looking at our high-level impacts, and

there we go. Thank you.

And when I talk about our high-level impacts, I'm thinking of looking at our entire first cohort of projects. And so before I get into those impacts, I'll take a minute to describe the scope the purpose of this analysis as well as our methods.

Next slide.

So since our results are preliminary and limited to a small sample size, right now our current focus of this analysis is to build and vet our methodology to set the stage for TECH to deliver robust results when we get more meter data. So what we're looking at here is around 150 non-solar homes spread across the PG&E service territory, and I'll be focusing on heat pump HVAC retrofits among those homes.

With our next batch of meter data, we will expand our sample to include all major gas IOU service territories and all climate zones, as well as more types of projects and utility rate codes, which are a particularly strong driver of the bill impacts and total system benefit -- well, the bill impacts primarily. So I'll talk about our methods next for a minute in terms of how we actually did this meter-based analysis.

On the next slide, I'll show that our results were derived by the TECH team member Recurve using a whole

home normalized metered energy consumption, or NMEC, analysis, specifically the OpenEEMeter methods.

Implementing this requires an immense amount of data, so I'd be remiss not to thank the California PUC, the Energy Commission, and our embedded evaluators, Opinion Dynamics, for making this analysis possible and providing the data we use, also vetting our approach. And the methodology specifically for bill impacts is documented in our preliminary Bill Impacts Analysis Report that will be published on the TECH public reporting website, techcleanca.com soon. So please look out for that if you're curious to dive deeper into our methodology there.

Next slide.

So without further ado, let's talk about these high-level results.

Looking at our first cohort of heat pump HVAC retrofits, what we see is that household gas use was almost cut in half and electricity use increased, but without significantly increasing electricity consumption during peak demand periods for this cohort. Annual utility bills increased -- or I'm sorry, decreased by about $150, and over $3,000 of total system benefit will be created over a 15-year period, and about half a metric ton of CO2 emissions will be avoided annually as well.

So utility bill savings and total system benefit

are what I will dive into more next, but more information on upfront costs and all impacts are available if you follow these QR codes.

Next slide.

So when we look deeper into TSB and bill savings, we see that the medians don't really tell the whole story. Both TSB, which is on top, and bill savings, on the bottom, have a lot of variation, even in the small cohort. So there's a lot on this slide, but what I really want you to take away from this is that TSB is generally more positive and also a lot less variable than the bill savings we observed. Even though their medians are about the same, bill savings is about three times as large of a standard deviation, so it's just a much riskier sort of outcome for, you know, predicting for an individual project right now just based on what we see in this distribution.

So seeing these next to each other prompted me to ask: Is everyone in the positive half of the top graph also in the positive half of the bottom? Are they even correlated? Can you predict one using another? So let's find out.

Next slide.

So first and foremost, we can say, yes, bill savings and TSB are correlated, though only a 60 percent R^2, so I wouldn't really bet on one based on the other. But

you can see here already, there's some interesting patterns in this kind of grouping where you have a total system benefit on the y-axis and bill savings on the x, and each dot represents a project.

So if we click, you should see that the first cohort or quadrant, I should say, in this is very small and it shows it's very unlikely for a project to reduce your utility bills and create a negative total system benefit.

Next, if you click again, the second group here, we see that some projects do increase utility bills and create a negative total system benefit, for example, a customer had no air conditioning and then they got a heat pump HVAC and they started using AC, especially on hot summer afternoons when grid costs are highest and electricity rates are highest as well.

Next, the third cohort we could think about is this roughly fifth of customers who paid higher utility bills but actually still create a positive total system benefit. An example could be a customer who reduced their gas use substantially and added a lot of electricity use when they installed the heat pump HVAC. But they didn't add it during peak demand periods, so they still ultimately pay more for that electricity than they would have for the gas. But from the system's perspective, this was a positive trade-off.

Finally, a group I'll focus on for the rest of this talk is our star students, the projects that created a positive total system benefit and reduced the customer's bill. All of these types of projects are -- you know, should be expected, and I don't want to say that any one type of project is better than another, but in terms of, you know, optimizing TSB and bill outcomes, this is a good group to focus on and understand.

So I'll show a few comparisons next, if we jump to the next slide of just, you know, So, who within this cohort of, say, our star students is reliably achieving that outcome and why are they having that kind of outcome, either positive total system benefit or utility bills?

So first, I'm going to look at unitary heat pump HVAC on the next slide, so no mini splits. That was a section of the customers, but I'm just focusing on the unitary and split systems typically ducted. And we see that if we separate these groups into one group that had a discrete speed compressor, so one or two speeds, and one group that had a variable speed compressor, the bill savings especially is statistically significantly higher for these unitary systems with variable speed compressors. They also had higher TSB that wasn't statistically significantly higher.

But you also see just more of them. This bottom

row shows that more projects with a variable speed compressor had both positive total system benefit and positive bill savings.

So I'll keep using this kind of approach to compare, but I'm going to just look at a few different types of groups on the next slide. I know I have to go a little bit fast, but I'm happy answer questions afterward.

So next, we divided our homes up into four quartiles of pre-retrofit air conditioning use or cooling load. And you can see that the first couple quartiles is pretty minimal AC use. Many Californians don't use air conditioning, even if they have air conditioning in the home. Three was moderate. And four I'll call our super coolers for the sake of comparison. And the super coolers have a significantly greater total system benefit and bill savings, and that's a statistically significant difference. And we believe this is largely because the heat pumps that were installed are significantly more efficient than the AC systems that they replaced. So we see a lot of electricity savings for these projects, especially in summer months.

And finally, our last group that I'll use as a comparison on the next slide is the furnace decommissioning group, so TECH allowed a participant to either fully decommission their furnace or leave in a kind of dual fuel system. And we saw the customers who decommissioned their

furnaces did create slightly more total system benefit. It wasn't statistically significant at this point, though, but they did create a lot more GHG savings, as we would have expected, because their furnaces are not operating at all anymore rather than operating in a dual fuel configuration. And interestingly, they had no impact on their utility bills that we could see.

So I think I've probably used a lot of my time diving into these results. So I'll keep it quick on the next steps, but I'll just say on the next slide that, you know, TECH is, you know, first and foremost, as I said, planning to expand our sample size so that we can test these relationships in a broader array of homes and climate zones and continue to vet the validity of these comparisons.

But also we're really, you know, seeing these strong signals already with a few types of groups of customers and making preliminary decisions about how we should change our incentive design based on these comparisons, especially looking at, you know, total system benefit as an outcome that we should attempt to optimize for, as well as thinking about how some of these elements may be able to pay for themselves, whereas other elements, you know, such as furnace decommissioning, there wasn't a bill impact, but there is potentially a higher total system

benefit and definitely a higher GHG savings.

And so we should think about that as requiring different motivations and incentives than something that is a known easy and quick return, such as a high cooling load home, where just a significantly greater utility bill savings is created.

All right, so with that, I'll leave us on this last slide with just a quick call out. If I went too fast for you, then you can definitely read through much of what we are publishing currently on our public reporting website and also see all about the remaining key elements of the TECH initiative strategy.

Okay, I think I'll hand it back to Miriam now.

MS. JOFFE-BLOCK: Dylan, thank you so much.

I'm going to go a little out of order just because there's one clarifying question that I see in the Q&A. For the measure lifetime bill savings, did you have, were those lifetime bill savings on there?

MR. SARKISIAN: No, I was looking at annual bill savings.

MS. JOFFE-BLOCK: Annual bill savings?

MR. SARKISIAN: Yeah, yeah.

MS. JOFFE-BLOCK: Okay. All right, so, okay, so we'll save that question for later. That may have been directed to something else. The person who asked that

question, if you want to retype it in with more specificity, we can try to answer it.

Dylan, thank you so much. That was very, very timely and relevant to the questions that we are considering and looking forward to the full analysis coming out.

MR. SARKISIAN: Thank you.

MS. JOFFE-BLOCK: So I'm going to turn the mic -- and you also managed to stay within your time and give us a really significant amount of detailed information, so that was impressive.

I want to turn the mic to our next panelist, who is April Price, who will be presenting on the Tri-County REN Single-Family Home Energy Savings Program. This is one of the Market Access Programs.

3C-REN's Pay-for-Performance Programs is one of those in the state that is going beyond the light touch measures and incentivizing residential heat pumps and heat pump water heaters. So April will share their experience with incentive design and structure. There was a lot of interest this morning in how to serve hard to reach residential households and 3C-REN has made this a focus of their program.

So thank you so much for being with us, April.

MS. PRICE: Thank you for having me. Yeah, so

I'm April Price. I work for the County of Santa Barbara. And as part of that, I manage our program through the Tri-County Regional Energy Network.

I'll get into the program details shortly, but just to give you kind of where we are on the life of this program, we launched in May of 2022, and the program was pretty slow to start. So, you know, previous panelists have spoken to the, you know, how long it takes for these things to get going. And we just started having, you know, really active participation in our program in the fall and the winter of last year.

So next slide.

So 3C-REN is a regional energy network on the Central Coast, and we receive ratepayer funding to support energy efficiency in the region. And really key to our existence is our aim to serve hard-to-reach customers. And so that's really key to our incentive design for our Single Family Program.

Next slide.

So this is how we talk about our Single Family Program to the general public. We say we have a great program that will allow you to access discounted pricing from enrolled contractors, and our discounted pricing is up to 75 percent off project costs. Any project is eligible that saves electricity or gas as long as you work with an

enrolled contractor. We did just make a program change that I'll announce shortly. And the actual incentive depends on how much energy the project saves. So that's kind of our, again, public-facing message.

Next slide.

We have enrolled contractors that have been growing steadily through the life of our program. Now we have about 20 really actively enrolled contractors, and our residents can reach out directly to those contractors, or they can submit an interest form on our website, and then we can facilitate an introduction to those contractors.

Next slide.

I mentioned that, you know, anything goes in our program. That has been true, although beginning very shortly, we are no longer allowing new gas measures to be submitted into the program. So anything else is eligible, but we have designed our structures to drive heat pump projects.

Next slide.

And so the way that we've done this, again, our program priorities have been serving our hard-to-reach customers and driving electrification. So when we first began our relationship with our implementer partner, Recurve, we, you know, worked together to structure incentives and we really bumped up our incentives for our

hard-to-reach customers. So these are three times higher than for market-rate customers. Recurve's FLEXMARKET platform has certain values for both therm savings and kilowatt-hour savings. And in order to really drive electrification, we decided to, for our program, really increase the value of therm savings for projects that come through our program and devalue the impact of kilowatt hours for projects that are on that electrification pathway. And that's really what allows us to offer high incentives for electrification projects.

Next slide.

So just to give you an idea of what we're actually seeing in the marketplace, heat pumps through our program are seeing about a $3,000 average incentive, heat pump, water heaters, about $1,000, but again, our hard-to-reach customers are three times higher than those examples. So there is a big range for everything in a Market Access Program. But, you know, these are -- I was comfortable sharing these numbers with you.

Also, I think it's just something to note that as a REN, as an organization that exists to serve our hard-to-reach customers, we are not held to the same cost-effectiveness levels as other implementers. So just something to consider.

Next slide.

So to give you an idea of what this actually looks like, a contractor, you know, talks to a customer about a project that saves money, or that saves energy. The contractor estimates the energy savings associated with the project and submits that to Recurve. Recurve then provides an estimated incentive for the entire project.

Now, half of the incentive is paid upfront to the contractor after the project is completed. So we are not waiting to see the monitored savings before we pay out half of the estimated incentive. And we are requiring that half of the estimated incentive, again, that full upfront payment, it goes to the contractor, and then it has to be passed to the customer, because we're really trying to bring down customer prices. So we require that that upfront incentive is shown on the customer invoice.

Now in the year following the upgrade, the contractor is paid that balance of the incentive based on the actual metered savings associated with the project.

Next slide.

So I walked you through what it could look like if the contractor was the aggregator. The contractor is the aggregator in some cases in our program, but aggregators are very important in our program as well. They have really allowed our program to grow significantly. And aggregators really support contractors in energy saving

calculations. They advance incentive dollars. We expect to see a little bit more support from some aggregators and electrification planning and we really hope that aggregators grow into the work of supporting with layering incentives, specifically by applying for TECH incentives on behalf of contractors.

Next slide.

So our vision here is that our incentives are higher high enough that contractors really want to work with hard-to-reach customers. Again, our incentives are not just bringing down the price for the customer, but the performance payments in the year following the upgrade are highest for hard-to-reach customers.

Certainly, we want to see prices come down and we'd love to see more comprehensive upgrades. But really what I'd like to drive home is our incentives are set high enough that we hope, and we are seeing in some cases, that when our program is stacked with other programs, the result is a direct install-like experience for hard-to-reach customers, so a free upgrade.

Next slide.

So far, we've had almost 500 projects. Again, not all of them are heat pumps, but 225 HVAC projects, 30 heat pump water heater projects, done by more than 20 contractors, but currently we have about 20 active

contractors.

And, you know, I've talked a lot about incentive stacking. We know that 46 of our heat pump HVAC projects accessed TECH incentives and 17 of our heat pump water heaters did. So, you know, the HVAC incentives are lower through TECH, so that can certainly be a reason for the lower percentage. So certainly something to monitor moving forward.

Next slide.

So some challenges, you know, we have had 20 hard-to-reach projects to date, and it continues to be a difficult market to serve. Also, homes with lower energy use do have lower incentives, although when we're talking about electrification projects, because we are valuing therm savings so much more than the impact of kilowatt-hour changes, as long as a homeowner is heating their home with gas, there are still decent incentives for switching to a heat pump.

We're also seeing the vast majority of our projects are single measure, which, you know, we'd love to see more comprehensive upgrades. And due to our funding source, we are currently unable to serve propane customers.

A key challenge that I left off of this slide, my mistake, is we are currently still without the data that we need from our utility partners in order to actually measure

the energy savings. So right now we are still paying based on the estimated savings associated with the projects, but we hope to have this data any day now.

Next slide.

And finally, opportunities here. So I think there's huge opportunities to grow outreach. We, especially just getting in touch with our hard-to-reach customers about this opportunity, we are beginning work with Promotors, which are, in our area, a Spanish, predominantly a Spanish language outreach group, and then we are planning direct outreach to mobile home communities as well.

We are also excited to see some activity from a new type of aggregator, I think you could call them, so environmental nonprofits. There's some interest perhaps from community choice aggregators that could offer aggregation benefits a little bit more aligned and with broader electrification planning support. So really hoping to see that new angle come out in our aggregator partners as well.

Next slide.

And finally, I know the multifamily space is something to explore here. We currently serve our multifamily customers through a different program offered to property managers that's focused on achieving full

property upgrades. But I will say that I think there's a lot of potential to serve individuals that live in multifamily properties through metered savings approaches, but it's a little bit more complicated when you're trying to serve the entire property.

So I think that was my last slide. Thank you.

MS. JOFFE-BLOCK: Thank you, April, that was great. And it's really interesting and good to hear about what the RENs are doing and the challenges that you are taking on. And thank you for addressing so directly so many of the questions that have been coming up today. So we'll have a little more time for questions for April after our last presentation for this session.

So our third and final panelist is Andy Frank with Sealed. So now we're going to hear from another aggregator perspective, dev. But this focus, Andy's really going to focus on Sealed's kind of -- Andy's going to focus on sort of a deep dive into the incentive structure. So we've been, you know, we started with kind of the modeled savings here and then the bill impacts and the TSB results of TAC, and we kind of went to look at the hard-to-reach population and some of the ways that incentives have to be structured. And now we're going to go kind of back into to that incentive calculation in a deep way.

So thank you, Andy, for helping us think about

the options for valuing time of use location and GHG reductions.

MR. FRANK: Thanks, Miriam. And I just really want to thank you and the CEC for hosting this workshop. I know how much, not only goes into organizing something like this, but also all the other amazing work that you're doing.

So I'm going to be speaking, as mentioned today, about Sealed's experience as an aggregator and existing measured savings Pay-for-Performance Programs, as well as our understanding of how the IRA HOMES Program can integrate time, location, or greenhouse gas value to optimize the impact of these rebates.

Next slide.

So Sealed, we are a climate tech company. Our mission is to stop home energy waste and electrify all homes. We do that by providing software and solutions to contractors, helping them to install more home weatherization and electrification projects that save energy.

And so in the context of rebate programs, Sealed serves as an aggregator, as we've talked about a lot today, which at a high level means that we handle all of the rebate processing and payment on behalf of the contractors. So we only work with contractors that are, you know,

certified by the program that we know are going to do good work, but basically we support them in participating in these Market Access Programs.

Typically, aggregators, including Sealed, also provide other value-add services to contractors and homeowners, which can include education, training, lead generation, and financing. And so in California, Sealed currently serves as an aggregator in the 3C-REN Program that April just went through, and we're currently in the process of entering the Peninsula Clean Energy Program as well.

As we all know, both of these programs are Market Access Programs with a measured savings Pay-for-Performance Program design. And the reason that we decided to participate in these programs as an aggregator is basically because they reward performance, and performance is really what we believe in and what we build our business around.

And so I'll get into the details in a minute, but at a high level, we believe that the measured savings Pay-for-Performance Program design really creates the right kinds of incentives for households, contractors, and policymakers. So for homeowners and renters, these programs can drive really high quality of work and greater energy bill savings, since the contractor and aggregator are incentivized or accountable for results.

And then similarly for contractors, these programs we've found can be much simpler to participate in than traditional programs, but at the same time reward contractors that are doing high quality work, something that, you know, frankly, you know, isn't always rewarded today in the market.

And then for policymakers, these programs we found can really ensure that limited public dollars are used responsibly and are prioritized based on impact.

So I'll dive into some of the details of how, at least at a high level, the kind of program design and incentive structure works.

Next slide.

So you can see a simplified version of how it works here. I'm going to walk you through this actually from at least my right to left, starting with the homeowner or household experience.

So very importantly, the homeowner, and I'm going to use the term homeowner here because in the context of the IRA, that's who typically receives the rebate, the homeowner receives the upfront rebate at the point of sale, so they're not waiting to receive the rebate in this kind of measured savings program design.

The way that that works is the contractor simply reduces the project cost by the rebate amount, so it occurs

at point of sale. The contractor then receives the rebate amount through the contract -- or sorry, the homeowner then receives the rebate amount through the contractor and the contractor receives the rebate amount through the through the aggregator. So in Sealed's case, we typically give the contractor the rebate funds within a few days of the project install so they can then reinvest those funds in the next set of projects.

The aggregator, of course, is then working with the contractor as part of this process, typically through a software interface, to collect all the project information. The information that's collected by the aggregator and the contractor is typically a combination of data requirements that are programmed as well as data requirements from the aggregator in order to predict the energy savings.

So one thing just to point out here is that typically some of those program requirement data points are the same kind of data points that someone like Sealed want to know in order to predict the energy savings. And then, you know, in addition, typically, though, the total amount of data that's required for the contractor and the homeowner is typically less than what you'd see in a lot of other kind of similar models or even some deemed program. So the total kind of burden on the contractor and the customer is typically is typically less.

And then the aggregators are also oftentimes collecting energy usage history from the customer with their permission, of course. Although, as April kind of mentioned, in many of these programs in California, at least, that can also be done by the program as well, so that there's less of a need to do that at point of sale.

One way or another, the aggregator then shares the project information and the energy usage necessary to the program. And then aggregators participate, and I think this is really important and people alluded to it in terms of different contractors and aggregators in the 3C-REN Program, but aggregators participate in this program via an open process, so that allows for many different aggregators. So that's typically through something like a request for qualification. And this is really distinct from, you know, kind of a more traditional procurement implementation procurement process, which is, you know, usually focused on a request for proposal format where a single vendor is -- so this is kind of a different part of the market or a different part of the program, I should say.

So the aggregator is then reimbursed for the rebate by the program based on the amount of energy saved, as we've kind of talked about a lot today. So this is done by NMEC. And again, in different programs, there are

oftentimes upfront payments based on the expected energy savings.

So, you know, as an example, the IRA incentive level, as Miriam had previewed before, I believe, is $0.55 per kWh or kWh equivalent, and so a project that saved 25 percent, for example, could lead to a rebate of $2,500, but the amount the aggregator receives is only based on the realized savings.

I should point out that this rebate level is higher than we would get from saving that same amount of energy through the IRA's model pathway, at least for a market rate customer, which means that the project will be more affordable for that customer. But of course, if the actual energy savings for this project is less than 25 percent, the aggregator would receive a lower reimbursement. So again, we're incentivized to not just be accurate, but also be accountable for performance and really to ensure that there's a quality in each project.

And I also want to just mention before moving on to the next slide that we're, you know, talking a lot about energy savings. But in our experience, energy performance is a proxy for non-energy performance when it comes to things like quality of life, comfort, health, safety. So this is really impactful, not just from an energy perspective, but also for consumer protection and kind of

non-energy perspective as well.

So you know, how does this -- how do all these pieces kind of come together from kind of the policy goals to the point of sale? I know that, you know, throughout this workshop, it can seem like a lot of moving parts. But from what we've seen on the ground, it actually makes it very, very simple from the policymaker, contractor, and homeowner perspectives.

So what Sealed and other aggregators are essentially doing is we're ingesting all of the signals from the ACC and any other policy priorities on the backend and providing simple rebate outputs on the front end for the contractor and for the homeowner. So I always like to use the mullet analogy; right? These programs are very simple and clean in the front for contractors and homeowners, with kind of a party in the back.

And so of course, you know, the aggregator is predicting the energy savings performance, including at peak times for at least the California Market Access Programs. And we're also taking into account other considerations, other priorities, like whether the project represents a hard to reach or low income household. So, you know, April talked a lot about this in the last presentation.

And so, for example, just today in 3C-REN, we got

a hard to reach customer that's receiving a $12,000 rebate from the program. And we got a nice note from the contractor saying they're excited that they're getting the opportunity to work with more hard to reach customers via the program. So it's a really good way to kind of embed a lot of those policy priorities into the program.

Next slide.

So in the context of the HOMES Program, we believe that the IRA gives states the ability to prioritize savings at specific times and specific places, particularly when it comes to low-income households. So the statutory language asks states to include a plan to value savings based on time, location, or greenhouse gas emissions.

The IRA statute also provides rebate levels that are twice as high for low-income households. This is both remodeled and measured and enables states to request even higher levels of rebates for these low-income households. And low income in this context is defined as an income level that is 80 percent or lower than an area median income.

Next slide.

So what that means in practice, at least based on Sealed's reading of the statute, is that states can decide to value time, location, and greenhouse gas emissions based on their own grid dynamics and policy goals. So for time

and greenhouse gas emissions, the way you can do this is by essentially creating weighting factors for different times during the day and during the year. So for example, California may want to minimize the summer evening peak to address existing peak grid challenges, as well as minimize winter evening peaks to address future post-electrification grid challenges. And you can also weight times have lower greenhouse gas emissions and/or, you know, similar to how April described on their program working, reward the carbon benefits of energy efficiency and electrification.

Slide seven. The next slide. Sorry.

And then you can also adjust these weightings for different parts of the state's grid. So for example, there may be areas of PG&E service territory that peak at different times than other parts of their territory, you know, and obviously could be different than other utilities territories. And so utilities and other program administrators can, you know, help inform those different weightings, but can also stack additional incentives to further reduce peak productions in those areas.

And last slide.

So thanks again for inviting me. And to echo, you know, some of the other speakers, you know, these newer market access Pay-for-Performance Program models are really starting to mature in scale, and I can really tell you that

Sealed is very, very grateful to all the leadership that, not just the CEC, but what the CPUC and other California stakeholders have provided. It really matters, and I'm excited about the potential for the IRA and the HOMES Program to further support California's leadership. We think that these programs really have the potential to scale in a way that, you know, ensures that limited public funds are prioritized appropriately and with the right levels of accountability.

So contact information here, as well as my colleague, Savannah, who is wonderful and has all of the answers that I don't.

MS. JOFFE-BLOCK: Great. Thank you so much, Andy. This is fantastic. And we're actually running right on time, which is also pretty amazing and fantastic, which is great because that means we have a lot of time for questions.

So I want to invite all three of our panelists to come on camera for discussion. And all, you know, TECH, Sealed, 3C-REN, you're all doing challenging things. And you're all out there having some successes. So I'm going to throw some hard questions at you as we think about how we're going to implement the HOMES Program, so -- and then we've got some that I see in the chat.

And so Dylan or Teddy, if you're kind of subbing

for Dylan at this point, I'm not sure when that switch was happening exactly, you're welcome to join as well. We've got Teddy Kisch because I think Dylan has another meeting coming up.

So I want to bring up this issue of customers for whom we don't have interval meter data, either because they just moved into their home or they're using a non-regulated fuel.

And April, you mentioned not having the funding source to do it, but if you did, right, if we had HOMES money and we could use it to help non-regulated fuel customers switch, you know, to electrified appliances, heat pumps and heat pump water heaters, how would we handle the incentive design and calculations?

And I'm also going to throw -- I also have this one thrown to sort of other stakeholder comments, so no one should feel pressured to have the answer right now, but I'm very curious.

MR. KISCH: Yeah, I think there's a couple different ways, you know, there. Potentially, you can access meter data in other ways, but the initial thought is -- or one potential way is that you do have meter data for a lot of the state, and you have, let's say, over 90 percent of California utility customers, and that we could make in some incentive design decisions that are based on

representative meter data sets that we are confident, that would support all customers. So for example, if a variable speed compressor system works better in the Central Valley, in PG&E territory, does it, you know, look like something in Modesto Irrigation District too? Same kind of logic applies to M&V calculations.

I think our goal is to build that large enough data set so that we can make statistically significant predictions about a variety of projects, even those outside the scope of the data.

But, you know, generally, the first step is let's try to exhaust all options of getting the data and figuring that out, you know, if possible. But then I'd say the next one is figuring out how we can tie it to other data sources where we have a very, very robust data that looks very similar.

MR. FRANK: I'm happy to add on to that if that's helpful, Miriam.

So for context, outside of California, Sealed does primarily work with homes that that don't have interval meter data, and that includes delivered fuels, like heating oil and propane.

So, you know, I think the good news is that CalTRACK and OpenEEmeter, which are, you know, open source energy software used by many of the programs, have

protocols to measure savings for homes without smart meters as long as they have monthly data.

Based on field zone data and experience, we're also working with stakeholders via the OpenEEmeter process to include calculations and protocols for homes with less than monthly data. So again, that's typically delivery fuel homes.

And I think the other thing that I think is important to mention here is, and I think it's been alluded to in a lot of the presentations today, is that, you know, we're about measuring savings, but many homes -- or not many, I should say, some homes don't qualify for these programs because they don't have 12 months of data, or in these cases, at least when it comes to the HOMES Program, DOE guidance has enabled rebates to be given out on a modeled basis for those homes, which we think, you know, makes a lot of sense because you want to have accessibility; right? Someone shouldn't be denied a rebate just because they just moved into their home.

And so there's some nuance in how that modeled approach differs, whether you have 12 months of data or not. But I think it's just important to kind of acknowledge that there's some there's some kind of nuance here in terms of data availability.

MS. JOFFE-BLOCK: Okay. Great. Thank you.

I want to go to another theme that's come up a bit, which is the multifamily buildings. And I think our understanding at the CEC, based on the kind of landscape analysis we did of Pay-for-Performance, and then some of the presenters structures today, is that Pay-for-Performance Programs have not really or even somewhat, you know, managed to penetrate into the multifamily building structure.

April, you mentioned it was more complicated, but it was possible. And so I'm curious if you could speak to kind of the unique needs for multifamily as they might apply to a pay-for-performance pathway? And what would we have to do with the incentive structure to make it work?

MS. PRICE: I'm not going to have that many answers here, Miriam, but I -- you know, when you're looking at common heating, cooling devices across, that are shared across a building, I think that's a big challenge.

If you're looking at a single kind of self-occupied apartment or condo, I don't think it's that hard to think about applying this type of model because you're able to access one customer's metered savings. And I don't really know how you do it on a whole building basis, but it doesn't seem too hard to figure out.

MS. JOFFE-BLOCK: Okay, let's -- and we'll throw that one to stakeholder comment as well.

In terms of the ability to advance some portion of funding to contractors, I'm wondering if you can just speak to kind of the importance of that and any thoughts on if we're unable to use the HOMES -- as we currently understand, right, we're unable to use HOMES dollars to do some of those advances. We hope we might be able to figure that out within the bounds of DOE guidance. But if we can't, are there any other options to think about how to best implement the HOMES funding with that constraint?

MS. PRICE: That’s a big one. I think that, you know, working with programs that have other sources of funding that are able to stack with HOMES funding, I think getting upfront payments to contractors are really the only way to bring down customer prices and get active participation in a Market Access Program in the residential scale.

MR. FRANK: Yeah, I just want to second that and kind of add that I think in any scenario, with HOMES at least, both the contractors and the homeowners will have the ability to get the rebate funds up front. I think the challenge, if it exists, will be in terms of the impacts on the aggregator.

So, you know, Sealed, for example, right, we're advancing money to the contractor that is, you know, at risk based on the performance of the project. We're

obviously doing that based on our own underwriting. But there are, you know, there are obviously carrying costs that occur when you're kind of waiting for repayment from those rebate funds. And those carrying costs will be higher longer it takes for the repayments to be made.

So we, you know, don't believe, based on our understanding, that the kind of advanced payments are disallowed from an IRA statutory perspective, maybe other relevant regulations. And I think we're -- you know, a lot of folks are trying to run that down and hopefully we can, near and dear point, we can figure that out.

In a worst case scenario, I think there are a few different options that CEC can explore. And, April, I think you kind of alluded to one of them, which is using non-IRA funds to provide some of those advances and those advances can be paid back to the CEC as the program savings are realized. And then kind of similarly, you know, you can leverage various low-interest financing options from different kind of programs to minimize the carrying costs as well.

So I think there's a few different levers, but the ideal, obviously, is that DOE provides the flexibility to minimize the carrying cost needs.

MS. JOFFE-BLOCK: Okay. Thank you so much.

I do see a hand in the Q&A. So if the attendee

from POWERTREE wants to unmute and please state your name and organization, then you can ask your question?

MR. REINECCIUS: Stacey Reineccius, POWERTREE Services. I wanted to go back to your question, Miriam, in regards to how to access multifamily.

Multifamily with energy efficiency, as with other systems, the number one constraint is the split in the incentives between the owner of the property who controls the property envelope and has the liability for anything done to the property envelope, and the tenants who turn over but have control for a while of their meter.

In order to successfully deploy into multifamily, and I say this having done thousands of apartments worth of physical deployments, you have to get the owner to make the investment, right, and then have a method of cost recovery from the tenant that is advantageous to the tenant, so a savings that they get, maybe not a hundred percent of what the savings might be.

But programs that are built around single family, where the owner is the bill payer, do not work for multifamily. It just breaks. And that's the reason, for example, in the solar industry, and similar with efficiency, we see 99-plus percent of the projects going to single-family and inequity and cost issues and opposition building in the 42 percent of Californians who live in

multifamily; right?

So if you're going to address multifamily, you have to address the incentives to the property owner. And you have to understand how the property owner makes their money, which is based upon an income stream to the property that builds the value in the property. They are generally equity-rich and cash-poor. They make their money only every five to seven years, maybe ten when they refinance their property. Unless that business model is kept in mind and structured for, you will never succeed.

MS. JOFFE-BLOCK: Thank you, Stacey. That's a good point and one taken.

Did you have a multifamily question for any of the panelists?

MR. REINECCIUS: I would be, given what I just said, I am curious as to how you would see programs like that working. How would you structure to be able to generate a consistent predictable cash stream for a property owner?

MS. JOFFE-BLOCK: You know, I think it's a great question. I'm thinking about just the constraints we have with the HOMES guidance and whether consistent and predictable is, I think it's a tough question to think about with the way the incentive is measured and paid out, but thank you.

Anybody want to speak to that? Otherwise, we've got some questions on, I think, incentive split between homeowner and aggregator.

MR. FRANK: I'll just -- we're not -- we don't serve multifamily right now, so I'm not -- I don't think I'm an expert. But I do know, and I just, I very much agree with the focus on understanding the business model and the incentive of the building owners.

Building on point two is I believe, I'm pretty sure, NYSERDA for many years ran a measured Pay-for-Performance Program in the multifamily sector, so it might be a good place to look for some templates in terms of how to run those programs.

MS. JOFFE-BLOCK: Great. Thanks.

So, Andy, this one is sort of for you. Curious as to how -- this theme is coming through the Q&A, and also I had it kind of queued up as well. I think, you know, everyone's aware of the risk that the contractor might be inclined to underestimate the savings value to the homeowner.

You know, April, you may have experiences as well; right? Underestimate the savings value to the homeowner and then be able to sort of pocket the upside later if there are excess savings because that amount has already been sort of captured and passed on.

Any thoughts on how we mitigate that risk?

MR. FRANK: Yeah, it's a great question. And I want to distinguish between kind of, and apologies if it gets a little bit wonky, kind of like a calibration period, right? When you're having a program as people kind of alluded to, right, for example, you know, we're tracking energy usage and savings as best we can, but because, you know, the ultimate outputs are done, you know, in many of these programs based on comparison groups, right, we won't know what exactly the outcomes are for different project types until that data comes out. So there's kind of a calibration that happens up front where you're expecting kind of more variance from the need.

But more broadly, you know, DOE guidance, has addressed this issue. So there's a cap in the, for the HOMES Program at least, there's a cap of aggregators and contractors not receiving more than 120 percent of what the rebate reservation is; right? So the aggregator or contractor has to say, hey, we think the rebate is going to be this, even if that amount isn't paid out upfront. But, you know, for on a portfolio level, you're never going above 100, 120 percent.

I think more importantly, though, there's really strong incentives for the aggregator to be as accurate as possible. So as, you know, April alluded to, and as I

mentioned before, these programs allow for, you know, many different aggregators who can compete against each other. So if Sealed, for example, is underestimating the savings, a contractor can just work with another aggregator who can give them, you know, will give them and their customers a better deal. It's kind of similar to, you know, how a lot of drivers will kind of, you know, play Uber and Lyft with each other to see who's going to be giving them a better deal or customers doing the same kind of thing; right? So it goes both ways.

So similarly, you know, homeowners typically get multiple quotes from contractors; right? And contractors that are offering lower rebate levels for the same amount of work or, you know, not giving them equivalent value are going to be at a disadvantage in terms of winning the deal.

And then a flip side though, I should say, like this program design really rewards contractors who are performing better than their peers; right? So for example, if Sealed is working with a contractor outperforming other contractors, we can readjust their underwriting to enable them to offer higher rebate levels to their customers relative to their competitors. So we're giving them kind of a -- it's kind of a race-to-the-top effect that we think is, you know, frankly, really an exciting outcome for these local businesses that are doing things this way.

We hear from a lot of contractors that they get frustrated that, you know, they really care about the work and they really do high quality work, but it's not -- it's a really hard thing to communicate to the market that you did a great job, you know, doing air sealing in someone's attic or you did an amazing job running those line sets in someone's home; right? So being able to offer a higher rebate level is a very simple way of demonstrating to customers that you do a high quality work.

MS. PRICE: And I'll just jump in. I think there's reasons to both under- and overestimate your energy saving. And so they kind of counterweight a little bit for contractors that are doing their own energy estimates, you know, they're not -- and not working with someone like Sealed, a larger aggregator. They're just participating directly in the market, and we do have those in our market. If they overestimate their savings, they're able to offer more to their customer up front, which will drive, you know, the sale.

And I think a lot of contractors that don't have the financing assistance from Sealed or a different aggregator, that performance payment happens so far down the road that, you know, it doesn't have the same value of money, so it's not as valued.

MS. JOFFE-BLOCK: Okay. That's really helpful.

Okay, I'm going to have one more question for our panelists, and then we will go to public comment.

So I see a question here that I'm going to, from Grace Staples. I'm going to clarify my answer, but then kind of turn it into a question for the panelists. So the question is that, Grace is saying,

> "I thought I recalled from earlier, the CEC does not believe the agency can provide incentives based on timing and location. How does that square with Andy's contention? IS it possible?"

So when we look at the HOMES guidance, the HOMES guidance requires that the states implement the program by having an incentive that ties back to that statutory $0.55 per kilowatt hour reduction. But the HOMES guidance also asks states to come up with a plan to value time of use, greenhouse gas reduction, location. And so we're actively talking to DOE about how do we do both things; right? How do we, especially because in California we are already not treating a kilowatt like a kilowatt? There's, you know, 8760 different values of, you know, kilowatt hours saved. So how do we kind of keep on that track or should we; right? We're also asking the question here today. We want public input there and stay consistent with the HOMES's guidance.

And so, Andy, you kind of showed an example of

how there's the potential to bring in, you know, almost kind of like super rates and specific grid-constrained locations and really kind of be very customized to the state's grid needs. And so I want to think about that sort of possibility that we have as program designers and then figure out sort of, you know, think about the reality that you all work with contractors who need things to be clear and simple and straightforward.

And I know, April, you've especially -- your program has tried to include smaller local, you know, mom-and-pop contractors. And, you know, we've got a workforce development piece of these programs as well.

So I'm just curious how you all see the relationship between incentive design and contractors, contractor engagement, I guess?

MR. FRANK: Do you want to take first shot at that, April, or -- on the contractor side?

MS. PRICE: I mean, to try to make it as simple as possible, but for instance, in our region, you know, I've referenced or focused on hard to reach. Someone in the chat asked, "What's the definition of hard to reach?" It's not something that's easy to write out in a chat.

So, you know, it does vary throughout our Tri-County region, depending on different criteria. So, I mean, we make info sheets for contractors. We hold

webinars. We touch base with our aggregator partners like Sealed regularly to make sure that their outreach to contractors is aligned with our program. And so we're really like in the weeds actively talking to all of the people that are trying to talk to contractors on behalf of our program to make sure that we're aligned in messaging.

I mean, it's not quite answering your question, but in the same way, we work with TECH to make sure that we are both recruiting contractors for each other's programs, you know, so that all ships rise.

So I think contractors can handle some variability, but as long as the messaging is the same from everyone, I think that's a big help.

MR. FRANK: Yeah, just to double down on that, but then Miriam also kind of dived a little more into detail of the HOMES kind of requirement, to answer that question, I think communication kind of among stakeholders is really, really, really important; right? Like, again, it goes both ways, right, where as April mentioned, you know, I think the 3C-REN Program and other programs do a great job in trying to be as transparent as possible when changes are happening and kind of what that looks like and how that needs to what that means for the program.

And at the same time, you know, aggregators and contractors that are in the market are, you know,

providing, you know, data points on kind of what we're seeing, what's working, what's not working, how can we improve it. And I think a lot of this is, I think over time, as these programs have matured they become better, more scalable, more powerful because of that communication and that integration; right? And that's, I think, part of the power of kind of learning in these programs is getting better.

In terms of the HOMES provision and (indiscernible) of greenhouse gas, so the statute that you can pay, I think, you know, for market rate, $2,000 for 20 percent average savings, but you can take into account time, location, greenhouse gas.

The way we interpret that is that all of the hours of the year have to kind of add up to 100 percent, essentially, which you can weight some hours more than the others. So you can essentially say, as long as if a certain measure or certain package of measures, save the same amount of energy across all the hours of the year, and that equaled $2,000 for that 20 percent, the $0.55 per kWh, then that kind of meets the statutory requirement.

But, obviously, the interest by California and many other states is to drive as much peak reduction or reduction in greenhouse gas as possible. And so we think it's possible to basically create those incentives that

certain hours are incentivized higher than $0.55 per kilowatt hour, for example, and certain hours incentivize less than $0.55 per kilowatt hour, as long as it kind of matches up in the end.

And I should add that there's a lot more flexibility in terms of going above and beyond what's in the statutory incentive amount for low-income; right? So that's a double, that's $1.10 for California for kWh, but it explicitly allows states to ask for higher levels. So you can imagine there could be adders that go above and beyond that $1.10 per kWh for low-income households.

MS. JOFFE-BLOCK: Okay. Thank you so much for being here and sharing all of your insights and fielding some of these tough questions as we try to rely on your experience and expertise to help inform where we're going. I really appreciate it.

I think we're going to now turn it open to public comment. So panelists, you're welcome to stay on camera. You're also welcome to go off camera.

And we welcome input on any of the topics we've been discussing. There are some questions we're particularly interested in hearing your input on. Some of these we have brought up a today, some are new. So we're interested in this question that Andy just brought up and then we came through the chat of the alignment between the

total systems benefit and the kilowatt hour reduction.

We're interested in the best way to incentivize projects in grid constrained locations. How can federal funding help navigate some of the constraints with TRC requirements for residential projects? We did pose this this morning to the panel. We're interested in what the public has to say as well. I asked the question about interval data not being available to our panelists, also interested from the public, and the question about controlling for the risk of contractors underestimating savings. You're also welcome to speak on any aspect of the HOMES Program.

So we welcome public comment at this time. If you are joining us via Zoom or online or you are joining us by phone, let us know that you'd like to make comment by using the raise-hand feature on Zoom. If you're online, you'll click on the open palm on the bottom of your screen to raise your hand. If you're joining us by phone, please press star nine to raise your hand. Give it a minute and see if anyone wants to come forward.

While we're waiting for public comment, I will answer a question or two in the chat.

There is a question on equity and making sure property owners don't increase rents, the HOMES adhere guidance, the HOMES Energy Rebate guidance has some

significant consumer protections in there, specifically around rent control. So I will or maybe one of my colleagues can drop the HOMES guidance link into the chat and we can direct you to the section on the consumer protections and rent control.

Thank you, May.

Okay, we have a hand from POWERTREE again from Stacey. Thank you.

I do just want to see if there's anyone else who hasn't spoken, who wants to share? Okay, I'm seeing none.

Stacey, you may unmute your line.

MR. REINECCIUS: All right. Thank you. I know I seem to be the only one speaking on a couple of these things, but I am passionate about getting these benefits into multifamily.

One of the elements, and I want to also address the question that you just raised about rents, in deeded multifamily, there is a hard limit, according to the Housing Authority, whether federal or state, as to the allowable combination of rent and utilities that can be charged. And when one goes down -- when the utility allowance goes up, the rent goes down. When the utilities go down, the rent goes up. There's no change in the effective cost of living for tenants in those situations.

But we can actually do better if the property

owner is allowed to raise rent, but not to the full amount of the savings that they provide. So in effect, the utility allowance would go down by say $10.00, the rent would go up by $9.00. This gives the tenant a ten percent savings, and it gives the owner the cashflow necessary to finance and pay for the upgrades and to have value preserved in their property so that they can maintain the property for other purposes.

So I just want to bring that forward, again, thinking about it from an alignment of interest between the owner and the tenants.

And also, I want to make the point that you reference the CPUC alignment, but less than 60 percent of Californians live in anything that is regulated by the CPUC. So aligning to CPUC guidelines, which are highly aligned with IOU policies and lobbyists, is not good for all of Californians. And the State of California should be thinking of all Californians, not just the 60 percent that are under the control of the IOUs.

Thank you.

MS. JOFFE-BLOCK: Thank you for that comment.

I see a hand from Renee from Pearl Certification.

MS. DAIGNEAULT: Great. Thank you. I think I unmuted myself. Good afternoon, everyone. My name is Renee Daigneault with Pearl Certification. We're a third-

party certification services provider focused on transforming the market for high-performing homes. We're a public benefits corporation centered on making the value of energy-efficient features available to homeowners. We appreciate the opportunity today to share some brief comments.

There's two points I wanted to make. One is that there are third-party certification requirements in the HOMES Program, and those requirements can be leveraged to serve as the cornerstone of the state's market transformation plan if it's thoughtfully designed with a framework of supporting resources to engage and educate stakeholders. I think this is where we can get at some of the equity pieces.

There's a lot of details that will need to go into all the planning, and the state certainly has quite a piece of work cut out to putting all this together. But, really, the fundamental idea behind third-party certification as we see it is it can really be a vehicle for market transformation. And the quality certification can make energy efficient features visible, communicating that to homeowners and to homebuyers, to generate the market demand we need for transformation.

That concludes my comments. Thank you so much for the opportunity.

MS. JOFFE-BLOCK: Thank you very much, Renee. Appreciate it.

I will take a question live here about, there's a question under the aggregator model,

"Would aggregators receive a portion of the homes rebate? And I think Andy's answering from the perspective of Sealed, which is great. If not, how would these services be funded?"

So the application to DOE does require that states kind of lay out what -- how the rebate would be split between customer and/or resident property owner, yeah, it could be, yeah, property owner and resident and aggregator. So it's not defined. It's up to the states to propose the split to DOE.

We still have a few minutes allocated for public comment. If you would like to make one, you are now welcome.

Okay, then I think what we will do is we will go on our break a few minutes early. I want to start the last session at the planned time in case folks are planning to join us. So I'm not seeing any further raised hands, and so we will now go on a break until 2:45 p.m. See you back here.

(Off the record at 2:25 p.m.)

(On the record at 2:45 p.m.)

MS. JOFFE-BLOCK: Welcome back, everyone. We're going to resume with the session that I started earlier, early after lunch, but now we're really going to do it. And this session is designed to explore options for how HOMES Pay-for-Performance could be administered and implemented in California.

So how we're going to do this is I'm going to present two possible options for feedback. First, a statewide program administered by CEC. And second, an option by which CEC passes funding through to local administrators. These are not necessarily the only two options for program administration, but they will help us spark discussion.

First though, I want to take a minute to look at the various entities and roles that are involved in delivering current Pay-for-Performance Programs.

So this slide represents our current understanding, and this is probably most closely aligned to a Market Access Program, but hopefully relevant in general. So our understanding is that typically a program is going to require a program administrator, implementer, M&V provider, aggregators, and contractors. And we will refer to contractors as installers to distinguish that these are the businesses that are installing projects. You've heard from entities performing most of these roles today.

So first, program administrator roles are similar to that of other energy efficiency rebate programs. Typically the PA, as they're known, will contract with an implementer to manage the program, which in Pay-for-Performance includes holding relationships and being the counterparties on agreements with aggregators. Pay-for-Performance Programs require an entity to provide measurement of savings and calculation of the corresponding incentive. In the Market Access Programs, that's looking at the utility meter data, performing the NMEC analysis, and applying values from the avoided cost calculator.

In some iterations of Market Access Programs currently, the functions of implementer and M&V are both being performed by the same entity. We've heard examples of Recurve doing that.

In other instances, there are separate and distinct entities. Aggregators are delivering portfolios of projects and their corresponding energy savings to the programs in exchange for incentive payments. So they're sitting, as Andy explained in the last session, and as Franklin explained this morning, they are sitting between the program and the installer, helping the installer qualify the project, determine the incentive value, and providing data to the program.

And you've heard today that for many Market

Access Programs, installers can choose to be aggregators and connect with implementers directly. April spoke about this in the last session, or they can focus on more typical installer roles if they don't have the capacity for the savings, estimations, and program integration that's required.

So as we've also spoken about today, HOMES comes with additional requirements that aren't typically found across all Pay-for-Performance Programs. So we are seeking input as to how these requirements are best met and which entities are best poised to take on additional roles. You'll see examples on the slide, and we've positioned these requirements under the entities that might take them on, but these are open questions.

You know, for example, are the QA/QC functions best managed by an implementer, like in a deemed program, or by someone else? And how about setting the contractor requirements or the various eligibility checks, some of which need to be coordinated with DOE's API to ensure that addresses don't receive multiple federal rebates for the same project? Income verification will also be needed. So we really hope that commenters will think about these different roles as we talk through administration options.

So as I mentioned, we're going to show two possible administration options. And so this first slide,

there we go, shows an option for a state-administered program. So under this scenario, CEC would receive funds from DOE and then run a solicitation for both a statewide implementer and a M&V provider. As we just talked about, those could be the same or separate entities.

And under this model, aggregators would access the program at the state level and could operate in any geographic part of the state under uniform requirements. This model could also include the option for installers to work through aggregators or access the program directly like they can with 3C-REN.

In terms of layering and stacking, aggregators can arrange for layering and stacking with other sources of funds that would not be coordinated through the program if those other sources were local.

So we're very interested in your feedback on this model in terms of what could work well, what we may have gotten wrong here, or how this should be configured differently.

So moving on to option two, this option shows a locally-administered program. In this case, the DOE would pass funds through to CEC and CEC would still conduct a solicitation from a M&V provider to work at the statewide level, although even that is also open for feedback. And then CEC would issue a solicitation and local entities,

could be utilities, RENs, CCAs, potentially others, could bid or apply for funding to incorporate into their existing Pay-for-Performance Programs or to set up new Pay-for-Performance Programs.

Aggregators and installers would interact with the local programs. And the leveraging and stacking of the other funding sources would happen through the local programs. So in this case, a good deal of HOMES compliance requirements and the eligibility checks that I just spoke about would happen at the local program level.

So we welcome your feedback on this and any input on what we may also have gotten wrong about the kind of arrangements between the entities.

So now I'm going to introduce Carmen Best of Recurve, who I very much appreciate her being here, who is going to help tackle some of the questions and considerations I've just raised. You've heard Recurve mentioned several times today as the, I don't know if implementer is the right word, architect of the FLEXMARKET Program. I'll let Carmen handle that, how they want to be described. But after Carmen presents and kind of gives her input on these questions, we will open it up for public comment on these administration questions.

Thank you, Carmen.

MS. BEST: Great. Thanks, Miriam. Thanks for

the opportunity to share today.

My name is Carmen Best, and I have had the exciting opportunity to spend my career in Energy Efficiency Programs in California. And I'm currently watching this play out from the vantage point as Recurve's lead on policy and market development. So I'm grateful, Miriam, and the team for providing the space to share some of the insights on IRA, and particularly operationalizing the measured approach, because it's a learning curve. I think everyone's learned lot today. Even I have.

And I, in my role today, I just want to clarify that I'm really attempting to bring both my knowledge of California and my insights from talking to lots of states over the last year and a half on administrative models and strategies to kind of to bring to bear in this fireside chat that we're going to have with you and Miriam.

But before I get started on that, let me give you a little bit more background on Recurve and why we have some component elements that are relevant to this administrative question.

So Recurve is a software company that enables demand flexibility at scale by providing a standard weights and measures for understanding the impacts and value from long- and short-term changes in energy consumption, that's efficiency, it's demand response, et cetera.

You can go to the next slide, please.

And Recurve's purpose is really to provide visibility and equivalency to the supply-side resources that we invest in on a regular basis and be able to see demand-side resources in the same sort of fashion. So by integrating distributed energy resources, energy efficiency, and demand flexibility into virtual power plants or whatever the flavor of the day may be, we can really deliver that value from customers long and short-term changes in energy consumption back to optimizing the system.

And we're really excited about how IRA and these federal investments can help support this type of transition for the state, continue on this journey that we've already started on, but have new opportunities to continue to innovate.

The next slide, please.

And I wanted to home in on some of the administrative questions that are at hand by looking at some of the pieces that Recurve brings to the table.

So we have three fundamental solutions and they really overlap with these key administrative capabilities that support IRA homes implementation, and the first of which is Resource Planner, and then I'll talk a little bit about Fleet Manager, and then the analytics-powered open

market platform which is FLEXMARKET which you've heard a little bit more about today and in actual real live form. And several of you have maybe heard of us already, but I wanted to put these in the context of IRA in particular.

So Resource Planner is really designed to target customers that are likely to perform really well, who they are at the address level, and then be able to forecast that impact to demand reductions if they were to engage in a program.

So in the IRA HOMES context, this is really valuable information because it will allow program administrators to make sure that the limited dollars can get to the places where they're going to have the biggest impact, or to make sure that those savings thresholds can be met, especially in communities that are aligned with equity objectives.

And it is also the part of having this information can also be synchronized with income verification or the rules around income verification, so that those two components, or even more than that, can be used to optimize the interventions. And the CEC has already gotten started on some components of that for EBD, and is also looking at it for homes, as I understand, or it would be very valuable for homes.

The next component is really Fleet Manager, and

Fleet Manager is where you do the measurement verification. You can track, measure, monitor, and analyze projects down to the individual home in real time. It is an advanced -- it's driven by the OpenEEmeter, which is the advanced software, M&V software, which is required in the law. And it's a real-time feedback loop.

So in IRA HOMES, this would be the basis of the actual impacts or the measured incentives for which a project would be eligible. And then it could also do other things like track bill impacts, like Dylan was showing earlier today.

Another component of fleet manager is what we call the Ledger, which provides the accounting and documentation for all the projects and transactions in the program. And it takes all of these assets that are installed at different times and can put them into, effectively, a purchase order for aggregators to be paid with transparency. This could also fit into an alignment with the distributed model that Miriam was talking about, or perhaps with the IRA HOMES, it could be the basis of requesting funds from the CEC. So it's all about reporting alignment with the DOE requirements as well.

And then finally, the FLEXMARKET, as we've heard a little bit about today, already takes all of the analytics capabilities of these other two components and

can operationalize a marketplace in which these qualified aggregators can see the potential value of those projects, deliver them to customers based on this predetermined price, like the per kilowatt-equivalent incentive rate in IRA HOMES, and then it can provide the accounting and documentation for all the projects and transactions in the program. So it takes all these assets and can give the visibility. And we've already heard a little bit about that today.

But I think highlighting some of these component pieces to Recurve's solutions kind of helps, at least helps me get my head around some of the different component parts that Miriam was laying out of who's involved in these potential programs and things that program administrators would need to have in hand.

Now you can go at the next slide, please.

Now as I was preparing for this, Miriam asked me to kind of lay out some of the pros and cons or considerations that you might have in focusing on either this local implementation or a centralized implementation. And if you were to read our comments that came out in January on the CEC stuff, we put in some ideas and thoughts about how one could operationalize those local programs really to speed the delivery of rebates in the state and not have to wait too long for solicitations, et cetera.

But I would say that even in other states that I've been talking to, as we've been watching IRA HOMES unfold, you know, the local or the centralized versions are a couple of the pathways that have emerged. And I think that Miriam did a lovely job, a better job of laying those out in her flow diagram, which I think we'll put up on the screen later.

But just in short, the distributed model really means implementation by entities other than the State Energy Office and centralized really means that the implementer would be working for the state energy office directly. And they have a few different characteristics that I think are worth pointing out.

Ultimately, the right path is really dependent on the qualifications of the various entities that are going to be in the game in any state. And I would say that California is a bit unique in that the data infrastructure and existing statewide program capacity is available in either situation. So it's really going to be about the tradeoffs between kind of speed and efficacy in this shorter term, potentially, and maybe setting up a long-term market transformation or simplicity in the long term.

So on the local side, I just wanted to highlight that, you know, given that RENs, CCAs, and IOUs do have experience running these residential performance programs

like we've heard about today, it may make sense to start there and get rebates flowing more quickly. I think they would have to adopt some of these additional criteria to comply with the DOE guidance. You know, the audits and certification of HOMES is a new requirement. And then they would need to comply with the other CEC rules that are derived from the DOE requirements.

But they could layer those funds with existing monies that are designed to support grid impacts, and then be able to synergize those incentives and potentially drive deeper savings that will support reliability in the state because they have a defined objective of supporting reliability to begin with.

And the measured program model in the form of the Market Access Programs that you heard about today are really required by the CPUC for all the IOUs and are allowed for a lot of the other efficiency program administrators. So they already have kind of a pathway by which they could be operationalizing a pay-for-performance or market access-style program. And the Commission has put a bit of guidance out there or interest saying that they wanted these funds to be synergistic.

So I think those are some pros of the local implementation and kind of that distributed option.

On the centralized side, I think California is

really blessed in the fact that the CEC does have a centralized space for the data infrastructure that would be needed to operationalize the measured program, and it would be able to stand up a statewide P-for-P Program without a whole lot of pain. This market access-style program would be totally possible to kind of append to the -- within the CEC's program delivery, and it would just take a little bit of time to get procurements going and kind of get that all set up. That would be kind of the primary barrier. Otherwise, I think everything else would be effectively the same and it would be able to comply with the DOE guidelines.

I am a little concerned about how the stacking would work. But that is, I kind of see it in my mind's eye as being built on top, the stacking. It would be easier to put IRA incentives on top of the avoided cost value that's already available within these existing programs, but there's probably ways to solve for that one too. My main concern is I don't want to create a whole new silo in the state and not be able to kind of combine these funds.

So I think either one is viable and will present some different tradeoffs. But if we want the money out fast, I think using existing infrastructure while we potentially build out a centralized model that could last beyond the IRA funding period, both need to be designed to

be accessible to local entities to augment and amplify the achievements of their unique goals.

And just the other thing that I wanted to -- you can go to the next slide too.

The other thing that I wanted to hit on is just how this -- one of the questions that Miriam asked was how does layering of incentives look like with multiple pay-for-performance funding streams? And I wanted to share kind of this conceptual vision of how in either model, my real hope is that California can continue to synergize our multiple goals, because we have a myriad of otherwise siloed programs in the state. And if we can get them organized around a price that really represents the combined value of the goals we're trying to achieve, I think we'll be able to push farther faster.

This stylized image is a combined kind of all-in cost curve, as it were, and it represents the avoided energy and capacity value, which is the foundation for the FLEXMARKET payments right now. And that lens, it's kind of the curvy shape for the system benefits and those peak benefits, but it can also accommodate value from other sources like GHG climate impacts, which also has a time value, or value coming from overcoming market barriers like installation infrastructure or baseline access to technologies at affordable price points.

So in my ideal world, these would all be presented together. And as Andy noted, they have tools. Sealed is developing tools and solutions to synergize those incentives to be able to stack those incentives. But I think there's also a scenario, pointing to Commissioner McAllister's comment earlier, where funds could be flowing into this from other private capital sources and it wouldn't necessarily have to just be coming from public funds. So this sort of model where we can stack all this value, I think is well suited for being able to bring in a lot more funds. And IRA HOMES can be part of that, but really be a gateway to a bigger picture.

And then the last slide that I wanted to share was just to show how the how the stacking component could kind of work. Our colleagues at Sealed who have been stacking these incentives put this in an illustration together and I modified it a little bit to just call out the differential value that's being captured by each incentive. It's not repaying for the same thing over and over but rather when you're stacking these incentives it's blending the goals of each of these initiatives into an overall value to make the project possible. So, top to bottom, the value is monetized to build it up to the whole.

So in this scenario, we've got tech incentives that are really addressing access to technologies at an

affordable cost. The 3C-REN Program is really focused on delivering grid value, but also it has the kickers for equity, so that's incorporated as well. IRA here, the electrification incentives, allow you to pay for panel upgrades alone. That's really an infrastructure barrier that would be a flat rate in that combined incentive. And then IRA HOMES can be buying both the equity, the climate value, and the savings to customers as it's intended in the law.

So all these different value streams are ultimately supporting customer comfort and affordability as the primary outcome, but they also have their own goals and objectives and they can be combined in such a way to get to the full value stack for interventions to be possible.

So I think IRA HOMES is an incredible opportunity to accelerate the residential retrofits in the state. Right now, I'd say that the avoided cost curve just doesn't provide quite enough value to really motivate and the cost test in the PUC framing is still quite limiting in a lot of ways because it penalizes private investment.

So I think as we move into these performance-based programs or can accelerate them, even at the statewide level, the IRA incentives would make it -- would make electrification and meeting our climate goals a lot more accessible for many more homes in state and really can

help make a dent in our climate goals overall, and have a valuable impact on reliability at the same time when you add in the time value of those incentives.

So I'll stop there, Miriam, and then I think we can continue the conversation with some of the other questions if you want to probe deeper.

MS. JOFFE-BLOCK: Great. Thank you so much, Carmen, and I do want to probe deeper. We also have some good comments coming through the Q&A, so I might read some of them out loud.

I also want to just clarify that we haven't heard from any -- and I've seen the comments coming in about non-IOU territory; right? We haven't heard from any municipal or public utilities because we're not aware of any that are implementing pay-for-performance, but we're very interested to have POUs weigh in on these questions, particularly to understand if they are -- you know, when we're considering these two models, right, do they want to be local administrators of P-for-P Programs? So there's no preclusion there. We want this to be statewide through either model.

So we have some questions, some kind of focused questions here to shape the comment, and we have a lot of time. We have about 30-plus minutes to have folks respond to the questions.

Do we have the slide with the questions on this particular set of topics? There we go. Thank you so much.

So what are the tradeoffs? So we heard Carmen's response, right, but we're interested in others. What are the tradeoffs between a statewide and locally administered HOMES Program? Do you want to expound on anything she raised or offer a countering view?

What does that layering of incentives look like with multiple performance-based funding streams; right? Is it possible to stack, you know, if you have a fixed cost incentive like TAC and then you have a P-for-P, but if you have multiple P-for-P streams, like, you know, how does that work from an implementation standpoint?

Which entities are best poised to fill the various HOMES requirements that aren't part of current Market Access Programs?

And this one is, also, we're blending a little bit from the last session where we talked about that incentive structure, but the best options to minimize and allocate financing costs during that nine to 12 month M&V period? And I know the concern about financing costs has been raised.

So we are open to hearing input on all of those questions with the structure, and we are open for public comment now.

I'm just going to say the normal thing here, of course. So we encourage the submission of detailed comments through our docket, which we'll post at the end, but we're also interested in taking your comments during the session.

Okay, thank you for alerting me that there's a raised hand.

So, Jana, if you want to unmute, great. And thank you, Jana. I did want to call out, I think everyone is welcome to make a comment. We are particularly interested in hearing from the program administrators on these questions.

MS. KOPYCIOKLANDE: Hi. Thank you, Miriam. Can you hear me okay?

MS. JOFFE-BLOCK: Yes.

MS. KOPYCIOKLANDE: Okay. Hi. I'm Jana Kopycioklande. I'm with Peninsula Clean Energy. I have to add, I am recently with Peninsula Clean Energy and was before working for MCE where I was involved in the rollout of the P-for-P or Market Access Programs, as we call them now, for the last four years, I think since 2020.

So I'm really excited to see this model now, having been involved in it for four years, see this model come up here under the HOMES Program. I think it's a really valuable program idea. I think it shows, really,

California's innovation in Energy Efficiency Programs and that we're pushing energy efficiency and electrification programs into a new era away from the model approach. So just wanted to say that first.

Thank you so much to the CEC for a lot of the work. I know it's a lot to wrap our brains around this new concept.

So having said that, I wanted to just address a few of the questions that you just posed, Miriam, like the benefits of local versus statewide administration. And, you know, as an administrator of an existing FLEXMARKET Program for PCE, and also speaking for MCE, I would think I fully agree with Carmen that, you know, the speed of delivery is an important component that speaks for the local administration. As you've heard from many of the presenters to date, it takes years to roll out an incentive, a P-for-P Program that's really, truly based on measured performance. And I think some of the California program administrators are just getting up to speed, so take advantage of that momentum and leverage HOMES for that.

But I also want to add a second point where I maybe slightly disagree with Carmen. I agree that leveraging is really important. I think the easiest way to leverage a stack -- sorry, leveraging other funds and

stacking is really important. And the most important part right now is like how to stack HOMES funding with the existing P-for-P Program funding that's already given under the CPUC energy efficiency portfolio.

So the CPUC energy efficiency portfolios just came out. You know, they just started new in 2024. All of the PAs under the application have to focus on the MAP Program, so there's really going to be a growth of MAP Programs in California. And if we were to put a statewide administrator on top of that, I just worry about the simplicity for customers and aggregators to access funds because the factor they would have to get a part of the funds from the local administrator, which is the IOU, the CCA or the REN, and then had to go through a completely different application process for a statewide HOMES Program, which I think that's not what we want to do in California, make it simpler for the aggregators and the customers to apply.

So I would rather recommend rolling that into the existing program. And you asked the question, how could that be, you know, stacked? I do believe, you know, let's just say if an existing program, and I'm making up numbers randomly, but provides $0.20 per kilowatt hour, we add the $0.55 per kilowatt hour, however they're going to be taken out exactly from HOMES and provide a joint incentive

through one application process, one PA, et cetera.

So I know I'm coming up on time. We'll definitely put this in public comment, in written comments too. But just also, you know, if you want to reach like hard-to-reach customers, vulnerable customers, there is a lot of benefits of working with local CBOs, too, so that's another point we're going to make.

So I think there's three important points to make on the local benefits. But, yeah, thank you very much. I appreciate the opportunity to speak.

MS. JOFFE-BLOCK: Actually, Jana, before you go, thank you for being conscious of time, but I see one hand, which we will have time to get to. I did want to tease something out because I think you're getting to the heart of something really nuanced but important with the layering and the stacking.

So under the scenario that you just laid out of the kind of funneling the HOMES incentives through the local program so there's not this duplication, in that, would that be an argument then for not, for California not trying to align or trying to structure its homes incentive with the TSB and the avoided cost calculator and kind of leave that to the existing Market Access Programs and just go with the straight $0.55 per kilowatt kind of on top versus sort of matching that avoided cost calculator

structure?

MS. KOPYCIOKLANDE: Yeah, I think either could be implemented. I mean, luckily we have really smart implementers like Recurve who can figure that out. You know, I think if we were to do a straight $0.55 per kilowatt hour, that's pretty easy to do. Even if we were to say during X hours of the day, four to 9:00 p.m., it's $0.85 per kilowatt hour and during the remaining hours, it's $0.25 per kilowatt hour, that could also be done. I mean, we're getting interval data on a 15-minute basis. So I think either of those structures can be implemented into existing models. I don't see the big difference between the two.

I think the question is maybe, I think, and I don't have necessarily a recommendation here, but I think you would probably want it to be standardized across all the HOMES, potential HOMES Programs that are offered if they're locally administrated. So you wouldn't want, you know, PCE to do one thing in terms of home funding and valuing the kilowatt hours in each hour versus MCE doing another thing.

MS. JOFFE-BLOCK: You know, and I encourage, I think that's a really good, interesting point to raise and I encourage others to respond to that, you know, because that's sort of a trade-off with the PAs as to are you

standardizing something at the local level statewide so the aggregators and contractors know what they're getting when they cross jurisdictions or are we giving flexibility to the PAs in their design? So, very, very interesting point. Thank you for bringing all of that up. I appreciate it.

We will go to Stacey, if that's you again, from Powerhouse -- excuse me, POWERTREE.

MR. REINECCIUS: Yes, Stacey again.

One, I want to share just some experience around this. I worked with the City of San Francisco CleanPowerSF Program in structuring it and putting it together early on. Also had, you know, experience participating with the different IOUs in their EV programs and some of the statewide EV incentives.

And just my observation to your first question is a centralized statewide program brings tremendous consistency and enables planning by statewide entities, especially multifamily property owners, so that they know for sure what they're dealing with. The local programs, while they can offer the appearance of being, you know, more tuned to the particular, you know, community, wind up creating a mishmash that slows down the ability to get things done and can actually go backwards.

The San Francisco Solar Program, for example, started out with 42 different installers participating, and

the pace of solar installation in San Francisco was terrific. But then local specific requirements starting to get imposed, and I won't go into the details of what those were, but more and more strings started to come in place that were inconsistent across other territories. And within a year and a half, there were only four installers left working in the city because of that inconsistency. Now there are three; right?

So the experience of that is stay statewide, right, would be my suggestion.

The other thing, in terms of consistency of data access for energy efficiency, anybody who's going to be implementing energy efficiency really must include measurement or a measurement pathway that can be relied upon as part of whatever their installation is. Maybe it's Green Button data, maybe it's a part of their installation where they're actually measuring and reporting the data in a verifiable way, but that should be part of any program for any performance-based compensation.

And if the local utility is not participating in Green Button or doesn't make the utility data available, then the contractor or the manufacturer of the system that's being put in should be putting in that measurement data. And you've got plenty of time to capture a baseline to check that against. It's not that expensive these days.

And with devices like some of the meter socket adapters that are coming out in the microgrid proceedings where contractors can install their own meter socket adapters, this is a $300 to $1,500 installation versus, you know, the multi-thousand dollar, you know, CT clip-on type process that's going on.

So I would -- those are my recommendations from experience.

MR. JOFFE-BLOCK: Thank you, Stacey. That's very helpful.

I'm seeing a request in the Q&A to go back to review the slides again so folks can see the two options.

So, Katie, do you mind taking us back to first the statewide option? There we go. Thank you.

Okay, so there's the statewide option. And I'll just read a couple of questions that have come in from the Q&A that I don't feel qualified to answer, but there might be -- Carmen may want to speak to, or there might be others who want to jump in.

So while we're looking at that, there is a question,

> "Has anyone considered what's better for the consumer or homeowner regarding the distributed versus centralized model? The current system of rebates and incentives is pretty hard to decipher for the average

person."

So it's a great question, how much does what we decide to do in terms of pushing out the funds, how much does the homeowner notice at the end of the day? There might be folks from the PAs who are already leveraging and stacking who want to speak to that as well.

And then, Katie, do you mind showing slide number two, option two again?

There's the pass-through funding option, which, you know, looks more complex because we'll have funding going through multiple entities.

Carmen, did you want to speak at all to the customer experience?

MS. BEST: Sure. I mean, I think that under either scenario, the customer experience should be seamless because this should be, effectively, invisible to them as long as the contractor and aggregator network is healthy and understands what they need to do. Kind of to Andy's mullet analogy, it should be clean up front and the mess can happen in the back.

So I think either one of these models, you know, as long as you have that interface with the customer being clean with contractors and aggregators that understand it, then it shouldn't have a relative impact for consumers.

I think it depends on how you frame the consumer,

though, because I think the multifamily questions that have come up today, if you wanted to make the incentives available to building owners, they might have a little bit of a different, there might be a little bit of a different interaction with the cash flows and things like that that could be coming out of how aggregators work with them. And I can see the -- I can definitely see the benefits of the statewide implementation if companies are also spread across jurisdictions as well. My only concern is then if there are local funds available, then how would you be able to kind of bring those into projects versus the opposite.

but I think either way, my main interest is that we're bringing funds together to get projects done because my concern is if they're too siloed, will the funds for IRA HOMES or these other programs be enough to move the needle? And if they're all sitting there with these siloed funds, then we're not meeting our objectives as quickly as we need to. There's plenty of programs in California.

MS. JOFFE-BLOCK: Right.

We also have an interesting question up here, which is, is there a combination approach of, you know, between local and statewide? The question says, "It's likely that locals will want more control over program design. Is there a combination approach?"

So if anybody would like to speak to that? I

know we have other M&V, there are other M&V implementers who do, who have sort of a similar picture as Recurve does, who may be on the call. And I know we have local or investor-owned utility program administrators, RENs and CCAs, if anybody else wants to speak to the combo approach or any of these questions.

I'm also interested, Katie, if you don't mind going back one more slide, just, you know, if anybody has thoughts -- I'm sorry, two more slides, yes -- of, you know, who's best supposed to do these in the green boxes, you know, to take on the bill impact disclosure to the customer? Is that still the contractor and installer who might do it in any situation or particularly around the QA/QC?

If all of this is happening at the local level, are there still parts of the, are there still some of the homes eligibility checks or homes kind of, kind of in a wrap around QA/QC, consumer protection pieces, integration with DOE that should still happen at the state level? I don't know, that's probably not the combination approach that the person who typed the question was thinking about, but that is another option to sort of tweak with the illustrations of the structures that we've put out, and interested in folks' thoughts on that.

Okay, and if folks don't want to speak up now,

the docket is always open.

And we have a hand, hooray. Okay, OC Goes Solar, you are recognized to speak.

Katie, we can go back to the public speaking slide, if you don't mind, just in case they need instructions on how to unmute.

MS. FORTHAL: Hello. Good afternoon. Can you hear me?

MS. JOFFE-BLOCK: We can. Good afternoon.

MS. FORTHAL: Yeah, good afternoon. Thank you.

MS. JOFFE-BLOCK: Thank you.

MS. FORTHAL: My name is Sunait Forthal and I'm the Executive Director of OC Goes Solar. We are a community-based organization based in Orange County, California, so we work with the community a lot. And our focus is clean technologies, clean energy and technologies.

I've been listening in and out mostly, most of the program today, and these programs are incredibly exciting. We're all happy to see them. But what I'm missing is everything is from the top down. I don't hear a whole lot of communication or discussion about the consumer.

We see homeowners, consumers, renters day in, day out in our region, and the information that we're discussing here is never part of the conversation. Most

people are not in tune to what heat pump is, how does it work, what are the rebates available, so everything is at the mercy of the contractors to share this information, which our organization has started to have this conversation about electrification to homeowners that we work with. And we're hearing a lot of contractors literally discouraging people from even, you know, attempting or being interested in the new technologies, like such as heat pump and all.

And then I heard throughout the day that a lot of barrier about hard-to-reach communities and that's another thing. So what are the solutions? I haven't heard any solution from all the implementers and people that are aggregators. It just appears to me, it's you have to work. I think the CEC or the program administrator has to make it a priority to work with community-based organizations that are on the ground that know the community that are trusted by the community to share this information and to make it available, like to let them know of like what is available, what's coming down the pipe.

Because there is a whole lot of lack of trust between contractors and homeowners also that we all know, so I think if the contractors and the homeowners and the program implementers somehow work together, or just invite the community-based organizations throughout California to

have a seat at the table designing these programs.

Thank you.

MS. JOFFE-BLOCK: Thank you very much for that. Really appreciate it.

I also see the question on a similar theme from Sneha Ayyagari. Apologies if I mispronounced your last name.

"Will community-based organizations be included into the implementation team for the Pay-for-Performance Program, similar to the EBD Direct Install Program?"

So just as background for those that might not know, the EBD direct install solicitation had a requirement for community-based organizations to be part of the applicant team. And so the question is, would the CEC do the same thing for this pay-for-performance pathway? I don't know the answer. I think it's a great question, and we encourage you to provide that input through the docket it on your comments.

MS. BEST: Miriam, can I chime in on that? Is that appropriate?

MS. JOFFE-BLOCK: Sure.

MS. BEST: Okay. I just wanted to hearken back to something that April Price had said on the 3C-REN implementation. One of the performance program models was to provide incentives both to make sure that -- effectively

make it worthwhile to work with disadvantaged communities, as well, and kind of build that into the incentive mechanism. And I think they have been seeing pretty good success with that.

It also has added incentive if the contractors themselves are local, so it has that economic development sort of impact, so that folks who live and work and provide services can also be, you know, providing those services to their neighbors, friends and family.

MS. JOFFE-BLOCK: Thank you.

I want to recognize Lupita Montoya, if you don't mind stating your name and affiliation, please?

MS. MONTOYA: Can you hear me now?

MS. JOFFE-BLOCK: Yes.

MS. MONTOYA: Yes. So Lupita Montoya, actually, just a resident of California until very recently. I just moved to Harris County in Texas as a community energy fellow from the DOE to support them in the development of an implementation of the Climate Justice Plan. I'm sitting in the office trying to learn what's happening in California because hopefully something will be happening here. We're trying to work.

So I'm listening to what is happening in California. And being a resident there, when I implemented some of these technologies myself, dealt with some of the

contractors. And I noticed quickly that there is a lot of disconnect between what the contractors that come to the house of a, you know, homeowner and what may be, in my case, the provider for the financing. The processes themselves were dislocated. And I found a lot of wasted time because they really were not even talking to each other properly.

One of the previous participants just mentioned about not anticipating this kind of problem. It just points to the limitations of doing a program based from top to bottom as opposed to anticipating that, because people will tell you when they deal directly with homeowners, they will have regular questions.

And so I'm wondering if in the companies that, you know, like today, the companies that presented, I did not see a single person of color here, for example. And I'm wondering, in those companies that you're engaging with, are you looking and into minority-owned or women-owned companies so that they can give you a perspective that you really are missing?

And that will make it more effective because some of this question that you're waiting to go and ask community groups to answer, you will get them directly for those communities or those workers or those companies who are led by these people who come from those communities.

So you will save a lot of energy, a lot of time, and will make this thing move faster and smoother.

So that will be my recommendation having experienced it in the time that I was there, just because I happen to be an engineer so I was very, very cognizant of the what was happening, and it was at this location of the communication was not happening well. And now I'm thinking, this is just like somebody else mentioned, this is a very big missing piece and I think that you need to be more proactive about bringing it. California has 40 percent Latinos, for example. There's no reason why we don't have more Latinos represented today.

MS. JOFFE-BLOCK: Thank you for that comment. I appreciate it.

I do want to note that the HOMES Program -- this doesn't address the panel critique, which is fair. The HOMES Program does require a Community Engagement Plan and a workforce of which part of it is a labor and community outreach. And so I'll drop that link into the chat with the section of the -- and call out the section of the guidance to point folks towards where the community engagement plan is listed. So that is something that will be taking place.

Okay, I also want to -- there's a comment that I want to read that is more of a comment than a question that

I just want to give airtime to. So the comment is from Austin Sose (phonetic) and it says,

> "Multifamily will be very important considering that most cities and counties are planning for more multifamily housing and less single family housing going forward. Also, CEC may want to look at existing programs, like City of Los Angeles Cost Sharing Program to retrofit dingbats (phonetic) and see if they're a good template that would translate to implementing the HOMES Program for multifamily buildings."

Okay, and we have comment from Sneha. Is that a new hand, Sneha? You may unmute.

Okay, I'm just putting the Community Benefits Program section to the chat.

Okay, there is a question. No, Sneha, we cannot hear you. I'll answer another question, Sneha, while -- to see if you can figure out the A/V, and then we'd love to hear from you.

So there is a question. I'm going to answer part of it live. And the second half of the question is,

> "Will the HOMES Pay-for-Performance solicitation be released by CEC as a grant or a contract? Is there flexibility to release the home solicitation as a contract versus a grant in order to increase the pool

of eligible program administrator applicants?"

So I think that is a great question, and we don't have the answer yet today. If there are, if attendees have thoughts on how that solicitation should be structured, we do encourage you to submit those to the docket.

And then I think the second part of that question, now it kind of disappeared. The second part of that question is whether the admin caps will be the same for the homes pay-for-performance implementers, HOMES Pay-for-Performance implementers, as they were for EBD? I think we also don't know. And if you have thoughts on that, then we would love to hear that as well.

Sneha, do you want to try again with your audio? Your showing is unmuted on my screen, but I cannot hear you.

Okay, is there anybody else who would like to make a public comment on this topic?

Okay, I'm going to move us into the final public comment session. And then, Sneha, we can try again. We've got another opportunity.

I want to thank Carmen. Thank you so much for sharing Recurve's insights and for being part of this today.

We now have arrived at the last part of our workshop where we will welcome input on any aspect of HOMES

Program development. So again, you know the drill; right? If you are joining us on Zoom, let us know, use the raise-hand feature, or you can put something into the Q&A, although we'd love to hear from you. And we have some time for any comment on any aspect of the HOMES Program development and I'll recognize Nate.

MR. M.: Well, hopefully this is working now. Can you hear me?

MS. JOFFE-BLOCK: I'm sorry, Nate. I muted myself and then I couldn't unmute myself to tell you that, yes.

MR. M.: Okay. Just wanted to make sure. So is Nathan M., member of the general public, but wanting to inquire as to the eligibility for retroactive induction.

My particular situation, I purchased a house and a couple of years into the purchase found out that the heat exchanger was rusted and cracked on the 34-year-old furnace. So I rented some small space heaters, basically to keep my home for myself and my son as a single parent up until the rebates went into effect, or at least we were told that the rebates were going into effect in 2023, and then opted to do what I thought was the environmentally-conscious thing and install a heat pump. But as a single parent living in L.A. County, up in the Antelope Valley, it's very tight, to put it mildly, trying to juggle

everything else.

So I wanted to see if, there, what the plan was for retroactive eligibility for it, because I was told by the installers that it met all the energy efficiency criteria, before going ahead with the install?

You're muted again. And I'm also currently at the doctor's with my son.

MS. JOFFE-BLOCK: Okay. I'm so sorry. Was there -- are you looking for a response or was that the conclusion of your comment?

MR. M.: That was the conclusion of my comment.

MS. JOFFE-BLOCK: Okay. Thank you very much for sharing.

We'll go to Lisa Schmidt.

MS. SCHMIDT: Thank you, Miriam. I just want to add two observations then after listening to the comments from the last two sessions.

I think they're assuming the goal is to achieve the greatest energy savings and the greatest greenhouse gas emission reduction, is that this program should be designed from the bottom up and ought to be designed with the perspective of the customer. It doesn't matter how it's administrated as long as the customer gets one easy view. I think Andy Frank summed it up pretty well with the mullet perspective of -- and there's companies out there that are

probably better suited than all of us to design a really customer-friendly program. And I would encourage us to look into, you know, some greater design capability before assuming that we know, based on each of our views into the problem, how to do it.

The second observation I have is, I don't know why we wouldn't stack incentives. That seems to be a problem that we have in county forum, not something that makes a difference to the customer. If we want people to participate as much as possible, which I think is our goal and is extremely important, we need to give them all the incentives to do so.

So I really think we ought to think about this program from the perspective of a customer and how we make it the easiest possible way for them to participate with the greatest possible benefit.

Thank you, Miriam.

MS. JOFFE-BLOCK: Thank you very much. I appreciate it.

Audrey?

AUDREY: Hi. Can you hear me now?

MS. JOFFE-BLOCK: I can hear you.

AUDREY: Okay. So I am a homeowner in Santa Monica and we have no air conditioning anymore. We've been holding off since IRA was approved, you know, because we

knew there was a possibility of a big rebate because we plan to replace our combined unit of heat and air conditioning with a heat pump. And nobody has been able to -- no installers had any information. You know, nowhere we went had any information. And a lot of this workshop, which is very interesting, that was pretty much over my head in terms of terminology, I think it was really intended not so much for the homeowners.

But what I want to know is how long will it be before homeowners know and have a place to go that will tell us whether we're eligible if we buy a certain product and how things will be distributed? I mean, does it mean that you still have to decide whether it's going to be only statewide or like a stacking process or, you know, is it going to be a long time will we be going another summer without air conditioning? I'm just interested in finding that out.

Thank you.

MS. JOFFE-BLOCK: I appreciate the question. I appreciate the urgency as well. I think, so what we presented here today around the HOMES Program, I just want to respond to this because I think it's an important question to ask that you get an answer, what we presented here today with the HOMES Program is with the timeline of turning in the application to DOE and then running the

solicitation, bringing an implementer on board, finalizing plans. HOMES we expect to be delivered in 2025.

I did mention it towards the beginning of the day that we expect the first phase of HEEHRA rebates to be available for Californians in 2024, although we don't yet have public information on exactly what that looks like and who qualifies, but that will come soon.

We do have a resource on our Inflation Reduction Act website, and maybe one of my colleagues maybe can put that in the chat, on the frequently asked questions of other options to find rebates, incentives, tax credits, financing for folks who need to upgrade their equipment right now and cannot wait for these programs to roll out. So I know that's not as satisfying as knowing exactly when it's going to launch, but I see that resource is now in the chat.

AUDREY: Can I ask one more, just brief?

I don't really understand the difference between the HOMES and the HEEHRA. Can you tell me that?

MS. JOFFE-BLOCK: Sure. Yeah.

So the HOMES Program that we're talking about today is a whole house Energy Efficiency Program where the goal set out by Department of Energy is energy efficiency, and it's very open as to what measures are installed in order to reach a threshold of energy savings.

The HEEHRA is really a rebate program for purchasing of electrification appliances like heat pumps, heat pump water heaters. A couple other folks have asked questions about induction cooktops or other, you know, heat pump dryers. So that program doesn't have a energy efficiency savings requirement attached to measures. There might be energy efficiency standards attached to those measures, but we don't have to have proven savings in order to distribute the rebate.

So they're just a little bit different models. And I think some of the questions we're getting through this workshop are from individuals who may end up benefiting from that HEEHRA when it rolls out as well.

AUDREY:

MS. JOFFE-BLOCK: Thank you. Appreciate it.

COMMISSIONER MCALLISTER: Miriam, this is Commissioner McAllister. I wanted to just sort of chime in.

MS. JOFFE-BLOCK: Please.

COMMISSIONER MCALLISTER: And none of our answers are going to be totally satisfying here because, you know, many of the sort of big decisions about these programs and the funding levels have kind of just come down on high from DOE. And so, you know, we can't sort of accelerate the availability or the rollout of these programs without going

through the DOE process. They're formula funds. We will get the funds, but they're, you know, this workshop and the shaping of our application to get all these funds, just we have to abide by the DOE process in order to sort of get to that eventual launch date.

And maybe just a little context might be helpful here.

The HEEHRA and HOMES are two separate programs within the overall Inflation Reduction Act because there were two different bills in concept in the previous years, in the previous congressional sessions. So, you know, one senator was focused on electrification and more of a sort of widget-based rebate program. That became HEEHRA. Another senator, and for, you know, ten years before, the HOMES Program had been discussed as a stand-alone piece of legislation. Hope for Homes, it had all these different iterations. It got rolled in to IRA as well.

So what we ended up with were these two initiatives funded at, roughly, at similar levels, $290 million and $292 million respectively, that are kind of separate initiatives under the IRA. And so one is HEEHRA, one is HOMES, and that's why it's a little convoluted, a little complicated. So I do sort of sympathize with the complication here.

Today, we're only talking really about -- not

only are we talking only about HOMES and not about HEEHRA, we're actually only talking about 40 percent of HOMES because we're splitting the homes into two pieces, so that is California's choice.

But anyway, you know, I think our frequently asked questions and the resources on the website that the link was just put into the chat to, you know, we will be evolving those resources. We really want to tell this story clearly, but it does have some complication to it that's just natural. So I really appreciate people's questions.

And HEEHRA, a chuck of HEEHRA will be rolling out later this year. We're really working hard to -- you know, we've got guidelines for the Equitable Building Decarb Program, which includes 60 percent of HOMES combined with some state funding. So the guidelines are there. We need to move forward to, you know, finish our application to HOMES, and also roll out the solicitation to get the program administrators for that piece.

So anyway, I'm rambling here, but I just wanted to manifest that there are separate programs with separate kind of goals and separate histories, and so hopefully we can help everyone to navigate so they understand and can take advantage of these programs as appropriate.

If contractors or sort of retail service

providers are representing some eligibility or some near-term rollout or retroactivity or anything like that, be very wary of that because they are not really in a position to know those details, so -- because those details are still evolving. And I will say it's going to be hard to have retroactivity given the requirements that are built into the DOE approach, you know, that they've handed down to us. It's unlikely somebody who did a project in the past is going to have done everything that is necessary to be eligible for a rebate, say.

So I just think, you know, we'll try to keep that resource current. Staff's doing a great job at that. And as the details, you know, evolve, as we have them pinned down, we'll put them up on the website as fast as we can. But you know, just want to want to just ask everyone to have a little bit of patience because that's the way we're going to get to the -- you know, get to solid program rollouts and in the timeline that largely is dictated by the Department of Energy.

So anyway, thanks for giving me a little space there.

MS. JOFFE-BLOCK: Thank you so much for chiming in.

And I do appreciate, if you're a homeowner and you've been sitting on this entire day of sausage making,

right, of how we are going to structure the program and the incentive for HOMES and you just want to know when is the program going to be available so you can get your rebate and switch out your equipment, we really do hear that and appreciate it.

And I also just want to mention that, you know, I think the program that a lot of Californians are going to be very interested in from the consumer level is when those HEEHRA electrification rebates are available at the point of sale, meaning you can go into a store and actually just, you know, buy something or have your contractor buy something and get your rebate right then. And that is coming. We don't have a launch date, you know, yet. That will be a later phase, but it will it will happen. The first phase will be a smaller rollout later this year, and we do hope to have public information on that pretty soon.

I want to go to Sneha and give her another chance to see if her audio is back.

MS. AYYAGARI: Can you hear me now?

MS. JOFFE-BLOCK: Yes.

MS. AYYAGARI: Okay. Sorry about that. Thank you for your patience. Yeah, thank you all for your hard work on the program and for the opportunity to comment. My name is Sneha Ayyagari, and I'm a Senior Program Manager for Clean Energy Initiative at the Greenlining Institute.

We're a racial and environmental equity policy organization based in Oakland. So I would like to emphasize a few key points.

First, I'd like to uplift the work of our partners at the Strategic Actions for Just Economy and other equity and environmental groups in the BEEP Coalition and Healthy Homes Working Group on the crucial need for robust tenant protections. We'd like to see the program guidelines from the EBD Program strengthened to include some of the enforcement mechanisms and also apply to the HOMES funding to the extent that's possible. And we know that there are some tenant protections in the homes guidance but we'd like to see a more clarity on how tenants will be protected if the funding streams are braided and then versus if they're separate, make sure that there's a similar standard of protection.

Second, we recommend braiding HOMES with EBD, so we're excited to see that that was a component, but we'd like to see as much as possible go towards low-income communities and towards the Equitable Building Decarbonization Program.

Third, if the CEC does pursue a pay-for-performance option, we recommend providing as much flexibility as possible and ensuring that special considerations are made for low-income multifamily housing

and structuring the performance metrics in a way that doesn't harm low-income households or make the reporting overly burdensome, and doing further research specifically on low-income communities. It's promising to see a couple of case studies, but I think it would be helpful just to have a broader range of perspectives and guardrails.

And then fourth, we would like to just recommend that the CEC have a specific meeting to inform the community benefits plan. On page 17 of the DOE guidance, it requires holding at least one public input sessions to solicit community input on proposed deployment plans.

So we appreciate the docket being open and would also like more opportunities for community-based groups to weigh into the development of that plan, and also to coordinate that with the monitoring and evaluation of the overall plan, both for the HOMES Program as well as for the EBD program. And we think this would be helpful to reduce administrative overhead, streamline the contractor reporting requirements, and also help with the outreach and education that's needed. And also, the CEC should prioritize community-based organizations' priorities and research in developing some of these metrics.

And lastly, as some of the previous commenters had mentioned, it would be helpful if the program could support minority women in disadvantaged business

enterprises because they're very familiar with the communities they're working with, and then also streamline the selection of contractors across these various programs.

So thank you for the opportunity to comment and appreciate all your work on the program. Thank you.

MS. JOFFE-BLOCK: Thank you. Thank you for your persistence, Sneha, in commenting with the audio, I really appreciate that, and for your organization's continued engagement.

Let's go to Laila Atalla from RMI.

MS. ATALLA: Thank you. And thank you for all of your work to implement these rebates. My name is Laila Atalla. I am a Senior Associate with RMI's Carbon-Free Buildings Program.

I want to start off by echoing that, as many of the panelists today acknowledged, pay-for-performance approach can present barriers for participation for low-income households and multifamily housing. So RMI recommends that CEC offer both a measured and a modeled pathway available to variety of housing types to ensure market flexibility in accessing these rebates.

If CEC does pursue only a pay-for-performance approach for that 40 percent of non-EBD rebate funding, we hope the CEC will take steps to facilitate access for multifamily affordable housing, specifically recognizing

that many multifamily, well, building owners don't have the operating reserves or capital to make energy upgrades. So waiting 9 to 12 months after installation for data verification can deter them from participating. We hope that the CEC would consider exploring opportunities to make those phase payments available to mitigate that barrier, including working with aggregators on making those phase payments available to aggregators who would provide upfront rebates to building owners.

Next, it's essential, again, as many of the presenters today recognize, that these funds be able to stack as easily as possible with other state and federal funding sources, including and going beyond the Equitable Building Decarbonization Program. At this phase, the CEC should consider any barriers to stacking and evaluate ways to align equipment performance standards, reporting requirements, applications, and other criteria that might be challenging for leveraging multiple funding sources.

Lastly, I'd like to uplift some points from the Healthy Homes Working Group, SAGE, BEEP Coalition, and other partners, first, as Sneha mentioned, asking that 100 percent of the home efficiency rebates be allocated to low-income households. These rebates are essential for low-income households who don't have the tax liability to access the federal energy efficient home improvement tax

credits. And the home energy rebates are only estimated to reach a small fraction of California's more than 5.3 million low-income households, so it's essential to direct that funding where it's most needed.

Second, as SAGE, Healthy Homes Working Group, BEEP Coalition and others have recommended, the CEC should align tenant protections for the home efficiency rebates with the requirements of the EPD Program, regardless of whether all of the rebates are formally integrated into the program. We would urge the CEC to exceed the DOE minimum requirements for tenant protections and align to facilitate stacking funding sources.

Thank you again for your work on this program.

MS. JOFFE-BLOCK: Thank you for that comment. Appreciate it.

Let's go to J.D. If you're able to, if you can unmute and then state your name and affiliation if you have one, J.D.? I'm not able to hear J.D. Let's go next to Mark McAllister, and then we will try you again, J.D.

MR. MCALLISTER: Can you hear me now?

MS. JOFFE-BLOCK: Mark, I'm not able to hear you either.

MR. MCALLISTER: Can you hear me? Somebody can hear me, yeah?

MS. JOFFE-BLOCK: Okay, maybe I've lost my audio.

MR. MCALLISTER: Okay, I'm going to go ahead and speak then. My name is Mark McAllister. I'm a retired individual with a long history into solar and alternative energies and high-efficiency home construction going back to the early '80s, and have installed solar back in 2019, and have some concerns over what we've seen, the CPUC following the lead of the ISO's research instead of other research that's available out there and buying into their proposition that us that have installed solar have needed to pay more money.

And similar, this has sown a certain amount of distrust in me for any government programs now and I'm wondering -- or would like to see some guarantees that the provisions of any ongoing home energy efficiency stuff is not reversed. Say, for example, if Trump is elected about the time you're rolling out and he turns around and cancels it, you know, two months into his administration, that's going to leave a lot of people disenfranchised and out money that they've spent to be able to implement some of these improvements in energy efficiency and reduction of greenhouse gases in their home.

I don't have any real good suggestions as to how that gets done, but I'd like to see it considered and, if possible, codified into the plan for whatever we come up with.

Thank you for your time and your effort.

MS. MANETA: Thank you very much, Mark, for your comment.

Oh, I lost my video there. Some of our team is having audio trouble. I apologize for that. I think Miriam has lost audio, so I'm going to jump in here and take over moderating for a minute until Miriam is able to join back in with the audio.

The next hand I see is J.D. J.D., I think we couldn't hear you before. Do you want to try again? Unmute on your end if you could and let's see if we can hear you. I am not able to hear you unfortunately J.D. We will try again a little bit later.

Next, we have -- oh, J.D., it looks like you haven't unmuted on your end. Let me try to give you one more chance here before I move on to the next speaker. You should have a prompt on your screen to unmute your line on your end. We will come back to J.D.

Next, I have Lupita Montoya. Go ahead and unmute on your end, Lupita, and go ahead and share your comment.

MS. MONTOYA: Thank you again. It just occurred to me to mention that as I'm reviewing what other states are doing regarding, you know, these rebate programs, I came across the Clean Energy Connector Tool that was developed and is now being piloted in several places,

including New Mexico. I was actually surprised that California was not one of those states piloting it. And I'm wondering if this is part of the arsenal of tools that you're trying to implement? Because this is particularly focusing on supporting low-income residents.

MS. MANETA: Great. Thank you so much, Lupita, for bringing that up and for making that comment. I really appreciate that.

We will go now -- our next raised hand is Hoss Payson. Hoss, go ahead and unmute yourself.

MR. PAYSON: Yes. Good afternoon. My name is Hoss. I'm with Cal State Monterey Bay, and I am the Deputy Building Official for the campus.

We have approximately 1,300 residential units that the state owns, as well as all our dorm facilities. Most of our residential facilities are pretty old. And I was wondering how this program -- and, well, actually I'm hoping that this program could really help us out to be much more energy efficient in our residential units. Would this program or these programs be applicable to our campus here?

MS. JOFFE-BLOCK: This is Miriam. Can you all hear me?

MR. PAYSON: Yes.

MS. MANETA: We can, yes.

MS. JOFFE-BLOCK: Okay. Okay, I think I'm back.

Hoss, can you describe the campus a bit more? Is it residential?

MR. PAYSON: We have, yes, we have 1,300 residential units. That's primarily for the staff. And we do have of partnerships with other entities around campus that utilize that residential housing. Now, we also use a portion of that for some of our student housing. And then of course, on campus, on our main campus, we have the dorm units. So I'm hoping --

MS. JOFFE-BLOCK: Okay.

MR. PAYSON: -- especially, I'm looking especially at these 1,300 residential units, because like I say, this is probably the oldest buildings we have on campus. We're an old military site, so all that stuff was inherited to us by the military. So I would love to get all that stuff, the energy, I should say.

MS. JOFFE-BLOCK: Yeah, thank you for the question. I think the answer is probably going to be a bit complicated, but I'm going to paste the DOE's definition of a multifamily building, which may help with the answer, or at least get started. And they do have provisions for mixed use buildings. So that's probably all we can say today, but there may be a pathway.

MR. PAYSON: Okay.

MS. JOFFE-BLOCK: Okay.

MR. PAYSON: So it sounds doable likely; right?

MS. JOFFE-BLOCK: I think it's worth exploring. I would hate -- I don't want to say yes because we haven't set qualifications yet, and we need to look at this DOE guidance.

MR. PAYSON: Sure.

MS. JOFFE-BLOCK: But there are -- so it may qualify as a mixed-use building. I think we need to explore it more.

MR. PAYSON: Okay. Great.

MS. JOFFE-BLOCK: Thank you for the --

MR. PAYSON: Thank you.

MS. JOFFE-BLOCK: -- question.

And thank you, Diana, for stepping in when I was not able to hear one of the speakers.

Why don't we try J.D. again?

J.D.: Hello? Hello?

MS. JOFFE-BLOCK: Yes, we can hear you. Thank you for your persistence.

J.D.: Sorry about that. I've been in energy efficiency and then solar for like the last 12 years as an entrepreneur. And when the Inflation Reduction Act launched, there was a lot of excitement amongst several people for this to happen and then time passed and then the

concern of both the end users and, I guess, capital allocators for private market is that elections are coming up. And there's kind of this fear that if there's a change in the White House, all these programs would be nulled out. And I've heard that quite a bit. And the more that time passed, the more that capital allocators and investors and entrepreneurs such as myself are kind of questioning if this is a safe bet, or we should kind of just wait and see election.

And this is kind of a problem at this point, because time has passed and people are wondering, why is it taking so long? And will you guys kind of roll this out before it can potentially get clawed back? Now, I don't know if that's possible or not, but that's kind of an important question, obviously, because this is federal funding.

So I don't know if you guys can comment on that or --

MS. JOFFE-BLOCK: I appreciate the question. I hear the sentiment. I don't think I'm qualified to comment on it, other than to say we are working as fast as we can to roll the programs out for so many different reasons.

I don't know if there's anybody from my team that wants to jump in?

I will note that the allocation of the $292

million for California is formula funded, so we have to go through the application process, but we're not -- it's not a discretionary, we're not competing. I think your question is broader, right, and it's more about the program in general, but I did just want to mention that.

J.D.: Well, I don't know if somebody can answer, maybe?

COMMISSIONER MCALLISTER: So this is Commissioner McAllister. I'll jump in real quick.

There's no definitive answer to this, but these formula funds that came through the state energy program formula are very difficult to claw back. There may be some other parts of the IRA that would be simpler for Congress to. You know, Congress has ultimate budgeting authority and so some of it, you know, they may, I'm sure if there's a change of administration there will be some, you know, some attempts to claw back.

But I think these, in the grand scheme, in the range of risk, these programs are pretty difficult to claw back. I mean, there is certainly, as you're alluding to, a political imperative to get the money out sooner because the election's coming up. I think we're all aware of that. And we're, you know, going as fast as we can, you know, but we can't make -- you know, we can't flout the legal requirements of applying the money and checking all the

boxes and making all the steps before, you know, we can launch.

So, you know, I understand your frustration that it's taking longer than anyone hoped. But, you know, we're doing our part as capably as we can. And I think you're hearing from all the staff, from Miriam and the team, and Diana and everyone else who's, you know, been on today that there's just a lot of capacity on our staff and a lot of professionalism. So we're, you know, we're trying to get it done. Just appreciate everyone kind of participating and helping us to get it done right and as quickly as we can.

J.D.: If I can just refine my question, if you don't mind?

COMMISSIONER MCALLISTER: Yeah. Sure.

J.D.: So since we're talking about applications, do you guys apply to the DOE in a sense that an application means that you would have to be accepted with your application to get the funding or the funding is there, you just have to kind of meet the requirements to release the funds? I guess there would be two different things in my mind. One would be that if the administration changes, you'd be able to get the funds. And another one would be, well, you kind of didn't get approved on time, too bad, so sad, you know?

COMMISSIONER MCALLISTER: No, there are timeframes established in statute. You know, there's a lifetime for these funds, that they are part of a budget year. So we're actually, you know, we are far from being behind in applying. We're actually sort of probably going faster than most states, so I think the risk is low. But they are formula funds. They are there. We will get them.

But DOE chose to impose some conditionality on our -- and develop an application process to create some steps that we have to go through to get the funds. Some of those are not in statute, but DOE just, you know, sort of opted to create some requirements around the funds that we have to now satisfy, so that's what we're trying to do with this process.

J.D.: But if I may ask, if this is a public forum, right, like why did it take so long to get to the point where we're having kind of hearings and meetings like this? I don't know if that was the deadline for California.

COMMISSIONER MCALLISTER: You know, I think, well, you know, I there's -- you know, we can only do what we can do at the state level. We have to comply with DOE's requirements and they are what they are. They took a while to become, to develop them and make them public, so, you know, that's the timeline we're on. So now, you know,

we're trying to go as quickly as we can.

So I appreciate your understanding of those realities. But thanks for your comment and question. You know, I think we share similar concerns.

J.D.: I'm just trying to share as a --

COMMISSIONER MCALLISTER: No, understand.

J.D.: -- capital allocator level, but I think you've heard from many, many homeowners, their frustrations, which I've also heard from many, many, many homeowners and business owners. I'm just saying, like --

COMMISSIONER MCALLISTER: I appreciate you bringing that up.

J.D.: -- the audience, a lot of people that did those, you know, unfortunately, a lot of people did those upgrades already and are very frustrated with that, but then there's all the people waiting to do the upgrades.

MS. JOFFE-BLOCK: Right.

COMMISSIONER MCALLISTER: No --

MS. JOFFE-BLOCK: We understand.

COMMISSIONER MCALLISTER: -- we do understand that. We do understand that but there's, you know, I mean, there's only -- you know, we're doing what we can do. And, you know, if somebody chose to communicate something that wasn't based in reality, there's not much, you know, we can do about that at this point, but we are trying to get the

programs rolled out so that people can participate, you know, as long as we follow the process to get the funds from the federal government. So thanks for bringing that up. Thanks for your concerns.

MS. JOFFE-BLOCK: Thanks for --

J.D.: All right. Thank you.

MS. JOFFE-BLOCK: -- chiming in, Commissioner McAllister, as well.

I see one more hand, and so I want to make sure we get to the last hand that's raised, which is Fabi.

But I'm going to just right, before that, I do want to read, there's one comment in the chat that I want to read, and then make a suggestion for commenting on the docket.

So John Shipman says,

"The consumer voices on the call are most interesting and they're concerning confusion surrounding the programs and the opportunities are obvious. It seems clear to me that a community level targeted approach that integrates groups like CBOs, traditional homeowner sources of info and trusted advisors to address awareness and deliver clear pathways to programs inclusion be delivered. This will be extremely important.

"What are the plans to implement and deliver such an

integrated and collaborative strategic outreach initiative?"

So, you know, John, what you're describing there looks a lot like how the CEC has planned for the Equitable Building Decarbonization Program to be delivered through CBOs in partnership, potentially, with more traditional implementers. And so I think the question that you're asking is a really great one for us to get input on as to what does that, you know, what does that integrated and collaborative strategic outreach look like in a pay-for-performance world and pathway?

And so my hope is that some of the discussion here today will spark thoughts on that, and then folks can put those comments in the docket, which we'll get to in a minute.

I want to recognize Fabi Lao. It looks like you are unmuted.

MS. LAO: Hi. Can you hear me?

MS. JOFFE-BLOCK: Yes, we can.

MS. LAO: Yeah. I think that was a mistake, so I'm sorry. I don't know how that happened, but I don't need, yeah, I don’t need to be a part of the conversation.

MS. JOFFE-BLOCK: Oh, okay. Okay. You don't have a question? You don’t have a comment?

MS. LAO: Yeah. Yeah.

MS. JOFFE-BLOCK: Okay. Okay, well thanks for joining.

Okay, so I think we are through the hands. I really appreciate the comments. This concludes our time for public comment.

We're going to move to our next steps since we are all anxious to see this program launch.

So I want to really appreciate all of the panelists for the time they took to prepare to be here today for the valuable information they shared, the discussion they sparked.

So let's talk about what's next.

We will appreciate your comments to the docket. We've been mentioning the docket all day. I've been mentioning some specific questions for stakeholders that we are really interested in feedback on as we went through the workshop today. And we're just flashing those on the screen for a second to show you that they are in the slide deck, which we will make available as soon as possible on the Inflation Reduction Act webpage. So if you can refer to the slide deck and see the priority questions here and respond to them, that would be very appreciative. Of course, you can give us information on anything that you would like to share.

We've received many questions during this

workshop. We've worked to respond to as many as possible. I know there are some unanswered. If you have specific unanswered questions that we didn't get to today that you are still wanting to receive an answer to, we ask you to include them in the docket so we can consider them during program development or potentially release answers later.

So written comments, we are asking for by 5:00 p.m. on April 5th. Please see the notice workshop for instructions on how to send written comments to the public docket.

For further information, please see the CEC webpage for the Inflation Reduction Act, which believe is in the chat right now. You will be able to describe -- subscribe to the IRA docket via that web page and you can reach me, Miriam, at miriam.joffe-block@energy.ca.gov for any technical information or questions.

With that, we thank you for your time today. We know your time is precious and appreciate you engaging with us.

(The workshop adjourned at 1:36 p.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of April, 2024.

MARTHA L. NELSON, CERT**367

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

MARTHA L. NELSON, CERT**367

April 3, 2024