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STATE of CALIFORNIA
CALIFORNIA ENERGY COMMISSION

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2021 Integrated Energy) RE: Building Decarbonization
Policy Report (*2021 IEPR*)) Consumers, Financing, -

) Workforce

IEPR COMMISSIONER WORKSHOP

BUILDING DECARBONIZATION - CONSUMERS, FINANCING, AND WORKFORCE

REMOTE ACCESS ONLY

Monday, JULY 12, 2021

SESSION 1 OF 3: Consumers and Decarbonization

10 A.M.

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Presenters:

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Stephanie Chen, MCE
Abigail Solis, Self-Help Enterprises
Mark Cooper, Consumer Federation of America

Public Comment:

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

2 July 12, 2021 10:01 o'clock a.m.

3 MS. RAITT: Well, good morning, everybody.

4 Welcome to today's 2021 IEPR Commissioner Workshop on
5 Building Decarbonization: Consumers, Financing, and
6 Workforce. I'm Heather Raitt, the Program Manager for the
7 Integrated Energy Policy Report, or the IEPR, for short.

8 This workshop is being held remotely consistent
9 with Executive Order N-08-21, to continue to help California
10 respond to, recover from, and mitigate the impacts of the
11 COVID-19 pandemic.

12 The public can participate in the Workshop
13 consistent with the direction in the Executive Order. This
14 workshop is being held over two days, with morning and
15 afternoon sessions today, and a third and final session
16 tomorrow morning. To follow along, the schedule and slide
17 decks have been docketed and are posted on the CEC's
18 website.

19 All IEPR workshops are recorded, and both the
20 recording and written transcript will be linked to the
21 Energy Commission's website following the workshop.

22 Attendees have the opportunity to participate
23 today in few different ways. For those joining through the
24 online Zoom platform, the Q&A feature is available for you
25 to submit questions. You may also upvote a question

1 submitted by someone else. Click the thumbs up icon to
2 upvote. Questions with the most upvotes are moved to the top
3 of the queue. We will reserve a few minutes near the end of
4 the morning to take questions, but likely will not have time
5 to address all the questions submitted.

6 Alternatively, attendees may make comments during
7 the public comment period at the end of the morning and
8 afternoon session. Please note that we will not be
9 responding to questions during the public comment period.

10 Written comments are also welcome, and
11 instructions for doing so are in the workshop notice.
12 Written comments are due on July 27th.

13 And, with that, I am pleased to turn it over to
14 Commissioner Andrew McAllister for opening remarks.

15 COMMISSIONER MCALLISTER: Thank you very much,
16 Heather.

17 I've been looking forward to today and tomorrow
18 for quite a long while as part of the core -- one of the
19 four core tracks of this year's Integrated Energy Policy
20 Report. Building decarbonization really -- we've been doing
21 a lot of work at the Energy Commission on building
22 decarbonization on various fronts. And that's because it
23 really is right at the top of the list in terms of our
24 decarbonization journey in California. We have to
25 decarbonize our buildings as part of the overall solution to

1 climate, and so I wanted to just make a few comments to
2 contextualize today and tomorrow's efforts.

3 On Thursday and Friday of last week we had two
4 days of a very robust conversation about reliability of both
5 the electricity and the natural gas sectors. And I think not
6 even an undercurrent, one of the core, just overt themes
7 that we heard over and over again from the speakers and our
8 colleagues on the dais from the PUC and the Independent
9 System Operator as well is just an urgency around climate.

10 And this weekend again we saw these record heat,
11 the record heatwave. We believe we set a terrestrial
12 temperature record over the weekend in Death Valley at 130
13 degrees, the highest reliably-measured temperature from
14 anywhere on the globe since humans started taking reliable
15 measurements. So that is just a wakeup call. And the same
16 thing happened, you know, the week before and the week
17 before that up in the northeast -- or northwest rather and
18 up in Canada, in British Columbia, just records falling left
19 and right in terms of temperature.

20 You know climate change is here. During one of
21 those workshops we had an earthquake and I think we have
22 been thinking about fires and heat in California, but our
23 long-term fear is the next big one. And we've been trying to
24 prepare our infrastructure for that as well.

25 So many, many things we have to be taking care of

1 in California. And we all know we have an innovation economy
2 and that we are in the leading edge of our building codes
3 and many other fronts in the climate battle, but that is a
4 fact but it is also means that we have to think creatively
5 to come up with new solutions so that we can lead as other
6 states and across the globe they expect us to. So buildings
7 is a large front in this broader war.

8 And so buildings are fundamental to our human
9 existence. We spend most of time in buildings, around
10 buildings. They are a platform for virtually everything we
11 do. Hopefully you know we're still getting time, now that
12 the pandemic is over and we can get together with others, we
13 can go out into nature more and get out of our buildings,
14 right, but still our buildings are fundamental. We're all --
15 just think of this workshop in a building most likely. And
16 many, many factors relate to how humans develop, maintain,
17 and operate their built infrastructure.

18 So I'd like to set the context of this
19 decarbonization discussion really with even more broadly
20 than that. We have to decarbonize. We have to have reliable
21 energy systems. That's electricity, natural gas, all of the
22 others. And we also have to evolve all these systems
23 equitably. And today and tomorrow are largely about that
24 last piece of the triumvirate. Decarbonization, obviously
25 that's front and center. We're talking about building

1 decarb. We have to have our buildings underpin reliability.
2 We just cannot have our economy at the level that it is
3 without reliable electricity and other energy systems, but
4 we have to do it equitably. And I think that often is the
5 piece of the puzzle that maybe gets engineered out of some
6 of these discussions. And so at the Energy Commission we are
7 just -- we're doing everything we can to maintain an equity
8 and inclusiveness lens as a primary lens through which we
9 view all of our programs and encouraging others to do the
10 same.

11 And so today and tomorrow we're talking about
12 consumers, finance, and workforce. So all of those have a
13 very, very strong equity emphasis. And, you know, consumers
14 are -- sort of that term itself, it's sort of an economic --
15 about economic beings, you know consumers, but it's really
16 much more and much broader and much deeper than that. It's
17 all of our residents and all of our citizens in California
18 that, again, have intimate relationships with buildings and
19 maybe do not have as much flexibility as the more affluent
20 among us to actually influence those buildings and invest in
21 them and make sure that they operate optimally. So they're
22 consumers, that environment needs discussion. It's key to
23 really getting investment in our existing buildings,
24 particularly, but also our new buildings.

25 Finance, we'll talk about this afternoon, and then

1 workforce tomorrow. But, again, these are enabling and
2 inclusiveness metrics that we really need to do better at,
3 frankly. We need to bring a lot of capital to our existing
4 buildings, particularly. And we need to be as inclusive as
5 possible with our workforce so it's not just about
6 consumers, it's sort of -- you know, folks, people as
7 consumers, it's also people as enablers and developers and
8 contractors and laborers, and up and down the whole economic
9 chain in terms of ensuring that our buildings get the
10 investment and get projects that are done in a quality way
11 that actually harvest, that actually reap the benefits of
12 our low-carbon technologies. And without that workforce and
13 an inclusive workforce throughout the state, a
14 representative workforce throughout the state, we're not
15 going to get there. It's just as simple as that.

16 So I want to -- so I just wanted to frame these
17 three days. And I'm really looking forward to the
18 discussion, really again emphasizing equity and inclusion
19 and decarbonization. We have to do all of the above. So we
20 have a great set of speakers, we have a great panel this
21 morning that we'll get to here presently.

22 First I wanted to invite -- I want to thank really
23 my colleague Commissioner Patty Monahan and then also Derek
24 Chernow, from CAEATFA, who is also with us on the dais. I
25 believe that is all of the Agency-level leaders that we --

1 oh, no, Commissioner Gunda. I see Commissioner Gunda there.
2 Thank you for being with us. I appreciate it. So I think
3 with that, I think that's all.

4 And with that, let's see, I will pass the virtual
5 microphone here to Commissioner Douglas -- I'm sorry -- to
6 Commissioner Monahan and then to Commissioner Gunda, and
7 then to Mr. Chernow. So thanks all of you for being with us.
8 If you'd like to make some opening comments, please go
9 ahead.

10 COMMISSIONER MONAHAN: Well, just really briefly.
11 First I want to commend you, Commissioner McAllister, and
12 the IEPR team for putting together these workshops and
13 really focusing in on, you know, not just decarbonization
14 and a few highlights but the heat dome of recent days really
15 highlights why we have to act swiftly to deal with the
16 climate crisis, but having a real focus on equity and
17 workforce, and really making sure that as we decarbonize the
18 economy we're very attentive to issues that are facing
19 disadvantaged communities and families that are struggling
20 economically here in California. We want to make sure that
21 this is a decarbonization strategy that really floats all
22 boats and helps put Californians to work building the
23 infrastructure that we need for climate resilience.

24 And so I just am really impressed with the
25 workshop agenda and all the workshops that I've been to

1 about how equity has really been front and center in a lot
2 of the discussions. So look forward to learning and
3 listening carefully to the workshops over the coming days.

4 COMMISSIONER GUNDA: Thank you, Commissioner
5 Monahan. As usual, you are pretty eloquent, and I will try
6 to follow your lead on that.

7 But just kind of reiterating what Commissioner
8 Monahan mentioned, I think real kudos and kind of gratitude
9 to Commissioner McAllister leading this as well as the IEPR
10 team for their tireless work. Just that I think this is such
11 an important element as we think about decarbonizing
12 California. I do want to just make a couple of points as it
13 relates to the reliability, broader, kind of the energy
14 planning, and then the decarbonization strategy. And just
15 kind of start with acknowledging that it is pretty well
16 established today, right, it's very well established that,
17 you know, the current trajectory will continue to and
18 probably increase the consequences of the climate crisis to
19 be disproportionately felt by the vulnerable, low-income,
20 and disadvantaged communities. That's just a fact. And I
21 think, you know, that we cannot let that happen, let's not,
22 I mean, let historical precedence be a part of our future.
23 So I think that's an important element to recognize and kind
24 of move the discussion forward.

25 I think, you know as Commissioner McAllister

1 noted, a number of our kind of current work has been to
2 increase the funding that we do. For example, you know we
3 are like spending over 50 percent today in tax and I think
4 much of that is to -- again to Commissioner Monahan's
5 leadership in transportation, Commissioner McAllister's
6 leadership in both R&D and the buildings, so I think we're
7 just thrilled that we have a Public Advisor's Office and the
8 Disadvantaged Communities Advisory Group that really is
9 helping us support this broader vision on equity and making
10 that not one additional parameter that we think through, but
11 it is the parameter that we think through, you know, for
12 everything thing we do here.

13 As we have a number of SB100 related workshops and
14 such, there are a few themes that emerged over and over, and
15 I just want to share that in the context for our speakers
16 today. The first one is ensuring that we have procedural
17 equity. I think we cannot have the voices that have been
18 historically left out continue to be left out in this
19 conversation. And I think this is -- this workshop again, to
20 the credit of Commissioner McAllister, is to enable that
21 procedural equity on the broader equity conversation.

22 The second thing that came in over and over is as
23 we continue to do our modeling, to really ensure that the
24 true costs of climate change is reflected in that analysis.
25 You know, I think we do some level of that today, but the

1 societal impacts of the climate change are really not well
2 thought through in all the analysis we do and we just want
3 to acknowledge that we hear that, but we want to figure out
4 the ways to do that moving forward. And, as Commissioner
5 McAllister noted, as we do this, affordability is paramount.
6 You know we cannot disproportionately impact our vulnerable
7 communities in doing so.

8 And then, finally, I think the community
9 engagement, we heard over and over that the community
10 engagement should be early and often in communities,
11 utilizing established and trusted CBOs. I think that's a
12 point we heard over and over. And we are a huge state and we
13 have very diverse communities.

14 We have the rural, urban communities. We have
15 disadvantaged communities, but we also have the tribes and
16 the local, local communities. So I think this is a very
17 robust conversation of how we think through equity and I
18 think we do not want to do short-term measures that
19 ultimately become long-term band-aids. So I think this needs
20 to be comprehensive and robust as we move forward.

21 And, finally, I think Commissioner McAllister
22 touched on this, as we move through this transition for
23 California, we cannot create new communities that we leave
24 behind, especially in jobs. How do we transition the jobs in
25 conventional energy means that really build the state and

1 how do we ensure that they have a path moving forward. And I
2 think I just want to close that in making sure that this is
3 a somber topic. You know we need to make sure if climate
4 crisis is real and we need to make sure it's equitable for
5 all Californians. And hopefully we will set a good example
6 for the rest of the world.

7 I will turn back to Commissioner McAllister. And,
8 Commissioner McAllister, thanks again for your incredible
9 leadership on all these issues.

10 COMMISSIONER MCALLISTER: Oh, goodness. Thank you
11 so much, Commissioner Gunda, Commissioners Gunda and Monahan
12 for your comments. Very, very articulate. And I think that
13 reflects a subtle -- an increasingly nuanced and subtle and
14 complete understanding of the challenge we face. And we
15 really need solutions to solve that challenge. I mean nobody
16 has all the answers here. So thank you very much for your
17 leadership in your respective arenas.

18 And I will pass the virtual mic here to Derek
19 Chernow from CAEATFA and the California Pollution Control
20 Financing Authority. So thank you very much, Derek, for
21 joining us on the dais here. I'm really looking forward to
22 sharing the conversation with you today.

23 MR. CHERNOW: Yeah. Thank you, Commissioners. And
24 we really appreciate the invite to be with you today. It's a
25 thrill to be here, and pleased to work with the Energy

1 Commission and so many of the other folks who will be with
2 you throughout the next couple days on decarbonization, in
3 general, and energy efficiency, specifically.

4 You will hear from our office later today in a
5 more thorough presentation, but one of the things you
6 touched on was bringing capital to this issue. And that's
7 really where CAEATFA comes in, specifically, and the
8 Treasurer's Office, which we're nestled in, in general is
9 bringing that private-sector capital into making these types
10 of big policy decisions become realities.

11 And you know we're excited to expand and grow our
12 energy-efficiency programs. We've gone -- our residential
13 program has gone from a pilot to a full -- full-blown
14 program and has just been increasing more and more every
15 year. Our small business energy-efficiency program is set to
16 take off and expand and do quite well. So we're thrilled to
17 be in this space.

18 You know I think you're going to hear some details
19 about the types of money we have been able to leverage from
20 private capital into this public good, and it's exciting
21 times.

22 And, you know, I will just kind of conclude that
23 we talked about jobs and I think it's important to note that
24 these energy contractors tend to be local and small
25 businesses. And these are green jobs that we're creating

1 here in California up and down the state. And that's a real
2 important part of our program and one that we take pride in,
3 is the expanding number of contractors in our program. And,
4 you know, those are jobs right in our community.

5 So we're excited to share some of these successes
6 with you and, frankly, some of the challenges with everybody
7 as we move forward and looking forward to really learning
8 and hearing from such a diverse group of people and
9 organizations over the next couple days, so thank you.

10 COMMISSIONER MCALLISTER: Thank you very much,
11 Derek, for being with us. I'm super excited to hear more
12 about what's the latest at CAEATFA. And, you know, I agree
13 with you, it's a really key part of the overall solution.
14 We've got to figure out ways to get not just a little more
15 capital but really a massive sea change of capital flows
16 into our building stock, and particularly our existing
17 buildings.

18 And just one more comment. I wanted to just set
19 the stage a little bit for really the two days and invite
20 our participants. I see we have really good participation
21 here and a lot of knowledgeable people attending. And I
22 really want to just say thank you for your attention here.

23 We need all of the smart, capable, experienced,
24 you know, brain power and muscle, really, in all ways to
25 help engage and solve and find solutions to these challenges

1 of how to upgrade our building stock and decarbonize it at
2 the same time. I think, you know, overall our emphasis on
3 equity is really a recognition of the fact that in order to
4 solve the climate crisis, in order to find solutions and
5 really have them permeate our state, we have to make
6 inroads, significant inroads in solving social structural
7 problems that have existed for decades, right. It's not just
8 going to happen independently for the rest of our economy
9 and the rest of the way people live their lives, right?
10 Energy is just kind of a small slice, really, for most
11 people.

12 And so in order to actually be able to invest in a
13 building, you've got to think of that building in many, many
14 other ways that have little to nothing to do with energy.
15 You know, safety, deferred maintenance, all of that kind of
16 stuff. And so our solutions really do have to be integral.
17 And this is often going to be the same workers, the same
18 contractors, and, you know, the same capital that's going to
19 do all those other things, in addition to decarbonizing the
20 building, and so we really need an integrated discussion.

21 And then, finally, as Commissioner Gunda said, I
22 think we have a massive state. We have, basically, 40
23 million people in the state and just a range of languages
24 and ethnic histories and community story that's just -- it's
25 so diverse. You know, it's kind of daunting actually to

1 think about how diverse it is. It really is a global state.

2 And so I think one of the solutions that I think
3 is something we all need to be thinking about, okay, is how
4 state agencies can most effectively touch these individual
5 communities with real solutions.

6 And I think, Commissioner Gunda, you mentioned
7 these CBOs, you know the community-based organizations are
8 the ones that really have the trust and inroads. How do we
9 create a network of communication and solutions and, you
10 know, capital flows and everything else we're talking about
11 that perfuses the state in a way that gives choice to
12 localities and yet puts real tools in their hands to solve
13 these challenges for their communities, right? It's not
14 going to happen top down. It has to happen bottom up and be
15 met with resources that are kind of controlled at the state.
16 And so that's a complicated kind of calculus right there. It
17 requires resources and investment in our communities. And it
18 requires, quote, engagement up and down the food chain, all
19 the way up to the Legislature and the Administration, all
20 the way down to local communities to sort of figure out how
21 they can get on the same page with respect to these topics.

22 So, anyway, I'm going on a little bit, but I think
23 it's maybe partly -- you know, it reflecting the things that
24 I learned sort of earlier on in my life as a Peace Corps
25 volunteer, you know, when I was right out of college, just

1 solutions don't happen because one person thinks they're a
2 good solution. They happen because everybody sees that they
3 are and knows that they are and works towards them. And so
4 that's going to play out in every community across the
5 state, in every building project, right?

6 We have, you know, 15 million buildings that need
7 significant investment in the state. And so that's not
8 something that's just going to happen. It really does need
9 kind of aligned commitment from the top to the very -- you
10 know, to every resident of our state.

11 So, anyway, I think if we can think about it in
12 that way and really both, you know, distill the policy, kind
13 of conclusions at the state level but really understand that
14 they play out in each community and that we need those local
15 advocates, we need to support them in some way, I think
16 we'll be more likely to find solutions.

17 So, with that, I will pass it, I guess, back to
18 Heather. But our keynote today is Carmelita Miller from The
19 Greenlining Institute. Really happy to have Carmelita and
20 the others on our panel, really some authoritative, deeply
21 knowledgeable people on the morning's agenda.

22 So, Heather, I'll pass it to you to take it away.
23 Thank you.

24 MS. RAITT: Thanks, Commissioner McAllister.

25 I'm going to introduce Carmelita Miller, who is

1 the Senior Director for Climate Equity at The Greenlining
2 Institute. Carmelita graduated from Sacramento State
3 University as the Ronald E. McNair Scholar and from U.C.
4 Hastings College of Law before joining The Greenlining
5 Institute in 2013. While at U.C. Hastings, she served as the
6 President of the Filipina American Law Society and the Co-
7 Editor-in-Chief of the Hastings *Race and Poverty Law*
8 *Journal*.

9 Welcome, Carmelita. We're excited to have you
10 here. Thank you.

11 MS. MILLER: Thank you, Heather. And thank you,
12 Commissioner McAllister and the Commissioners on the dais. I
13 almost nodded there for a bit. I'm still not used to the
14 dais being a virtual dais. But, thank you, force of habit.

15 Again, my name is Carmelita Miller. I'm from The
16 Greenlining Institute. Greenlining is a racial-equity
17 organization based in Oakland, California. And we believe
18 that economic opportunity is within reach of all. For our
19 nation or state to succeed, communities of color must
20 succeed.

21 Today's workshop is focused on our consumers'
22 needs and solutions that will address them and how to
23 address them as we transition to a 100-percent clean energy
24 future.

25 But I'd like us to think about which consumer and

1 their power to decide, right, the consumers and decisions in
2 the context of today's workshop. And I hope it causes that
3 impact to consumers in a way that will allow them to get
4 back the power to decide and self-determine for themselves
5 and for communities.

6 And because of the pandemic, some communities have
7 changed to how they live, work, and play, and what they buy.
8 Nondiscretionary expenditures has always been, always been a
9 source of financial pressure like to students of color,
10 which has been everything but obliterated by COVID-19.
11 Economic divide, which was already widening before, has been
12 even made worse now. And people are unable to afford to buy
13 homes or afford their rent. So this pressure must be kept in
14 mind as we talk today or any day about buildings and how to
15 make them all electric, how to make them healthier. Let's
16 put the focus on the people who actually live in those
17 homes.

18 Many factors play into understanding consumer's
19 decisions, right, on when and what to buy. But now, after
20 the pandemic, it's no longer how consumers are spending
21 their money but whether they can. Like most consumers,
22 people of color prioritize price, product, convenience,
23 matching them up and evaluating their purchases based on
24 their needs and their values. This is no different in making
25 energy-related decisions, generally speaking.

1 But in the post-COVID world, we will have a lot in
2 common with one that we lived in the post-pandemic world,
3 but many, many things have changed. And that's what I want
4 to emphasize today, is that the notion that consumers
5 generally saved money during COVID because they stayed at
6 home and then at some point purchases and their acts will
7 drive the market and the momentum will accelerate, this idea
8 that consumers are generally recovering as more and more
9 people get vaccinated, it's just not showing up in the
10 communities like mine.

11 The financial inequality, the legacy of redlining
12 is a significant factor in a just and equitable transition.
13 People of color with low, medium, high-wage income earners
14 have all declined and experienced financial stress during
15 the pandemic, and still on the rise. Statewide debt for
16 utility debt, energy-related debt estimates well over \$2
17 billion, and it's on the rise. There is relief coming,
18 though we know that it is not enough to address the problem,
19 let alone open the way for these consumers to become market
20 players, you know, significant market players in the green
21 economy.

22 So in talking about consumers, what should we
23 really keep in mind? I believe that is that market
24 transformation cannot come at the cost of people's inability
25 to afford clean energy. Policy will have a very direct

1 impact on demand side to create standards that will ensure
2 the health and safety of our people in addition to
3 stimulating and accelerating innovations necessary to make
4 the transition.

5 And we cannot avoid the hard conversations about
6 environmental and energy justice in our assessment of major
7 energy trends, including building decarbonization,
8 especially here in IEPR. The first priority must be keeping
9 power on and keeping people housed. Millions of Californians
10 are facing uncertainty of shutoffs due to failure to pay
11 their bills, as I said, it's really just not going to be
12 enough. So any policy affecting energy must be centered in
13 ensuring that services stay affordable for our residents and
14 that any potential costs of the clean energy transition can
15 be offset by other incentives -- but definitely not land on
16 their shoulders.

17 A just transition, like what has been mentioned
18 earlier, will have to provide high-road jobs and meet basic
19 needs for our communities. Working for energy justice also
20 means building high roads and -- high-road jobs and opening
21 up sustainable jobs for people of color, contractors, and
22 businesses, and workers.

23 Equitable policy needs to be for all. So green
24 policies that address the concerns of the most vulnerable
25 and most impacted community members and with the highest

1 years out to adoption will ensure that everyone benefits. We
2 cannot call a policy equitable, we cannot call a policy
3 equitable that fails to do anything that directly helps our
4 community members who need it the most.

5 Energy is a public good. Energy justice for all
6 requires that energy and the systems that create and how we
7 distribute energy, every single step should be for the
8 public good and democratized at all levels and not purely
9 focused on market drivers.

10 Understanding the urgency of public health and a
11 climate crisis. We must not rush to false solutions.
12 Communities most at risk of climate impacts are already
13 impacted by cynicism and disinvestment. Any works in front
14 of the climate of the public health crisis must be centered
15 in their needs. False solutions and false options that have
16 been presented to us of whether, you know, we have fossil
17 fuels or unaffordable access to energy, these are false
18 options for us because it's backing us up in a corner where
19 we're not being prioritized. Our needs are not being
20 centered.

21 So in analyzing and studying and modeling impacts,
22 studies must center the ratepayers, the customers, the
23 consumers that are the lowest income to ensure that we fully
24 understand how their decisions will impact them, how our
25 decisions as policymakers and advocates will impact them.

1 Energy policy must be formed and lead by community experts,
2 and community organizers to do that critical work.

3 In the next panel you will meet Abigail Solis, who
4 has been before the Commissioners here on discussions and
5 workshops at IEPR before. People like her are currently
6 working to address challenges in communities and who are the
7 experts on how to best design a policy that will help
8 instead of harm. I encourage the Commissioners here to bring
9 in community experts in formal proceedings, formal and
10 informal public comment, allow that opportunity to influence
11 the decisionmaking for people who are actually from the
12 communities.

13 And, finally, make space for building allies and
14 unity. We're, you know, -- it sounds so cheesy. We're all
15 in it together. And we have to, because we're talking about
16 a significant state with the kinds of communities that we
17 have, and then again addressing at the same time, in this
18 transition, addressing the impacts of the pandemic. For the
19 remainder of these workshops, let's all keep thinking about
20 IEPR with a goal of making our community stronger and more
21 resilient. The California Energy Commission and the many
22 leaders tuned in on this call have the power to create
23 opportunity to reduce reliance on fossil fuel and gas-fired
24 electric generation in California. For communities of color,
25 in particular, a reprieve from the significant energy-

1 related burden, such as cost, interrupted services, hazards,
2 the pollution would be game-changers, not to mention finally
3 getting to a hundred percent of clean energy in the next few
4 years.

5 We look forward to working with you. Greenlining
6 looks forward to working with you all in making that vision
7 a reality. Life depends on our swift action. Thank you.

8 MS. RAITT: Thank you, Carmelita. This is Heather.

9 Commissioners, there's some time for a discussion
10 if you would like to ask any questions.

11 COMMISSIONER GUNDA: Sorry. I was double muted,
12 Heather. Not for me. I just wanted to thank Carmelita.
13 Yeah.

14 COMMISSIONER MCALLISTER: Yeah. Thank you very
15 much, Carmelita. You really laid a good framing of our
16 conversation today, so really appreciate that.

17 I wonder, I guess I'm interested in any models. So
18 Greenlining is a real -- is a model in and of itself. So I
19 just want to acknowledge all the work that you and your
20 colleagues do there. What -- maybe -- again I guess it goes
21 back to the last kind of point I made in the exhortation for
22 everyone to think about models that really can effectively
23 reach the communities we're talking about and channel
24 investment and enable workforce opportunities and really
25 involve in an integral way under-resourced communities in a

1 solution and really starting there, really leading there in
2 a way that's different from some historically the way we've
3 done programs in the state.

4 And I guess I wanted to see if you have any other
5 thoughts about models that are working either in California,
6 in local communities or in other parts of the U.S., other
7 states that really are showing some success in engaging with
8 localities like the ones we're talking about in implementing
9 solutions, and how they're enabled in terms of funding, in
10 terms of sort of political access, you know, how do we get
11 resources effectively and accountably of course to those
12 communities?

13 MS. MILLER: In terms of models, you have -- so I
14 know that you have a couple in the next panel that our
15 panelists will be talking about, for example, Stephanie Chen
16 from MCE, will be talking about LIFT, a wonderful energy-
17 efficiency program targeting private communities and also a
18 way that I've seen to decarb -- you know, decarbonization
19 related strategies invested in equitable ways. Abi, Abigail
20 Solis will, again, talk about to us the model of
21 prioritizing impacted communities in the San Joaquin Valley
22 and how to fit and tailor the solutions based on the
23 particular community.

24 I think right now there are various pieces of what
25 a model could look like. And I can think of and perhaps give

1 you ideas later of LIFT, for funding, such as EPIC, right,
2 in a way that will pilot and put together these very
3 intersectional solutions that you will see again when we
4 look at our speakers talk about LIFT and the San Joaquin
5 Valley pilot, you will see that there is -- it's not a one
6 size fits all. And so, if anything, the answer to that is:
7 Yes, let's create more models by piloting them directly in
8 the communities. Because it has not been done before, so
9 there is not a lot of data that we can use in terms of
10 modeling in this feature unless we actually do it. So let's
11 stop this circular dilemma that we're in where we don't have
12 enough information, therefore we can't study and model it.
13 And so -- and the way to do that is significantly direct
14 funds towards piloting these solutions, using lessons
15 learned from what exists now. And, as I said, really putting
16 the leaders, the community leaders at the helm to not only
17 engage with the community members, with a resident, but also
18 to help designing the pilot, designing the program, and
19 counting them as allies even in terms of looking for funds.

20 Money doesn't have to all come from energy. There
21 are many other ways that -- it has to also fall on
22 financing, right. There are many other ways that we can seek
23 funding to support a pilot. And I do want to just again like
24 highlight the San Joaquin Valley pilots but also many other
25 programs out there that we didn't even think to connect to

1 energy, housing programs and opportunities to use those
2 investments could also significantly help here. So I know
3 that's a long nonanswer, but the point is that in order to
4 get to the answer, we should -- we should try to pilot these
5 ideas now so that we can get the answer.

6 COMMISSIONER MCALLISTER: Okay. Thank you so much.
7 And I absolutely agree with that. I mean I think there are
8 community-organization models that really don't have
9 anything to do with energy that maybe we can plug into and
10 maybe have it do broadly with climate planning, you know,
11 local government funds. Maybe we attach some strings to
12 those that sort of help get the priorities that we really
13 need for the long-term climate solutions. But thanks a lot
14 for that. I really appreciate it. Sort of -- it was a broad
15 answer, so your answer was an answer. It wasn't a nonanswer.
16 So it was a broad question. Sorry. But I appreciate that.

17 And certainly there are effective community-level
18 organizations dealing with lots of things. You know, with
19 hunger, with lead paint abatement, with air quality. With
20 all of these kind of different things that really do cut
21 across our disadvantaged communities in different ways, in
22 different -- in different ways across the state. Obviously
23 we have a very diverse state.

24 So I'm just inviting folks to think creatively
25 about how we can dovetail with those existing programs and

1 expand them and sort of help the political winds blow in the
2 direction that's really going to lift all -- well, to mix
3 metaphors -- to lift all boats, so.

4 But, anyway, I wanted to just make sure we're
5 thinking about that and I really appreciate your helping
6 today and beyond, because I know you're in this for the long
7 haul, so thank you.

8 And I also would point toward our Public Advisor
9 Noemí Gallardo, who is going to moderate our next panel, and
10 so we'll hear a lot from her. I want to thank her in advance
11 for all the work to emphasize these issues we're talking
12 about within the Energy Commission and help kind of keep the
13 DACAG engaged in these issues as well, which is essential to
14 success.

15 So does anyone else have a question for Carmelita?
16 Commissioners or --

17 COMMISSIONER MONAHAN: I don't but appreciate --
18 sorry. I didn't turn on my video -- I don't, but I really
19 appreciate the framing remarks which I think are really
20 going to set us up well for the rest of the day.

21 COMMISSIONER MCALLISTER: Great.

22 I think, Commissioner Gunda, had a comment or
23 already made his comment.

24 Derek, did you have anything to add?

25 MR. CHERNOW: No. I thought the information was

1 excellent, but no additional comments. Thank you.

2 COMMISSIONER MCALLISTER: Great. All right.

3 Well, so back to you, Heather, for our next panel.

4 MS. RAITT: Yes. Great. Thank you.

5 So we have a panel on Consumer Needs and
6 Engagement. And, as you mentioned, Noemí Gallardo is going
7 to be our moderator. And Noemí is our Public Advisor at the
8 Energy Commission.

9 So thanks so much for being here, Noemi. Go ahead.

10 MS. GALLARDO: Good morning. Buenos dias,
11 everyone. My name is Noemí Gallardo, as Heather said, I
12 serve as the Public Advisor at the California Energy
13 Commission. And today I am honored to moderate the upcoming
14 panel consisting of an all-star line-up of experts to
15 discuss Consumer Needs and Engagement in the context of
16 building decarbonization for California. And this panel
17 topic ties directly back to what the dais and the keynote,
18 Carmelita Miller emphasized in terms of putting an equity
19 lens on these efforts. Community engagement is one of the
20 pillars of equity. And figuring out a network of
21 communications for our global state, as Commissioner
22 McAllister put it, is essential, right? One that enables
23 local communities to determine what's best for them.

24 So I'm excited to learn more from our experts, as
25 I'm sure you are too, so let's get started. I will provide

1 introductions for each presenter one at a time. And then
2 they will present after I introduce them.

3 So our first panelist is Stephanie Chen, who is
4 Senior Policy Counsel at MCE, California's first community
5 choice aggregation program and longest-serving community
6 choice renewable energy provider. MCE provides electricity
7 service to more than one million residents and businesses
8 across the Bay Area. So Stephanie is a perfect fit to
9 provide us insight about consumer needs and engagement. She
10 is an environmental justice advocate who joined MCE's
11 Regulatory and Legislative Policy Team to expand MCE's
12 consumer advocacy efforts and programs from income-qualified
13 customers.

14 Prior to MCE, Stephanie served as Energy Equity
15 Director at The Greenlining Institute for seven years, where
16 she focused on ensuring that the environmental, economic,
17 and health benefits of clean energy reached California's
18 communities of color. (Phone tones.) Apologies. I'm
19 getting a phone call. On a personal note, though, I did want
20 to mention that she also supervised and mentored me when I
21 was a fellow at The Greenlining Institute. And I am very
22 grateful to her for giving me my start in energy.

23 Stephanie, I also want to mention, is a founding
24 member and the current Secretary of the Disadvantaged
25 Communities Advisory Group, which advises the California

1 Public Utilities Commission and the Energy Commission to
2 help ensure that our clean energy policies advance
3 environmental justice and serve all our communities
4 equitably.

5 So, Stephanie, I invite you to come on this
6 virtual stage and deliver your presentation.

7 MS. CHEN: Well, thank you so much, Noemí, and
8 thank you, Commissioners, for having me here today. It's
9 great to join you this morning to talk a little bit about
10 what MCE has learned from our low-income electrification
11 pilot. If you could advance to the next slide, please.

12 So a little bit of background about MCE. We began
13 service in 2010, as Noemí mentioned, making us sort of the
14 elder statesperson of the CCA world. And today we serve just
15 over half a million customer accounts and more than one
16 million people in Contra Costa, Marin, Napa, and Solano
17 counties, which if you think about those counties, is a
18 really diverse subset of the state of California.

19 Our default service option is more than 60 percent
20 renewable and more than 90 percent GHG free today. We also
21 offer 100-percent renewable and 100-percent local solar
22 service options as well.

23 But beyond renewable energy, our organizational
24 mission specifically focuses on energy efficiency, on local
25 economic development, and on building equitable and

1 sustainable communities. And so building electrification,
2 particularly when we're thinking about the communities that
3 could benefit from these technologies the most, really fits
4 very nicely into all components of our organizational
5 mission. Next slide, please.

6 So MCE has been running our Low-Income Families
7 and Tenants program, which we fondly call LIFT, since
8 October 2017 as a pilot under the PUC's Energy Savings
9 Assistance Program. And to date, MCE is the only CCA that
10 has ventured into the ESA territory.

11 LIFT serves exclusively affordable multi-family
12 housing, primarily deed-restricted properties. And so I just
13 want to make sure to emphasize that point because a lot of
14 the consumer-engagement strategies, enrollment strategies
15 are going to be really different when we're talking about a
16 multi-family rental situation as compared to single-family
17 ownership or single-family rentership. So for my remarks,
18 I'll be speaking exclusively about multi-family settings.

19 As a requirement for LIFT, participating tenants
20 have to earn less than 200 percent of the federal poverty
21 level, which is the ESA income guidelines. And in order to
22 treat the whole property, 80 percent of tenants must meet
23 this criteria. And I want to emphasize this because this is
24 relatively low compared to most of the other income-
25 qualified energy efficiency and electrification programs out

1 there today, which are often based on an area median income
2 guideline.

3 So LIFT offers heat pumps for HVAC and for water
4 heating, both central and in-unit systems, depending on the
5 needs of the property, as well as energy-efficiency
6 measures. We've done a limited amount of fuel switching from
7 propane to electric, as well as gas fuel substitutions, so
8 we have some learnings from both of those contexts.

9 And the other feature that's really a hallmark of
10 the LIFT program, which was alluded by Commissioner
11 McAllister's opening remarks, is our close collaboration
12 with other building-upgrade programs to allow for as much
13 work as possible to be included into the same project. Not
14 only is that administratively efficient but really more
15 important perhaps, if we're going to disrupt the way that a
16 building operates and its day-to-day lives, the day-to-day
17 lives of its tenants, we want to make sure that project is
18 as comprehensive and as impactful as possible so that we
19 deliver as much benefit as we can in exchange for that
20 temporary disruption.

21 So this collaboration includes other energy-
22 focused programs, like our own nonenergy -- our nonincome-
23 qualified multi-family EE offerings, as well as with
24 programs like BayREN, who also run multi-family programs.
25 And we also collaborate with the Healthy Homes Program in

1 select areas to offer additional health and safety upgrades
2 for participating properties. And I'll mention a couple of
3 examples there in a minute. Next slide, please.

4 So what we've learned from running LIFT for the
5 last few years. The good news is electrification has really
6 been more popular than we had even anticipated, and we were
7 pretty jazzed about it from the start. We found that some
8 properties are motivated by the environmental benefits, from
9 the opportunity to reduce emissions by switching
10 technologies, but more are interested in the health and
11 safety benefits of switching away from combustion. And this
12 is true even in the multi-family context where we engage
13 primarily with property owners to develop the scope of work
14 and to make the decision to electrify. Property owners are
15 interested in providing those health and safety benefits for
16 their tenants.

17 There's also been a lot of interest in the
18 opportunity to add cooling with the heat pump. If you're
19 replacing a furnace with the heat pump, you can provide
20 cooling as well as heating. And that has proven to be a
21 really compelling health and comfort benefit, especially
22 with the recent record-breaking summers that we've had this
23 year and in prior years, as well as the experiences that
24 many of our communities have faced in terms of poor air
25 quality resulting from wildfires.

1 And, in particular, we found that propane
2 customers are especially motivated by the opportunity to not
3 only save money but also provide a much safer energy source
4 for tenants. And I will note here that the LIFT program
5 covers most but not all of the cost of heat pumps. And we
6 have found that owners even of affordable housing properties
7 believe that the benefits of electrification justify a
8 minimal copay amount. And where they are able to do so, they
9 want to provide these upgrades for -- these upgrades for
10 tenants, and they see the copay as being a sound investment
11 towards -- towards that benefit.

12 So our second learning is that if we want
13 buildings to really undertake the kinds of comprehensive
14 energy, health, and structural upgrades that from a policy
15 perspective we want buildings to undertake, it is absolutely
16 critical to provide a robust single point of contact and
17 behind-the-scenes coordination of programs. And I would
18 venture to say that this will be true of single-family
19 projects as well as multi-family.

20 I mean when you think about all of the different
21 components that go into a comprehensive building retrofit,
22 including energy efficiency, electrification, health and
23 safety upgrades, potentially even other clean energy
24 upgrades, it is simply not reasonable or realistic to expect
25 an owner or property manager to coordinate all of the moving

1 parts of this comprehensive upgrade that's supported by
2 incentives from multiple programs, that all have different
3 participation rules and different income guidelines, right.
4 So taking on this work behind the scenes has really helped
5 us do more whole-building projects, which in turn translates
6 to more benefits both for tenants and for property owners.

7 And when it comes to electrification measures,
8 because these are newer technologies and most property
9 owners are less familiar with them, even the interested
10 property owners, the most engaged property owners really
11 rely on program implementors and on their trusted
12 contractors to help them identify the best equipment or the
13 best system configurations to meet the needs of their
14 tenants and their buildings. So really being able to offer
15 that expertise upfront as part of the model of the program
16 and part of the way that potential participants are engaged
17 has really proven very successful.

18 Now in terms of outreach and engagement, because
19 we are working with -- with multi-family properties, we've
20 had a lot of success in partnering with our local government
21 agencies to identify and engage eligible properties. Now
22 since CCAs are local governments ourselves, local government
23 agencies ourselves, this is a pretty natural partnership.
24 And we have -- we already have some close working
25 relationships that we can build on in this regard. But even

1 so, this strategy really helps us boost up our name
2 recognition and our value proposition in terms of what we
3 are offering. And it also helps us to target our limited
4 resources to the properties that could benefit the most from
5 the upgrades.

6 For example, in Contra Costa County we have a
7 partnership on a pilot basis with the Bay Area Air Quality
8 Management District to layer in measures through our Healthy
9 Homes efforts that help to mitigate childhood asthma
10 triggers in our LIFT projects. This is a concern of the
11 county, this is a current of the county health department,
12 and this is a problem that building upgrades and energy
13 measures can help to address.

14 So in the partnership, we receive funding to help
15 support these measures from Bay Area Air Quality Management
16 District, but we're working with the health department, the
17 county health department, to help us identify properties
18 where a lot of income-qualified families live who have
19 children who have asthma. And through this partnership, we
20 are able to target our efforts towards the properties where
21 we are able to reduce emissions, make children healthier,
22 and help families reduce their energy bills -- which we see
23 is a really strong proposition.

24 And, you know, if our goal is just to install as
25 many widgets as possible in terms of a program goal, it may

1 work fine to really cast a broad outreach net and just work
2 with properties as they come through the door. But if we
3 want to target our efforts towards the properties that stand
4 to benefit the most due to disproportionate needs, then
5 these local government partnerships can really help us
6 refine our lens and focus our limited resources. Because,
7 again, local government agencies have a particular insight
8 into the communities that they serve and the communities
9 that have the most need.

10 And because we're working exclusively with multi-
11 family properties, we've had most success focusing our
12 enrollment efforts primarily on the property owner as the
13 decisionmaker about what kinds of technologies are
14 implemented in the building, rather than engaging with
15 residents and then requiring them to seek permission from
16 the owner for these upgrades. And we have found that this is
17 not only more administratively efficient, it makes it easier
18 to do a whole building retrofit. But, more importantly for
19 the purposes of this conversation, it's less burdensome on
20 tenants and it doesn't require the tenant to be the one to
21 engage the property owner, which may implicate some trust
22 barriers or the fairly complex relationship between tenants
23 and the property owner.

24 Now where we really double down, though, on
25 engaging tenants is around training on the new equipment,

1 especially if they have received a heat pump in unit, so
2 that tenants know how to use their new equipment and what to
3 expect from it. The same is of course true for property
4 managers who have central system heating -- heat pumps
5 installed. We want to make sure that folks know what to
6 expect and know how to best use their equipment.

7 We also provide comprehensive energy education to
8 tenants, and we do that in multiple languages including
9 information about time-of-use rates, demand response, and
10 ways to save money by being a savvy energy consumer. And we
11 have found that this separation of the way that we message
12 around outreach and engagement and enrollment, and then the
13 energy-education component really boosts up the best way to
14 empower tenants and demonstrates that these upgrades are not
15 just for the landlord's benefit, they are for the tenants'
16 benefits as well.

17 We also survey participants to help to gather post
18 retrofit feedback on both the energy and nonenergy benefits
19 from the project. Tenants have found, through our surveys,
20 that -- that their new equipment is quieter. For HVAC
21 systems, they have found that the heat pumps really hold a
22 comfortable temperature very well and very consistently
23 throughout the day. And they also notice improved indoor air
24 quality when they switch from a gas appliance to an electric
25 appliance. And I think that this is a really important

1 learning regarding the customer value proposition of
2 electrification. I would venture to say that the average
3 customer, and I would venture also to say that the folks on
4 this -- on this webinar are not the average energy customer
5 out there, but the average energy customer out there is
6 probably more motivated by the opportunity to save money on
7 their bills and to be more comfortable in their home, and
8 then maybe secondarily by the environmental benefits of
9 electrification.

10 For most customers, the choice to electrify is
11 probably more often about quality of life, and the good news
12 is that from an administration perspective we can really
13 lean into that when it comes to designing programs and
14 messaging to customers.

15 And the last thing I want to note is that LIFT
16 offers participating properties the ability to use a
17 contractor of their choice, which gives -- which gives
18 participants a greater sense of ownership in the project and
19 trust in the work being done. But we have found that we
20 electrification projects, we have experienced challenges
21 with contractor availability. And this is true even in the
22 Bay Area, especially when the property needs an electrical
23 panel upgrade or a more complex repair, which is not
24 uncommon among affordable housing properties.

25 Because these technologies are relatively new in

1 terms of being a widespread option, there are not a lot of
2 contractors who really feel comfortable or are able to -- to
3 do some of these more complicated installations. And the
4 shortage is even greater in more rural areas where the
5 contractor base is slimmer. And we found that contractors
6 who are based in more urban areas are often unwilling to
7 travel to more rural areas if the project is small or of
8 average size. So I think that there is a real opportunity
9 here for investments in workforce education and training,
10 which I'll leave here as a teaser for tomorrow's panel. And
11 my last slide, please. Go to the next slide, please.

12 So I think our most important take-aways from the
13 first few years of LIFT are: First, there are huge benefits
14 to a program that can leverage multiple funding streams to
15 deliver a more comprehensive project without adding
16 administrative burden to the property owner; and then,
17 second, there are multiple kinds of benefits offered by
18 electrification, and that means that we can really meet
19 customers where they're at and focus on what customers care
20 about. We don't necessarily need to convince customers to
21 care about emissions, if they don't already, in order to
22 convince them to make the switch. We can message the
23 benefits of electrification around improved quality of life
24 and we know that on the back end the emissions reductions
25 will follow.

1 Thank you so much for having me here, and I look
2 forward to the discussion later on.

3 MS. GALLARDO: Thank you, Stephanie. You sparked a
4 lot of questions for me, but I'm going to hold off on those
5 so we can get to our second speaker, who is Abigail Solis.
6 Abigail serves as Manager of Sustainable Energy Solutions at
7 Self-Help Enterprises, a nationally-recognized community-
8 development organization whose mission is to work together
9 with low-income families to build and sustain healthy homes
10 and communities. And the Sustainable Energy Solutions Team,
11 which Abigail leads, focuses on connecting disadvantaged
12 communities to resources that provide access to affordable
13 energy and clean transportation infrastructure through
14 technical assistance, community needs assessments,
15 evaluation and review of alternatives, project development,
16 project management, community engagement, and capacity
17 building.

18 So as you can tell, Abigail is very well qualified
19 as well to educate us about consumer needs and community
20 engagement. And, aside from doing her core work, you will
21 often find Abigail on the speaking circuit because agencies
22 are constantly seeking her guidance. So we really appreciate
23 her for being generous with her time and talent today and
24 other days.

25 So, Abigail, I invite you to come onto the virtual

1 stage so that you can present.

2 MS. SOLIS: Thank you, Noemí.

3 Good morning, everyone. Thank you all for the
4 opportunity to address this wonderful line-up of panel that
5 we have this morning as well as all of you in the audience
6 today.

7 As mentioned, my name is Abigail Solis and I am
8 with Self-Help Enterprises. Next slide, please.

9 So before I get started I just want to talk a
10 little about our organization. Self-Help Enterprises was
11 established in 1965, over 50 years ago. We are a community-
12 based nonprofit organization located in the San Joaquin
13 Valley. Since our existence, we have helped more than 6,400
14 families to either build their own home and we have helped
15 to develop over 1,600 units of affordable housing. In our
16 Community Development Department, we have worked with over
17 200 small community service districts, small communities,
18 and schools. We are currently active in affordable energy
19 solutions as well as emergency services for disadvantaged
20 communities.

21 We're actively participating in the Greenhouse Gas
22 Reduction Program, LIWP, SOMAH, as well as zero net energy
23 development.

24 You know before I get started I really want to
25 stress that all of the work that we do, we do it working

1 alongside residents, with the goal to build their capacity
2 so that we can create highly-effective community leaders and
3 help to promote collaborative solutions for improving their
4 own communities.

5 I also want to add that currently our energy work
6 consists of many different pilots. Many of you have heard of
7 the San Joaquin Valley Pilot Projects. We are helping 11
8 disadvantaged, small communities that are currently using
9 propane, convert to all-electric appliances. This pilot, as
10 mentioned, has never been done before. It's new and it's
11 different and we're definitely learning a lot from the work
12 that is happening on the ground.

13 This is important because, as you can imagine,
14 these families that are forced to pay the high cost of
15 propane as well as deal with the negative health and air
16 impacts have been waiting decades for some solution or
17 project to come around, to help support a more sustainable
18 and affordable energy solution for their home.

19 So in addition to the work that we're doing, and I
20 will talk about in the SJV Pilots, we're also working on
21 several research and data-gathering projects, because in
22 addition to the 11 pilot communities, we have documented
23 that there are about 170 additional communities that either
24 completely or partially lack access to natural gas in the
25 San Joaquin Valley alone. So we know that there is still

1 much work to do and we know that there are many residents in
2 the San Joaquin Valley and of course throughout the state
3 that are waiting for us to come around and help them with
4 their energy costs as well as energy needs in their
5 community. Next slide.

6 So what I'm hoping to do today is to help you
7 understand or just get a better glimpse into what we're
8 seeing on the ground in the San Joaquin Valley. And also to
9 help maybe shed some light on the challenges that exist
10 today that keep communities from, you know, decarbonization.
11 So I want to start with, you know, when we talk about
12 decarbonization of we're talking about the value of
13 electrification, but it's important that when you want to do
14 this work in low-income communities we must understand that
15 residents are really worried about the cost of electricity,
16 even those that are forced to pay the high cost of propane
17 are still worried about transitioning to an all-electric
18 home because they're worried that electricity will be as
19 expensive as propane or may be more expensive.

20 It's really important to remember that most folks
21 that have natural gas, right now because of the cost alone,
22 want to keep their natural gas because they believe that
23 it's cheaper. So it's really important that we take this
24 into consideration as we do this work and remember that cost
25 really is at the forefront of everything for these low-

1 income families.

2 Also one of the challenges that we constantly see
3 is misinformation about rooftop solar and other renewable
4 energy programs. Many of these communities that we're
5 working in today unfortunately are communities that had to
6 deal with rooftop solar fraud, you know, a decade ago. And
7 that experience is still fresh in their mind and they're
8 still worried that if they participate in an electrification
9 project or a project that is associated with solar or any
10 kind of renewable energy that perhaps they can have the same
11 bad experience that they either experienced a decade ago or
12 maybe heard of a friend or a neighbor that experienced it.
13 So it's very important that we understand that these
14 concerns are very real to the residents that we are working
15 with.

16 You know negative experiences with previous
17 programs. There's other programs out there that sometimes do
18 not meet the expectations of residents. Perhaps the quality
19 of the product that they were offered was not what they were
20 expecting or perhaps there was a project implementor that
21 didn't -- that didn't follow through on what they were
22 supposed to do. Any previous negative experience with an
23 existing low-income or energy-efficiency program can really
24 keep a family from wanting to participate in electrification
25 or decarbonization projects.

1 You know challenges are also just very much real
2 in housing conditions. When we talk about decarbonization of
3 buildings, for this presentation I'm talking about single-
4 family homes and mobile homes, we must understand that the
5 home conditions of many of these communities are either
6 deteriorated or dilapidated, especially those older homes
7 that were built over a hundred years ago.

8 If we want to be able to provide an
9 electrification solution for these homes, we must be
10 prepared for the unexpected and additional costs that can
11 come up when you're dealing with homes in these conditions.

12 We have learned that there are many challenges
13 right now around mobile homes and helping mobile home
14 residents to participate in decarbonization projects.
15 Currently there is a need to deal with the Community Housing
16 and Development Department at the State. Homes -- mobile
17 homes are required to pull a permit at the county level, and
18 for that they need a certificate of title from the HCD. Many
19 residents have no clue what this even is. They don't have a
20 title. All of these things are keeping residents from
21 participating in existing programs like the SJV Pilot and
22 they're just adding an additional layer of time and work and
23 also cost that families were not expecting to pay. So as we
24 move forward and think about helping -- being equitable and
25 helping all families, including those that live in mobile

1 homes, we will have to address the mobile home issue.

2 It's important that -- there a lot of times is a
3 lack of trust in communities and this is often become most
4 of these communities have been -- have received empty
5 promises in the past. So most of these communities,
6 unfortunately, they are communities that are dealing with
7 multiple issues.

8 I'm sure you have heard before that in the San
9 Joaquin Valley most of our disadvantaged communities are
10 dealing contaminated drinking water, poor air quality, poor
11 housing conditions. So in addition to, you know, their lack
12 of access to affordable, renewable energy, there are all of
13 these other things that they're dealing with. And oftentimes
14 they're promised solutions that never come to be, so it's
15 important that when we go into a community to work on a
16 community-wide energy solution, that we take all of these
17 things into consideration before we start our work, because
18 we must acknowledge the reality of residents in the
19 community if we truly want to be able to work hand in hand
20 with them. Next slide.

21 So I want to talk a little bit about consumer --
22 consumer outreach and education needs. You know it's
23 important that we all realize the low-income disadvantaged
24 communities that we are working with often do not have
25 experience with these technologies and these projects that

1 we're talking about. So because of that, it's very important
2 that when we approach residents, we are talking to them in
3 the mindset of education. Most of the time we are
4 introducing a new project or a new concept to them for the
5 first time, something that is foreign, something that they
6 have never even heard about. So, you know, to many residents
7 that are still using propane or even burning wood in their
8 homes, when we come to them and we ask them if they're
9 interested in electrifying and connecting to community
10 solar, perhaps we offer them the option of a battery backup,
11 a battery storage backup. And all of these are new
12 technologies that they have never heard of before. So it's
13 very important that we consider the mixed levels of
14 knowledge within communities.

15 And the mixed level of knowledge really does come
16 from a variety of things. We are often dealing with an older
17 generation. Many times we're dealing with an older Latino
18 population that really has their mind set on natural gas
19 because they began their attempts to receive natural gas,
20 you know, 20, 30 years ago. And now we're also dealing with
21 their children and grandchildren who are younger,
22 Millennials, they have iPhones, they're really excited about
23 the thought of being all electric. So it really does result
24 in a mixed level of knowledge in communities, and it's
25 important to be prepared to address a range of levels.

1 You know through our work in communities for over
2 50 years, we have learned that it's important to be
3 transparent about project costs and benefits. Never over
4 promise. Never promise cost savings that we're not sure can
5 be achieved. It's very important to be transparent about all
6 possible costs associated with the project.

7 We also learn that to be the most successful, it's
8 important to use culturally competent implementers. You
9 know, implementors that are able to speak the appropriate
10 language in these communities, hopefully have experience
11 working in these communities in the past. They know the
12 nuances between the differences in the small communities. We
13 found that these types of implementors are the most
14 successful because they have established relationships with
15 residents. They often already have trust, and it just works
16 better that way.

17 When you think about outreach and education needs
18 in disadvantaged communities, it's important to allow for
19 flexibility and project planning. Often we work with
20 partners and projects that are funded under a certain scope
21 of work that is expected to go a certain way. But because
22 the work that we're doing is new, often they're pilots, it's
23 important to remember that sometimes things might not go as
24 planned. Something might come up. It's important to allow
25 for flexibility in these projects to adapt to the unforeseen

1 circumstances that may arise.

2 Also it's important to note that many of these
3 communities that we're dealing with have limited access to
4 the internet, limited access to travel, and it's really
5 important that we go to them and we introduce these ideas
6 and these concepts to them in their community, because we
7 have seen that asking residents to go even, you know, two or
8 three miles or five miles down the road is difficult. So
9 it's important for us to go to them.

10 All of these things should be considered when
11 developing project concepts and funding project ideas, is
12 that we have to have the flexibility to do all of these
13 things. Next slide.

14 So we have seen that in order to work in
15 disadvantaged communities we have to be innovative in the
16 way that we do outreach. We very much do nontraditional
17 outreach where we go door to door, we talk to people about
18 projects face to face. And we often instead of using maybe a
19 commercial or the internet, we do things like here down on
20 the right, create yard signs to help let their neighbors
21 know that they're participating in these projects.

22 And, you know, these are ideas that come from CBOs
23 and local leaders that have experience and know what works
24 in disadvantaged communities. And it's also very important
25 to fund technical assistance, like what was mentioned

1 earlier. Because these CBOs like Self-Help Enterprises can
2 work with communities to develop project ideas from the
3 beginning. Next slide.

4 I wanted to highlight an example of a successful
5 outreach model and what's really working in disadvantaged
6 communities. The SJV Pilot Project is working with the
7 community of West Goshen. West Goshen is a small
8 unincorporated community in Tulare County and it is a
9 community that lacks access to natural gas, so all of the
10 residents there use propane. They are one of the SJV DAC
11 communities that we are helping to transition to all-
12 electric appliances.

13 You know when you can bring in a local leader,
14 like in the example of the SJV Pilots, we're calling them
15 Community Energy Navigators, or CENs. These are local
16 leaders that live in the community. They're responsible for
17 doing outreach education and talking to their neighbors
18 about the program. So what we do is we train these two
19 leaders. And in the example of West Goshen, we have Melinda
20 and Lucy Hernandez who go out and do all of the education as
21 well as enrollment for the program in their community. We
22 have seen an extremely high response rate to this model. We
23 have seen that -- you know, we have almost 75 percent
24 participation rate as well as a strong support for
25 electrification projects. Next slide.

1 And I know I'm running out of time here. I just
2 want to end by really emphasizing the importance of
3 community partnerships when creating solutions for
4 disadvantaged communities. You know project concepts should
5 be developed together with communities from the beginning.
6 That is how we establish buy-in from residents. It's
7 important to work alongside residents, to hear directly from
8 them about the types or projects that they're open to doing
9 in their communities, because at the end of the day it will
10 be their homes that are participating in these projects. And
11 I think that there is a way that we can do more of that, you
12 know, by working with CBOs, working with models like the
13 Energy Navigator; and also funding technical assistance
14 because these CBOs can really help with collecting data,
15 designing project models that the community is supportive
16 of, as well as collecting information and sharing
17 educational resources to help residents understand the
18 benefits of electrification. Next slide.

19 So thank you again for the opportunity to speak
20 today. I'll be around to answer questions if you have any
21 questions about specifically the San Joaquin Valley or any
22 of the other projects that we're doing on the ground. Thank
23 you.

24 MS. GALLARDO: Thank you, Abigail. We really
25 appreciate you and all the work you're doing and have been

1 inspired by your Energy Navigators example, in particular.

2 So we're going to move forward with our third
3 speaker, and I think I'm -- I'm not sure if that's me having
4 audio issues. Hopefully you all can hear.

5 DR. COOPER: I think it's me, but let's see what
6 happens.

7 MS. GALLARDO: Okay. So our third speaker is Dr.
8 Mark Cooper, Director of Research at Consumer Federation of
9 America, also known as CFA. That's an association of
10 nonprofit consumer organizations that advance consumer
11 interest through research, advocacy, and education. At CFA,
12 Dr. Cooper is responsible for energy, communications, and
13 economic policy analysis. He is also a Fellow at the
14 Stanford Law School Center for Internet and Society, an
15 Associated Fellow at the Columbia University Institute on
16 Teleinformation, and a Fellow at the Donald McGannon
17 Communication Center of Fordham University.

18 Additionally, he is the author of several books
19 and has published numerous articles in trade and scholarly
20 journals about energy, equity, utility regulation, and other
21 topics. So given everything on his plate, we are quite
22 fortunate to have him with us today to share his
23 perspective.

24 So, Dr. Cooper, are you able to join us? I know
25 your --

1 DR. COOPER: I'm fine. Can you hear me?

2 MS. GALLARDO: We can hear you.

3 DR. COOPER: Okay. So that bio is quite old, so I
4 have a different affiliation. It's Vermont Law School, which
5 some of the environmentalists will recognize is the number
6 one environmental law school in the country. But for me the
7 interesting message, and I was concerned the others might
8 not set me up but they did a pretty good job, I have a
9 simple message: Decarbonization is good for consumers, the
10 economy, jobs, public health, and the environment. Not only
11 that, but it turns out that low-income households will be
12 disproportionately benefitted by decarbonization since they
13 have spent disproportionately on the money, they're affected
14 by the environment.

15 But let's be clear: We cannot wait for the tide to
16 raise all the boats. We have to start distributing some
17 oars, and that's what you've heard the other people talk
18 about. But next slide, please.

19 What I really want to emphasize is the history of
20 how we got here. When the Paris Agreement was negotiated, it
21 was not possible to meet -- pass through the horns of a
22 dilemma: Development and decarbonization. In a quarter of a
23 century, the technological revolution has in fact made it
24 possible. The least-cost options are now renewables,
25 decentralized resources, efficiency, intelligence, many of

1 which are local-level resources, which of course is good for
2 our communities. Next slide, please.

3 And of course when you look at jobs, what you will
4 find is that efficiency and alternatives are in fact the
5 best jobs creators, certainly in the electricity sector.
6 But, again, we have to be careful to make sure that those
7 jobs get distributed towards the populations that need them
8 and, interestingly, the populations that live where the
9 resources are. Certainly for efficiency, wind and solar,
10 they are local resources. Next slide, please.

11 This is a little slide that asks the question
12 :what's the value of carbon abatement. And it's quite clear
13 that the alternatives are the preferred approach. They yield
14 higher value. And someone pointed out: I left community
15 photovoltaics off of this slide. It turns out that in the
16 long term, community photovoltaics and offshore wind are
17 about the same. They beat the bejesus out of central station
18 generation. And so we know the path that we have to proceed.
19 Next slide, please.

20 The interesting thing is that the public actually
21 understands this. Even if they didn't care a whit about the
22 environment or decarbonization, they should know it's good
23 for them, but it turns out they do care. They prefer to have
24 efficiency and renewables over central station. So we have
25 the possibility to get the public to support these programs.

1 And while the people in California are convinced, there's a
2 lot of folks at the federal level and in other places that
3 need some convincing. Next slide, please.

4 So the question is if all this stuff going for the
5 alternatives, why is there so much focus on buildings. And
6 the answer is actually simple. We have a number of things
7 that we need to get done and the marketplace just won't do
8 it. The need for speed is urgent. Everyone has heard that.
9 We have a decade or two, or we will have lost the battle.

10 The rules in place are not very friendly to the
11 alternatives that we believe will help consumers and
12 particularly low-income consumers. Rooftop solar, for
13 instance, can play an important role if its value is
14 identified and recognized by the agencies that set the
15 prices. And so we have to get people to think about those
16 kinds of things. Next slide, please.

17 So what's the problem? And Ms. Chen mentioned a
18 lot of these issues. The building market, efficiency in
19 general, is afflicted by a large range of market
20 imperfections. We focus on first cost. There's limited
21 understanding. There's limited availability. There's risk
22 aversion. There's particularly in the case of renters a
23 split incentive between the landlord and the tenant, so that
24 McKinsey, who is at the top of this slide, identified these
25 issues, all 30 of them, over 10 years ago. They said this is

1 the problem we have to overcome. And so we need to get good,
2 effective solutions to overcome those problems. At the
3 bottom I gave you the standard economist's view of these
4 issues, which is of course intended to confuse you, but it
5 helps in the public policy space to talk about the things
6 like the split incentive, about risk aversion, about moral
7 hazard. These are the things that policymakers frequently
8 understand they have to overcome. Next slide, please.

9 So what we have advocated, and I gave this talk at
10 the California Energy Commission a while back and I have
11 developed it over the course of the last decade, I talk
12 about command but not control policy. We want long-term
13 solutions, we want technology-neutral solutions, we want
14 product-neutral solutions.

15 We need to be responsive to industry needs. We
16 have to make the owners of buildings and technology, and get
17 them invested in producing this stuff. We need to be
18 responsive to consumer needs, and you have heard a lot about
19 the special needs of low-income consumers. And all that ends
20 up being pro competitive. And so this is essentially an
21 approach in which Congress, policymakers set goals and the
22 result is that the individual producers are given an
23 incentive to do what they do best, which is invent stuff
24 that is least cost, and each one will think of something
25 that maximizes their own competence, but that's okay because

1 it ends up in products in competition in the marketplace.

2 Next slide, please.

3 And I always make sure to point out that what I am
4 talking about is essentially pragmatic progressive
5 capitalism. My six principles for command but not control
6 are essentially a capitalist approach. And a lot of people
7 have talked about public-private partnerships, government
8 partnerships, etc. Others have talked about the same
9 approach in three -- I give you -- three different examples:
10 One, climate policy; one, tax policy from Joseph Stiglitz;
11 and then of course why we prefer progressive markets by
12 Sherer and Ross.

13 And I believe that is really important to think
14 about: How we're going to get the marketplace to routinize
15 the activities that get us to decarbonization. And so we
16 need, and I will use one example which has come up a couple
17 times, we need the financial institutions that lend money to
18 people who want to buy buildings and take into account the
19 energy efficiency of those buildings so that when someone
20 presents themselves and says, 'Look, I want to buy a
21 building and I want to do this' or 'I want it to be energy
22 efficient, and therefore my operating costs will be lower,'
23 that should expand the range of possibilities that that
24 individual is allowed to consider. And the marketplace will
25 be very aware of that issue and start rewarding people for

1 efficiency. We do not do that very well today. We should do
2 it better.

3 And I have given lots of examples -- I think next
4 slide, please -- yeah. So here is a series of reports that
5 we have done at the Consumer Federation of America that look
6 at these issues, have lots of details about what specifics
7 should be done. And, as you can tell by the middle slide,
8 it's gotten to be pretty political lately, but that's okay.
9 It's not my fault. I wish it would have been political
10 throughout, but it has finally become so. And so, as I said
11 in the title, The electrification of Everything, and I've
12 heard a lot about the electrification of heating,
13 electrification of everything is infrastructure. The --
14 there is no doubt that this is the essential infrastructure
15 of the twenty-first century: Electricity, energy, and we
16 need to get there. We have the chance. And hopefully with
17 the leadership of states like California, we will. Thank
18 you.

19 MS. GALLARDO: Thank you so much, Dr. Cooper. We
20 really appreciate you enlightening us with that information.
21 Thank you for directing me on the bio. Much appreciated.

22 I'm going to turn to the dais now to see if there
23 are any questions from anyone.

24 And, Commissioner McAllister, I do see you there.
25 Would you like to ask a question, or I'll let you lead this,

1 actually.

2 COMMISSIONER MCALLISTER: Well, thank you very
3 much, Noemi. Nice job moderating. And, absolutely, I think
4 you may have the best questions of anyone among us, so
5 certainly if you have any questions, I mean you've heard
6 some really great stuff from all four speakers, including
7 Carmelita. And so I did want to give -- I think Commissioner
8 Monahan was going to drop at 11:30, but just wanted to see
9 if she was still on and, if so, give her the opportunity to
10 ask the first question, given that she has to leave, but she
11 may have dropped already.

12 MS. RAITT: I think she dropped off already,
13 Commissioner.

14 COMMISSIONER MCALLISTER: Okay, great. Great. I
15 do -- I have a whole bunch of questions, but I'll just ask a
16 couple of them. I think, you know, there's so much food for
17 thought here. And I think the three panelists' messages
18 really complemented one another quite well. And I think, you
19 know, Mark Cooper's message was a broader how do we
20 manipulate our economic structure to prioritize the things
21 that we want prioritized generally.

22 And then Abigail and Stephanie sort of focused on,
23 I think, the core proposition that we are really trying to
24 keep focused on in California, which is let's start with the
25 places where the need is greatest and equity issues are so

1 just front and center that we need to address them sooner
2 rather than later.

3 And so I think those are -- those can coexist,
4 actually. The visions can coexist quite well. So thanks to
5 all of you for helping lay that out.

6 A couple things that I noted. You know this idea
7 of cooling as equity, the fact that our planet is warming is
8 not lost on any of us, certainly not last summer or this
9 summer. And California, we're just seeing the risks, the
10 downside of warming just upon us today. And so this idea
11 that everyone -- and I think, you know, this is a global
12 phenomenon. I mean in India you're seeing cooling becoming
13 just a massive driver of increased electricity consumption.
14 So across the developing world as well as California.

15 And I think we -- we show seriousness of purpose
16 if we acknowledge that an upside that may be certainly
17 increased energy consumption in the near-term but it
18 actually is a core equity issue that we need to just embrace
19 really, is that when people switch out to a heat pump they
20 also get cooling, which they may not have had before, which
21 is a comfort issue and it is really an equity issue. And so
22 thanks to Abigail, in particular, for bringing that up --
23 actually maybe Stephanie and Abigail both, I'm not sure.

24 So I did have -- well, and then the other thing I
25 want -- Stephanie, you brought up the building owner and the

1 customer/resident, you know, in the low-income family space
2 as really being aligned on electrification as just adding a
3 lot of value, which I really appreciated. So that -- you
4 know, when there is a clear value proposition for the major
5 players, obviously makes life a lot easier.

6 I did want to ask really all of you about how big
7 of a question or potential problem is the utility bill
8 impact of electrification. You know, I think the idea that
9 there is not trust and people are worried about their bill
10 impacts, I think we could all say that, but in particular
11 for folks who really don't have -- who have to make hard
12 choices about where they spend their money every moment. I'm
13 wondering sort of how that plays into your approach and your
14 delivery of education and actually do you have any data
15 about the actual impact, say, in San Joaquin of the pre-
16 coast kind of situation in terms of utility bill impacts?

17 MS. SOLIS: I'm happy to take a stab at this.
18 Thank you, Commissioner, for that question. So you know my
19 initial response is that it's very important, to the point
20 that it often is the barrier that keeps a resident from
21 participating in this program. Because today they are not
22 certain that electrification will end up being actually less
23 money per month for their energy costs compared to the
24 current propane that they're using. However, it is important
25 to note that in the SJV Pilots we are not only doing

1 appliance, swapping appliances for all-electric appliances,
2 we're also connecting residents to community solar that
3 provides a 20-percent discount on their current bill. And
4 we're also adding an additional 20 percent discount just for
5 participating in the program. So that's 40 percent.

6 When you consider that most of these residents are
7 low income and most of them have CARE or FERA, that's
8 another, you know, 15 to 35 percent, so that really does,
9 the stacking of the programs makes a huge difference. And it
10 usually is the seller, it usually is the thing that allows
11 people to see the potential savings.

12 I don't think that we would be able to facilitate
13 this program if it wasn't for those savings. So as we move
14 forward, we are collecting data. Right now we're in the
15 implementation phase where, you know, residents are swapping
16 out their appliances. But as homes become converted to all-
17 electric and connect to these discount programs, we are
18 keeping track of the data so that we can use this
19 information moving forward, and that's the purpose of the
20 pilot, is really see if the cost savings is there. But in
21 the meantime, these two programs as well as the 20-percent
22 SJV discount was put in place just for that reason: To
23 ensure that residents are not seeing an increase.

24 But I will say that it wasn't for these discounts,
25 I don't know that we would be able to pitch this. It's

1 something that we have to consider moving forward.

2 Electrification on its own, I have not seen any data that
3 shows that it would alone provide the savings.

4 MS. CHEN: I would really double click on
5 everything that Abigail mentioned. The ability to provide
6 comprehensive energy upgrades that really are designed to
7 meet both environmental and consumer financial needs is
8 paramount, especially when we are talking about properties
9 that are in need of significant upgrades and customers that
10 are in need of significant savings. And there's a real
11 opportunity in the fact that both of these things are often
12 found in the same building. And so I think that's the really
13 important lesson for those of us who are in the side of this
14 -- of this universe that is designing programs and designing
15 offerings, is to really make it easy for folks to take
16 advantage of not just one particular clean energy silo but
17 of the whole kit and caboodle of everything that California
18 has to offer; and be able to design a package that makes it
19 easy for customers, whether those be multi-family owners,
20 single-family owners, whoever, to take advantage of as much
21 as possible.

22 In terms of the LIFT Program, we do have an
23 evaluation report that's going to be looking at bill savings
24 and as well as emissions reductions in the first tranche of
25 properties that have participated in our program. That

1 report is in the final stages of editing and review right
2 now, and will be released soon. So I'll throw this out as a
3 little teaser for the upcoming issuance of our report as
4 well as a public webinar that we'll be hosting to talk about
5 a little bit in the future.

6 COMMISSIONER MCALLISTER: Mark, I think you're
7 muted.

8 DR. COOPER: Excuse me. Wait a minute. I have two
9 observations. One, and as -- you know, as a long-term
10 economist, it is quite clear that in the long term the
11 alternatives are much less costly. They will be. But as the
12 economists say, in the long term we're all dead. And so we
13 do have to worry about the short term. And the interesting
14 thing is, and you've heard about what we can do since we
15 have in certainly California a fairly strong consensus about
16 the need to electrify, is we can focus on the communities
17 that have the biggest need for electrification, which are
18 the people on propane. You've heard about that.

19 But the fascinating thing is that something that
20 we said about autos and we had to fight very hard for it, is
21 that those communities know that they suffer from the public
22 health effects of burning fossil fuels. Let's be simple
23 about it. They know that their kids have asthma, they get
24 sick, etc., and the opportunity, so I'm fascinated by how
25 much emphasis there was on the recognition that

1 electrification is in service of public health. And that is
2 really important. They get that.

3 They can't afford it and so they need help, but
4 that makes them an ideal target, an opportunity to say:
5 Look, you're not only going to eventually save money on your
6 own, in the near-term we're going to help you put it in
7 there, and over the entire life of this program you will be
8 healthier. And it's true. Obviously propane is a very local
9 resource and emission. Tailpipe emissions are murder on low-
10 income households because they live near highways and that's
11 the way our society was built. So the least we can do is
12 diminish the tailpipe emissions from those things.

13 The combination of those things ought to be
14 attractive. We can make it at least neutral, in the short
15 term. In the long term, it will be lower costs. And then
16 you have the public health benefits on top of that.

17 COMMISSIONER MCALLISTER: Thank you, all three of
18 you. Those were great answers.

19 And I guess following up on your last point there,
20 Mark, you know we heard -- we had a speaker from BlocPower,
21 Donnel Baird last week, the week before, recently, and are
22 increasingly working with them. They started in New York and
23 they're now in California. But one of the topics that comes
24 up both then and previously over the last year or two is the
25 possibility perhaps of quantifying these public health

1 benefits. You know, we're going to see that lack of visits
2 to emergency rooms, that decrease in asthma rates and things
3 like that. We're going to see that in statistics at some
4 point, right, but we need to really get ahead of that and
5 show, you know, work with Kaiser or work with some of the
6 big health plans, to figure that out sooner rather than
7 later, and hopefully turn it around and monetize those to be
8 able to fund some of these projects. And so I wonder if you
9 have seen any work along those lines.

10 DR. COOPER: Well, we -- there is -- we have a
11 series of footnotes in our last two trillion dollar mistake
12 analysis in the last final comments on autos, but there is
13 absolutely no doubt that people measure this stuff and they
14 show that the low-income households are twice as likely to
15 be -- A, to be exposed to the emissions; and, B, of course
16 the housing they live in is the most vulnerable to those
17 emissions because they're leaking.

18 And so at the level of epidemiological exposure,
19 okay, we have the evidence. Your desire to have a quantified
20 economic value, obviously that's going to introduce a couple
21 of assumptions, it's less clear, but once you've got that the
22 exposure data, you have won the debate with -- with
23 reasonable people. And, you know, putting a value on a life
24 or a value on a ton of carbon is obviously a very political
25 thing but, as you suggested earlier, most people recognize

1 that there is an externality here, an external cost, and it
2 ought to be paid for.

3 What we're saying is that we can't make the low-
4 income households pay for it because they're the least able
5 to afford it. That's the point here. Eventually everyone
6 will get the benefit. If we start with the low-income
7 community, so be it. And we're now -- I participated in a
8 forum on EVs in California four or five years ago and the
9 question came up, well, you know, what about low-income
10 housing, there's no place to charge them, they can't afford
11 them, and it turns out the answer is people figured out,
12 hey, we got to get charging stations at gas stations, where
13 everybody drives by. And that's we now have -- we may have a
14 national program to do that. That's the way you kind of
15 solve those problems.

16 COMMISSIONER MCALLISTER: Thanks very much.

17 Anything to add -- one more question. I did want
18 to see if Commissioner Gunda or Mr. Chernow wanted to chime
19 in as well. I'm going to keep my question in reserve just
20 for a minute.

21 COMMISSIONER GUNDA: Commissioner McAllister, I
22 would like to just ask a quick question, if you're okay with
23 that?

24 COMMISSIONER MCALLISTER: Please, yes. Go ahead.
25 Absolutely.

1 COMMISSIONER GUNDA: Yeah. So I think I just want
2 first recognize Noemí, thank you so much for, you know, kind
3 of pulling this panel. And nice to see Stephanie and Abigail
4 again.

5 And good to make your acquaintance, Mr. Cooper.

6 So I think this is just a question at a high level
7 is, you know, but between the three of the presentations, it
8 kind of came together kind of a need for a comprehensive
9 retrofit model that's the kind Stephanie raised and kind of
10 like more of a geographically and community-targeted
11 solutions, you know, how do we kind of think through that.

12 And then also the potentially disaggregated nature
13 of the solutions that kind of came up in Abigail's comments
14 at a high level. I think my question -- I think at a very,
15 very high level, it's from your vantage point, what can the
16 State do in unlocking this? Right, I mean like this -- we
17 don't currently have models to scale this level of
18 disaggregated and discrete solutions at scale at a state
19 level, right?

20 I mean there are, you know, here and there, but
21 not -- not as much as we would like to. So what would you --
22 if there's one thing that each one of you would offer, what
23 would that be in terms of a solution that the State should
24 pursue?

25 MS. SOLIS: I'm happy to respond first. My

1 response is going to be twofold. One to Commissioner
2 McAllister's question about what we're calling nonenergy
3 benefits. This legislative season we supported SB345 which
4 would seek -- sorry, I'm hearing an echo -- which seeks to
5 establish a definition of nonenergy benefits and to have
6 things like health and safety be considered at the CPUC and
7 the CEC, and that we use this way of considering projects
8 and moving forward before we make all these policy-related
9 decisions, that we consider the nonenergy benefits as well.
10 So I think we do have a model for what we could use.

11 And, you know, to the second question, what I
12 would like to see is a big -- just a rotating pot of funds
13 available for a diverse set of types of projects. Of course
14 those projects would have to be developed with the community
15 and individuals for every community, but right now what I
16 have noticed, one of the biggest differences in trying to
17 look for funding for an energy project, compared to, for
18 example, a drinking water project in the state, is that in
19 the energy world there are multiple buckets of funding. You
20 know, you have to know about EPIC and you have to know about
21 this, and it's somewhat challenging to find the right bucket
22 of money to apply for, when if there was one overall fund
23 that may be had different types of funding -- of project
24 solutions within it, I think it would be a lot easier to
25 navigate. And we would know at the community level exactly

1 where to go to apply for funding, you know, whether that pot
2 of money is made up of the various different pots that exist
3 right now, I think that's an option.

4 And I think the other thing is really we have to
5 make it extremely easy for nonprofit organizations and CBOs
6 like Self-Help Enterprises to be able to apply on behalf of
7 these small unincorporated communities that do not have paid
8 staff, that do not have a city council. You know it really
9 is going to take organizations like ours that can do this
10 work for free on behalf of the communities. So they need --
11 we need to have all of that easily accessible so that we
12 even have a chance of applying for projects at this -- for
13 these small communities.

14 MS. CHEN: I definitely support again everything
15 that Abigail mentioned, in particular, about really being
16 able to de-silo these programs and offer a more
17 comprehensive solution that can be tailored to individual
18 community needs. And along those lines, I will note that,
19 you know, on the back end where from the program perspective
20 we are reporting out on metrics and cost-effectiveness and
21 things like that, all of the reporting is still very siloed.
22 So when you have a program -- or when you have a project
23 that pulls together multiple kinds of incentives from
24 multiple programs and you're able to overcome differences in
25 income guidelines and program participation rules, when it

1 comes to the reporting side of things, when we look at the
2 project to see how it did, we are still looking at the
3 results in those individual funding silos. So we look at
4 what are the results of these three measures that were
5 installed under this program and then these four measures
6 that were installed under that program. And we don't really
7 have a way to look at the whole as something greater than
8 the sum of its parts. Right now we are really limited to
9 just the sum of its parts.

10 And I think that when you have the more kind of
11 comprehensive project that involves building upgrades,
12 energy sources, potentially battery storage, potentially
13 time of use and demand response, looking at the silos
14 becomes an incredibly complex proposition that doesn't
15 actually end up telling the full story of what we have
16 accomplished in that project. So I think along with the idea
17 of creating a funding source that will -- that will support
18 these kinds of comprehensive projects, we have to have a way
19 to look at the achievements of that project on the back end
20 and see what the whole leveraged project really -- really
21 enabled.

22 DR. COOPER: A simple answer to the Commissioner's
23 question is: Think about what is local in these approaches.
24 That's the -- that's one way to de-silo it, is that what's
25 local here.

1 Well, the resource is local, wind and solar tend
2 to be local. Efficiency is certainly a local resource,
3 staffed by local people. But the other thing that's
4 important to realize is that a lot of these benefits are
5 less quantifiable. I won't say they're unquantifiable. But
6 it's tougher. So the nonenergy health and safety benefits,
7 those are local benefits, and that's what these people
8 realize: If I can electrify my house, I'm going to get a
9 benefit.

10 So if you ask the question what's local about this
11 stuff and you list all those things, you have a rationale
12 for giving them preference, because this is all the stuff
13 that hasn't been we'll quantified, but everybody knows it,
14 understands the benefit. And the local aspect cuts across
15 all these different possibilities. So for me, that's what I
16 want to see. If I start from the local, a small grid. We're
17 going to have a big debate about big versus small grids.
18 Well, we need smaller grids. We need a big grid because we
19 want to have geographic diversity. But at the end of the
20 day, that local grid is what we care about in making sure we
21 have power in that local community.

22 Community solar obviously is one possibility. And
23 what the choice is being made in the community solar, as I
24 heard it was, 'Look, how are we going to cover the costs.'
25 Well, the one of the ways we cover the costs is we offer

1 discounts to these set of people. We may end up charging --
2 we just charged just enough to break even, which is not what
3 utilities have done in the past. And that makes it a lot
4 less costly because the capital return on equity is a big
5 number for a lot of these utilities, so we can avoid that.
6 So that's the way I would approach it, is think local and
7 think nonquantifiable to just put your thumb on the scale in
8 your favor.

9 COMMISSIONER MCALLISTER: The --

10 COMMISSIONER GUNDA: I want to --

11 COMMISSIONER MCALLISTER: Oh, go ahead.

12 COMMISSIONER GUNDA: Commissioner, I just wanted to
13 say thank you to the three of them. Excellent responses, a
14 lot of things to think through. Thank you.

15 COMMISSIONER MCALLISTER: Thank you very much,
16 Commissioner Gunda. A great question and sort of keeping us
17 focused on what are the big levers we can pull at the State,
18 I think is a great focus.

19 And, you know, it almost begins to sound like a
20 broader conversation than even just the energy agencies and
21 it's actually pulling in the health department and maybe the
22 Department of Water Resources and kind of trying to figure
23 out, okay, how do we create a significant bucket that
24 explicitly is there to promote these CBOs. And I think
25 that's -- because that's infrastructure. I think we have to

1 start thinking about these local entities as infrastructure
2 because we can't -- you know, we can't get the investment to
3 the projects without that, at least not optimally.

4 So definitely a lot of food for thought there. I'm
5 really hoping we can memorialize this conversation, you
6 know, in some way in the IEPR and really sort of elevate
7 this. You know we've heard this integrated -- at least three
8 reports I'm familiar with. You know, CLEE did a report on
9 multi-family, that some of us participated in, the CLIMB
10 multi-family report that our staff did at the Energy
11 Commission. I mean also the various iterations of the
12 Existing Building Action Plan and the SB350 doubling, you
13 know, they have all pointed towards this need for
14 integration. And I think, you know, it just -- we have made
15 some progress, I think. But it is a challenging thing to do.
16 We need to figure out better and quicker ways to do that.

17 I guess with that, you know, Mark, your last
18 comment about the need for kind of the integrated financing
19 I think was maybe a good setup for Derek Chernow.

20 If you want to -- Derek, if you have any questions
21 on the financing front, I think, you know, we're hearing
22 sort of public -- we definitely need some subsidy, we need
23 some public policy, we need some pushing into these
24 communities to really make it happen. But we also need
25 access to private capital in order to really get to the big

1 numbers. So I think -- you know, CAEATFA obviously is in a
2 great position to help that happen. So I just wanted to call
3 out your agency.

4 MR. CHERNOW: Yeah, thank you. I appreciate that.
5 And, you know, I want to make sure that we leave some time
6 for participants to raise their hand if they have any
7 questions. But as we look to financing for some of these
8 measures, a question that I have of our terrific presenters
9 is: Are you finding any particular energy-efficiency
10 measures in residential, multi-family, small business? Are
11 they -- are you finding any prevalence or preference for
12 some particular measures versus others?

13 MS. SOLIS: Yeah, I can start. I think one thing
14 that we have learned, but it was actually expected, is that
15 there are certain measures or offerings that residents are
16 really excited about and others that they're less excited
17 about.

18 So, for example, if they currently have a swamp
19 cooler or they have an old wall furnace or wall heating,
20 they're excited to switch that out for a heat pump water
21 heater or a more energy efficient, you know, household-wide
22 cooling system.

23 And sometimes they are less excited about swapping
24 out their -- their gas stove, right, because they want to be
25 able to cook on an open flame. And convincing them that they

1 -- that this new, more-efficient, all electric stove can
2 cook just as well a huge pot of beans and rice, or whatever
3 you're wanting to cook, that is where we get the resistance,
4 is that there are -- I think people just don't have the
5 experience. But I think what we have tried to do is provide
6 opportunities to people to have firsthand experience, so
7 bring the appliances out to the community, perhaps do a
8 demo, a cooking demonstration on the appliance, to give them
9 an opportunity to see that, you know, these new appliances
10 may be a little different but they can work just as well.

11 MS. CHEN: And I think, you know, in MCE's
12 experience with the LIFT Pilot, the needs have been really
13 uniquely tailored to the needs of that particular building,
14 maybe the needs of the community surrounding that building,
15 so I'm not sure if there is really a sort of universal
16 answer to that question because everybody's got different
17 needs. And so I think we really need to design -- that's a
18 call for us to design programs that are flexible enough to
19 meet folks where they're at.

20 What we have seen, LIFT offers some flexibility in
21 terms of the way that properties can use their energy-
22 efficiency allotment. And folks are overwhelmingly
23 interested in using that to help support measures that are
24 not supported by other programs. So if we think about like
25 putting together sort of a patchwork quilt of funding that

1 is needed to support particularly programs -- or projects
2 that are focused on low-income properties and low-income
3 customers, it's really about how can I get the most bang for
4 my incentive buck and any bucks that I might have to pay out
5 of pocket. So I think it goes back to just the need to be
6 able to financially support all of the things that a
7 property might need.

8 DR. COOPER: For me the question is, and you may be
9 the right one to ask, do financial institutions recognize
10 utility costs in the way they calculate what a person will
11 be eligible for in terms of borrowing, you know, against a
12 loan or rental, right? So that's the fundamental question.
13 And it may be different in California, but generally they do
14 not. They look at the mortgage and they say here's the rent,
15 and that's what qualifies you. But on top of the rent is a
16 20-percent utility bill. And if that bill is ten percent,
17 why the heck didn't they let you buy more house. Because
18 once they start to let people buy more houses that are more
19 efficient, the builders are going to suddenly discover,
20 'Wait a minute, I can't put crap in there to burn energy
21 because I'm not going to -- mine's going to be the last
22 house sold or the last house rented.' So to me that's the
23 question, is can I -- I ought to be able to penetrate into
24 that fundamental financial institution at this stage
25 because, as Andrew said, everyone understands what's about

1 to happen. The banks ought to be upfront and say, 'Wait a
2 minute, we need to get ready for the future,' and that means
3 reflect this in the interests -- but, I don't know, it may
4 be the case in California that they do take it into account.
5 Nationwide, they don't.

6 COMMISSIONER MCALLISTER: So I want to just mention
7 or you mentioned, I think this kind of idea of benchmarking
8 some kind of performance assessment and comparing buildings
9 and being able to value the high-performing ones. We've
10 taken a step in this direction. We have a commercial and
11 multi-family benchmarking program that covers large
12 buildings, 50,000 square feet and up. We want to bring that
13 down to 20,000, 10,000, so that we do have comprehensive
14 benchmarking happening in many of the buildings we're
15 talking about, so that then that would feed -- you know,
16 that would be some objective measure that would then feed a
17 performance-based program, like the one that you're
18 referring to. I think that's really where we are headed, you
19 know, one way or another in California, certainly. But
20 single-family residences gets a little harder to do that
21 with because the tools are a little bit harder.

22 But I did want to point out that we haven't had
23 any Zoom or public comment raised hands yet, so we can
24 continue from the dais, which I'm happy to do. I just wanted
25 to invite the attendees if you do have a comment or a

1 question, raise your hand and let us know so we can call on
2 you.

3 I had one final -- well, I have a bunch of
4 questions, but the one that I wanted to make sure to ask was
5 really -- it's also relevant for the workforce discussion
6 that we're having tomorrow, but in terms of the contractors,
7 you know the people actually touching the buildings and
8 doing projects, I wonder if any of you have observations
9 about -- I think it was mentioned along the way that finding
10 qualified contractors can be challenge. But I want to -- I
11 mean I think that it's important to, you know, make sure
12 that people from those communities we're talking about, just
13 like the promoters and the kind of program implementation
14 models that I think we're talking about mostly here that --
15 being localized, well, the contractor base too seems like --
16 I guess it's a potential barrier to have some contractor
17 from outside the community coming in and sort of hammering a
18 project out and then leaving. I'm wondering if you have any
19 observations, any of our panelists have observations about -
20 - about the workforce elements of this and the benefits, the
21 various benefits of having contractors that are from the
22 actual communities where these residents and buildings
23 actually are and how much you're actually seeing that to be
24 the case in reality so far?

25 MS. SOLIS: Sure. You know this is a really

1 important topic, Commissioner, because at least for the San
2 Joaquin Valley, we have to remember that we're working with
3 small communities. And many times these communities have,
4 you know, a hundred to two hundred households. That is it,
5 right. And so for these 12 pilot projects, pilot communities
6 that we're working in, if you take the total sum of all of
7 the population of these communities, it could be still
8 smaller than a small city.

9 So it's really unrealistic to think that, you
10 know, we'll find a person that's interested and that will
11 only work in their community. So I think we have to allow
12 for some flexibility, that perhaps if we hire somebody from
13 a disadvantaged community in the San Joaquin Valley that
14 they're allowed to work throughout the San Joaquin Valley
15 region, understanding that the amount of work is really
16 limited in these smaller communities. So I think that's
17 important.

18 Currently we have seen that there is not a lot of
19 opportunity to engage with these small communities, so we do
20 have to work on the way that we outreach and market these
21 opportunities for workforce training and then also be
22 creative with how we let people get to these trainings.
23 Because these communities are so rural, we have seen that it
24 is absolutely critical that in the training component there
25 comes some sort of stipend for travel or rides to get to

1 these educational training opportunities, because it's not
2 like the big city where you can take the bus or public
3 transit. It really is something that can be 20, 30, maybe
4 even 40 miles away every day. And that has -- that's a huge
5 barrier for participating in any type of training program.
6 We need to consider that as well as provide funding for
7 those that are interested to be able to cover those costs.

8 MS. CHEN: And I think that there is an analogy
9 here to the point that Abigail has been making about the
10 importance of community organizations as trusted messengers
11 and trusted connectors in this space, and I think the same
12 goes for contractors.

13 You know oftentimes the property that participated
14 in LIFT already have their go-to contractors that they know
15 and they trust and that know their property. And so rather
16 than expecting that owner to build a new relationship from
17 scratch with a different contractor that is more well versed
18 in, say, electrification technologies, if we can empower the
19 contractor base more broadly to become -- become skilled and
20 confident with these technologies, and become those trusted
21 messengers, then they'll be able to work with the properties
22 that they already have relationships with.

23 And I think to Abigail's point, that trust and
24 sort of the geographic scope of how that trust works is
25 going to be different across different communities. You know

1 it may be that a contractor from 40 miles away, 50 miles
2 away in a more rural area is that local contractor, right,
3 because the population centers are so small. And that's --
4 and that's going to be a completely different proposition in
5 an urban area, right?

6 So I think that along the same lines as the
7 comment earlier about really thinking about our CBO partners
8 as infrastructure, that we need to invest in in order to
9 achieve these goals, absolutely the same is true for
10 workforce and contractor base.

11 MS. SOLIS: I do want to add one thing I forgot to
12 mention earlier, the critical need for multiple contractors.
13 In the SJV Pilots what we are seeing is that even though
14 there are four project administrators, the project
15 implementors are only two, and of those two, one is doing
16 about 80 percent of the communities, which is really
17 resulting in a sort of a lack of staffing as to be able to
18 cover all of the work that's necessary, or perhaps the work
19 is done at a slower pace because it's one -- you know, one
20 company that has to use just their existing staff. And not
21 all companies are willing to staff up. So in this pilot's
22 model it would have been, in my opinion, more efficient to
23 have many more implementers available to do the work and
24 perhaps move the pilots along faster than the current
25 situation where we really are relying on one implementer to

1 do all the work -- most of the work.

2 MR. CHERNOW: And, Commissioner, if I may just jump
3 in real quick,

4 COMMISSIONER MCALLISTER: Please.

5 MR. CHERNOW: -- I think one of the -- to kind of
6 plug our consumer-facing website for our energy-efficiency
7 programs, which is GoGreenFinancing.com, one of the
8 attractive parts of that website is the opportunity to find
9 a contractor, so you could either look by county, touching
10 on Stephanie and Abigail's comments about having somebody
11 local is key and that trust factor, so you can search by
12 county, you can search by service type, and it's all
13 transparent and available on our GoGreenFinancing website.

14 COMMISSIONER MCALLISTER: Thank you for that.
15 That's super helpful.

16 I wanted to just -- so I think we -- it looks like
17 we do not have any Zoom comments. I want to just encourage
18 people to ask questions if they have them, but one more -- I
19 think I'm going to stop there and -- yeah.

20 MS. RAITT: Commissioner Gunda has a question, I
21 believe.

22 COMMISSIONER MCALLISTER: Yeah, go ahead. Oh, I'm
23 sorry, Commissioner Gunda. Oh, I see your hand up. Sorry
24 about that.

25 COMMISSIONER GUNDA: It's all good. No, no, I mean

1 I'm so grateful for the discussion, Commissioner McAllister.
2 I think you were raising some excellent, extremely important
3 points. And I'm glad this conversation is happening and I
4 think you had raised -- many of you have mentioned the word
5 integrated and interconnectedness in so many forums now. So
6 this is kind of becoming the same kind of thing.

7 So I think one kind of a notion that I'm hearing
8 that I want to state and just get confirmation from and
9 specifically Stephanie and Abigail on this is we talked
10 about the idea of de-siloing, right, the overarching kind of
11 work we are doing here and provide for more
12 comprehensiveness and interconnectedness here. So I just
13 wanted to get thoughts on, you know, like ten years ago when
14 we were really thinking about the ESCO model, right, and we
15 were thinking about comprehensive retrofit packages for
16 buildings, existing buildings. And SMUD was like, you know,
17 coming out with some of the most comprehensive way of
18 auditing buildings and structuring programs, incentive
19 programs for comprehensive retrofits and not just, you know,
20 doing direct installs that are a one-stop shop. Here are
21 like seven measures, check, check, check.

22 So I think, you know, we are now moving into
23 beyond the retrofit measures just on the efficiency side,
24 potentially coupling with that the renewable integration
25 side as well as air quality issues, so now we are kind of

1 going into efficiency, decarbonization, health impacts, you
2 know, so the whole thing. So what I recalled from the past
3 was one of the difficulties that the ESSCOs had on this from
4 a pure business model is kind of a dime, you have to count
5 dimes in making sure that business model works in the
6 marketplace.

7 And so, you know, as with most of the work we do,
8 the dimes kind of fall shorter and shorter in the bell
9 curves in the extremes and then we leave a huge number of
10 the population. So I hear this notion for comprehensiveness,
11 hear this notion for funding. If both of you can just
12 confirm that, you know, in order to really develop these
13 programs, you need a comprehensive funding entity that takes
14 all of these things together into one bundle. And they might
15 be more expensive than scaled stuff, but it is important. If
16 you could just, you know, make sure that you say, yes, that
17 is it for counting, that will be great.

18 MS. CHEN: Yeah, absolutely. And I would venture
19 to say that it may not even be more expensive to do it in a
20 comprehensive fashion because right now some of the
21 administrative costs of working silo by silo by silo really
22 add up and get duplicative. And so if there is sort of one
23 more universal entity or one more universal funding option
24 that programs could work with, that might significantly
25 reduce some of the administrative cost, which will help

1 deliver programs more efficiently and more effectively. So I
2 agree and would say that it may actually prove to be less
3 costly to do things comprehensively.

4 MS. SOLIS: Yeah, I definitely agree with Stephanie
5 that it may be less costly. And, yes, Commissioner, that is
6 exactly what I am saying. And in addition to just the
7 efficiency or the ease of having, you know, one source of
8 funding, I think there's also other potential benefits that
9 can come from having one source, and that's that we must
10 remember that the reality on the ground to accomplish real
11 infrastructure upgrade projects is a process. It starts from
12 needs assessments, planning, outreach, talking to residents,
13 seeing what they're interested in doing, because of course
14 any project that we do in a community, we want to make sure
15 that there is community buy-in and community support for the
16 project.

17 What we've seen before is that's what's called the
18 planning or the preplanning stage. And then you usually have
19 to, you know, submit an additional application for actual
20 project construction and doing the project, so the
21 implementation funds. So there could also be another pot of
22 funding for the research and reporting side of it. So a lot
23 of times there's a lot of extra paperwork and a lot of extra
24 applications that take place when perhaps, like this one
25 portal, we can track what stage a community is in. You know,

1 this stage has not had any planning, they need to do a needs
2 assessment and start there to see what they qualify for.
3 Perhaps we have a community that's already done that and
4 they're ready to apply for funding, you know, for actual
5 infrastructure or actual projects. So I think that this --
6 this source of just getting everything together can have
7 multiple benefits aside from the ease of funding.

8 DR. COOPER: One observation: Infrastructure never
9 passes a market test, and that's -- that's a challenge. But
10 we would like with infrastructure is so that these
11 comprehensive programs are not intended to pass a market
12 test at the beginning, but what we'd like them to tell me is
13 on what is a time path on which pieces of this can be given
14 to the market, into building the workforce, you're not going
15 to do by simply waiting for people to come and hire folks.
16 You're going to have to train them, etc. That's not a market
17 test. But at some point you should be willing to say, look,
18 we have a trained workforce in this area and now we think
19 they should go out and they should be able to pass a market
20 test. So it's really important to understand that.

21 In the early days, it is a social project. We're
22 going to fund it because we know it's good for us. We think
23 it's good in the long term. And we're also going to tell
24 people: Tell me when you're going to be able to give up the
25 funding. And if they can look you in the eye and say, 'Look,

1 I think based on this experience x number of years, the
2 infrastructure will be in place, and the piece parts -- and
3 that's what's happened into a lot of American
4 infrastructure. It is people have competed for bits and
5 pieces of it, and the question is we have forgotten that,
6 wait, we need to keep that infrastructure up because
7 everyone is supposed to depend on that. So I would suggest
8 to think about that time scale when people cannot require
9 the subsidy. And it will be, you know, my grandkids maybe,
10 but that's okay too. We still have infrastructure that has
11 been around for, you know, a hundred years.

12 COMMISSIONER GUNDA: Thank you so much for that,
13 the three of you. I think, you know, like your engagement on
14 this and the broader public engagement is really what makes
15 this process so useful. When I think, you know, as
16 Commissioner McAllister noted, the IEPR is a forum to really
17 help ideas and bring options together. And kind of I think
18 this is -- you know, to me it's kind of a great plug for us
19 to think about potentially -- if we hadn't already done it -
20 - potentially a funding situation where we test out a couple
21 pilots of this comprehensive projects, to see how they can
22 be done, the barriers and how can we systemize and scale
23 them in the long run. So I'm really grateful to the three of
24 you. Thank you for your comments.

25 COMMISSIONER MCALLISTER: Great. Thank you,

1 Commissioner Gunda.

2 We do have one question from the public.

3 MS. SOLIS: Commissioner, I'm sorry.

4 COMMISSIONER MCALLISTER: Oh, go ahead.

5 MS. SOLIS: I wanted to add one thing that hasn't
6 been brought up. I know that this conversation has really
7 been focused on decarbonization and buildings, but one last
8 final benefit that can come from this integrated source of
9 funds is that we often have communities that would like to
10 apply for funding for solar panels to offset the price of a
11 waste water system that they're constructing or perhaps,
12 say, a drinking water system that wants to augment some of
13 the costs with a renewable energy component. Right now again
14 that is very separated and siloed. And I think there is an
15 opportunity and a huge need to be able to -- to go to one
16 source and apply for funding for those types of projects
17 that are more community wide, still ultimately affect the
18 bottom line in household energy costs, so just wanted to add
19 that there is a need for those types of projects as well.

20 COMMISSIONER MCALLISTER: Great. Thank you so
21 much.

22 It looks like we have a couple of questions in the
23 Q&A from Jackie Baum and from Alice Sung. Do you want to,
24 Heather or Kristy, do you want to tee those up?

25 MS. RAITT: Sure.

1 Kristy, do you want to go ahead?

2 MS. CHEW: Yes. I thought we're going to open
3 Jackie's line. Is that a possibility?

4 COMMISSIONER MCALLISTER: Oh, great. Please go
5 ahead.

6 MS. KRAVITZ: Jackie, your line is open.

7 MS. BAUM: Hello? Hi.

8 COMMISSIONER MCALLISTER: Yeah, go ahead.

9 MS. BAUM: Hi. So my name is Jackie Baum. I'm a
10 California energy intern at EDF. I'm just interested in
11 hearing more about how the various government energy
12 efficiency and renewable energy programs and incentives will
13 be or could be consolidated and put into one funding source,
14 as you have mentioned, to make them less siloed and more
15 user friendly. And I was just wondering how you believe that
16 that could happen, what that would look like, what
17 legislative processes that might require. Yeah, that's my
18 question. Thank you.

19 COMMISSIONER MCALLISTER: Thanks for that. So
20 there is actually a record on this already and there's been
21 some progress. And certainly in the multi-family space, you
22 know, the one-stop shop was something highlighted I think in
23 the original barriers study under SB350 and then a few other
24 reports at the Energy Commission and the PUC.

25 One way that that has played out is at CSD,

1 actually they do a pretty good job of bringing in multiple
2 pots of funding, both federal and state. They have used some
3 carbon funds to implement comprehensive upgrades of existing
4 multi-family buildings, for example. I think that model has
5 a lot of promise. And I think the Public Utilities
6 Commission, you know, their programs are funded by ratepayer
7 funds, and those kind of inherently do come with some
8 guidelines and some, you know, strings attached or some
9 hurdles they have to get over, but they are actively looking
10 at these issues as well as to the role of ratepayer funds.

11 But I think California does have a number of pots
12 of funding. And, you know, I think we should explore how
13 those could sort of be integrated at the highest level. You
14 know, sort of, okay, one pot funding that then, as I think
15 our speakers are referring to, but also I think there is a
16 programmatic level that they can be kind of made to
17 integrate practically for the user of those funds at the
18 project level. There are some facilitators who are showing
19 some success there as well.

20 So I think this is something that definitely has
21 to be subject to additional conversation and hopefully
22 through the DACAG and through the IEPR process and through
23 our building decarbonization work going forward under
24 AB3232, we can -- we can flesh out the possibilities here.

25 And I think, anyway, it's a work in progress but

1 that definitely is on the radar as to how we integrate.

2 MS. CHEN: And if I --

3 COMMISSIONER MCALLISTER: We may -- yeah, go ahead
4 -- I just want to highlight the federal -- you know, if
5 indeed we do get some significant federal infrastructure
6 money, that could really help juice this discussion, because
7 that -- in the ARRA period I think we understood -- you know
8 those of you who were around during the Reinvestment
9 Recovery Act, there was a lot of money flowing to localities
10 and it wasn't always that well-coordinated at the ground. I
11 think a lot of lessons came out of that. And so this time
12 there is a real interest at all levels of government to kind
13 of do better this time around and really present an
14 integrated face to projects. So I think that will look --
15 hopefully we have that luxury to be able to channel some
16 funds and, you know, through that pipe.

17 MS. CHEN: And I will add that as we're thinking
18 about integrating funding sources, it's also going to be
19 important to think about the way that program guidelines,
20 program participation guidelines align or don't align. I
21 think most of the -- most of the programs that we try to
22 incorporate into -- into one single project under LIFT all
23 have different income-qualifying guidelines, which presents
24 an administrative challenge in terms of being able to
25 coordinate those programs. But zooming out to perhaps a more

1 philosophical level, all of these income guidelines
2 basically imply that if you are under the income threshold,
3 you are in need, and if you are above the income threshold,
4 you are fine. And that latter part is not the case at all.
5 So I think that perhaps something along the lines of what we
6 have for electric vehicle incentives, where we have more of
7 a sliding scale of incentives according to need rather than
8 this binary you are low income or you're not low income may
9 also work better to help align the available funding with
10 the needs of properties.

11 Particularly in multi-family properties, it's
12 fairly hard in a lot of communities to find a property where
13 all of the tenants or even 80 percent of the tenants meet
14 that 200 percent of federal poverty level. And if we have a
15 more sliding scale, I think that that would help the program
16 participation rules track more with sort of the reality of
17 where people live and how people --

18 COMMISSIONER MCALLISTER: That's a great, great
19 point. Middle income in California does not necessarily mean
20 that you have lots of disposable income to invest in your
21 building. So I think that's - that point is very much taken
22 for the IEPR.

23 So I'm going to take this discussion as having
24 answered Alice Sung's question as well.

25 Alice, thank you so much for that.

1 And I wanted to -- we're going to run out of time
2 here, I wanted to make sure that we open for public comment.
3 And, Heather and Kristy, can you help us do that.

4 MS. RAITT: Yes. Thank you, Commissioner.

5 So Dorothy Murimi is here from the Public
6 Advisor's Office to help with public comment.

7 Go ahead, Dorothy.

8 MS. MURIMI: Thank you, Heather.

9 I will go over instructions before we begin . One
10 person per organization may comment, and comments are
11 limited to three minutes per speaker. If there are several
12 parties interested in commenting, we will reduce the time to
13 one and a half minutes per speaker.

14 If you're using the online Zoom platform, use the
15 raised-hand feature, it looks like a high five, to let us
16 know if you'd like to make a comment. We will call on you
17 and open your line to make comments.

18 For those of you on the phone, dial star 9 to
19 raise your hand and star 6 to unmute on your end, and we'll
20 unmute from our end.

21 So first I will call on folks using the raised-
22 hand feature on Zoom.

23 Let's see, I see Alice Sung, your line is still --
24 your hand is still up. Go ahead and unmute. And if you do
25 have additional comments, go ahead and make your comment.

1 MS. SUNG: Thank you so much. Just wanted to thank
2 again the Commissioners and the panelists for this
3 opportunity to discuss some great topics of importance. And
4 I just am wondering if we could hear -- I don't know if we
5 have time to respond -- whether or not it is possible that
6 the CEC could be moving towards a lot of the suggestions
7 that have been talking about bringing down the barriers,
8 making a comprehensive programmatic approach available,
9 making sure that equity is built into the funding and
10 financing mechanisms, and that we actually meet people where
11 they're at at a local level and make sure that inequities
12 and disparities in health and other safety benefits do
13 actually benefit those most impacted.

14 But I would take that one step further and say how
15 close is the CEC to actually also, in concert with looking
16 at this comprehensively, rates and rate reform to align with
17 better electrification promotion? And particularly
18 concerning is the IOU proposal on the table for the NEM 3.0
19 at the CPUC?

20 Maybe you can just respond in my one and a half or
21 two minutes left, if that's possible. It would be great to
22 see that comprehensive program discussed in the IEPR as well
23 as rate reform. And I'll let it go at that for now. Is it
24 possible to get response?

25 COMMISSIONER MCALLISTER: Okay. Thanks very much,

1 Alice. I'll just briefly, you know we do not do ratemaking
2 at the Energy Commission, so --

3 MS. SUNG: Right.

4 COMMISSIONER MCALLISTER: -- we do -- and we
5 partner -- we partner on any number of issues with the
6 Public Utilities Commission and the CAISO, you know, now
7 more than ever given the reliability challenges that
8 Commissioner Gunda is overseeing together with the other
9 agencies. And within this IEPR actually we're also doing a
10 lot of reliability work. So, you know, your point is taken
11 for sure, and rates are very important. I think the Energy
12 Commission has long, long promoted more time-responsive
13 rates. We're doing on load flexibility, which hasn't really
14 come up too much today, but certainly is very much in the
15 mix. So we're really we have a partnership with the PUC to
16 support them and really take -- obviously ratemaking is a
17 very, very multi-faceted endeavor. And certainly we want to
18 use it to support, as a state, use it to support our
19 decarbonization goals, so certainly that's something I think
20 all the -- all the commissions, including ARB, are focused
21 on, you know, aligning incentives for decarbonization. But
22 equity really has to be in the mix there as well. So,
23 anyway, a complicated discussion, but I really appreciate
24 your bringing it up.

25 MS. MURIMI: Thank you for --

1 COMMISSIONER MCALLISTER: Are there any other --
2 yeah, go ahead.

3 MS. MURIMI: Oh, no, pardon me, Commissioner
4 McAllister. I was just going to give final call for hands.
5 Again if you're on the phone, press star 9 to raise your
6 hand and star 6 to unmute from your end. And if you're on
7 Zoom, use the raised-hand feature, looks like a high five,
8 might be at the bottom of your screen. I'm going to give a
9 moment for that.

10 I see one more hand raised. Bruce Severance,
11 apologies if I misspoke on your name. Please unmute on your
12 end. And I'll unmute your line. And go ahead and give your
13 comment. Mr. Bruce Severance.

14 COMMISSIONER MCALLISTER: Go ahead, Bruce. We
15 can't hear you yet.

16 Bruce, you might be double muted.

17 MS. RAITT: Do we need to unmute his line?

18 MS. MURIMI: Yes, we need to unmute his line.

19 MR. SEVERANCE: Thank you. Can you hear me now?

20 COMMISSIONER MCALLISTER: There you go, Bruce.
21 Yeah.

22 MR. SEVERANCE: Yeah. Some of you may know, I
23 really argued hard for the equity piece of this for a long
24 time and worked on the Tariff On Bill electrification model
25 that became a subject of building decarbonization study on

1 this, and really support the notion of using accurately-
2 projected energy savings to serve as a form of loan security
3 for tariffs that can be applied to rental properties, where
4 the tenant -- neither the tenant nor the landlord have to be
5 prequalified for the loan.

6 And there is a pretty fascinating software
7 development in Zero Home that enables a drone to fly over an
8 entire city and perform preliminary energy modeling on up to
9 50,000 homes at a time and that has been piloted now in
10 about ten different cities across the state. And what this
11 enables is the ability to really look for opportunities
12 where the energy savings resulting from electrification are
13 high enough to create positive cash flows that are
14 sufficient enough to also pay the debt service on that loan.
15 So it isn't an unnecessary expenditure of incentive dollars
16 and you're leveraging opportunities to enable homes that
17 have those kinds of high energy-savings opportunities to be
18 fully funded based on those projected energy savings.

19 And this would unlock between five billion and
20 eight billion a year in private capital that could be
21 brought to the equation. So I would just ask everybody to
22 kind of consider that model. There is a study that's
23 available through the Building Decarbonization Coalition,
24 and Bruce Mast has kind of led that research and he is now
25 one of the co-administrators of the SB1477 funds.

1 One of the problems with this is that the IOUs are
2 so risk averse at the point where it gets to their legal
3 departments, they say, 'Absolutely not, we've got enough
4 risk with all the fires going on, we can't assume any
5 additional risk. We don't want to own equipment behind the
6 meter or be in a position to have to repossess equipment
7 behind the meter.' And what's needed I think to really break
8 the ice on this whole thing is some sort of a State-backed
9 loan guarantee that would free up this capital and allow
10 this new model to kind of take place.

11 And in our own estimations, we thought that half
12 of the population of the state could go cash positive and be
13 fully financed through this type of a program, if not more,
14 and there were some wildcards, including what happens with
15 solar. But I would ask that all of you kind of consider that
16 model and the opportunities to apply it.

17 COMMISSIONER MCALLISTER: Thanks, Bruce. Really
18 appreciate that comment.

19 And do we have any other public comment?

20 MS. MURIMI: Thanks, Commissioner McAllister. We
21 have no other public comments. I will hand the mic back to
22 you.

23 COMMISSIONER MCALLISTER: Great. Thank you so
24 much, Dorothy, appreciate that. And all the commenters.

25 We are at our stopping point. I do want to just

1 note actually to Alice's question, we do have some
2 discussion about rates this afternoon in our upcoming panel
3 on financing. Meredith Fowlie from U.C. Berkeley is going to
4 talk about designing electricity rates for an equitable
5 decarbonization transition, so. And a lot of knowledge in
6 the afternoon panel around finance. So stay tuned for that.

7 And then the 1477 program did not come up but
8 Bruce just mentioned it and that is actually -- it's
9 targeted new and existing construction to help transform the
10 heat pump marketplace. So that's one relatively small but
11 important effort along the lines we've been discussing this
12 morning.

13 So I want to just really thank everyone, the IEPR
14 team, Heather and Kristy and Dorothy, and the whole team
15 behind this workshop, which is a large one, and I just want
16 to acknowledge the professionalism that you and your team
17 bring to organizing all the workshops in the IEPR, including
18 this one.

19 And our speakers, thank you so, so much to
20 Carmelita and Stephanie and Mark and Abigail, really
21 appreciate your insights. Tremendous, tremendous stuff. And
22 we're looking forward to working with all of you going
23 forward. As we actually write the IEPR document and make
24 sure that we're highlighting faithfully the discussion and
25 pointing the direction forward, this is a document, all the

1 topics in the IEPR get a lot of play. They go to the
2 Legislature and it generates a lot of ideas and activities,
3 generally, to try to get our solutions in place to these
4 long-term challenges that we have, so I want to really
5 appreciate your bringing your insight to all this.

6 And, with that, I think we'll sign off for the
7 morning and we'll see you all at 1:30.

8 Heather, any -- do you want to let people know
9 when to submit comments, and that sort of thing?

10 MS. RAITT: Sure.

11 The written comments are due July 27th. And just a
12 reminder that we're going to have a different Zoom login for
13 the afternoon. So back at 1:30.

14 COMMISSIONER MCALLISTER: Great. All right, well,
15 thanks, everyone. Really appreciate it. Take care.

16 MS. RAITT: Thank you.

17 COMMISSIONER MCALLISTER: All right. Bye-bye.

18 (Whereupon, the Workshop was adjourned at 12:32 o'clock
19 p.m.)

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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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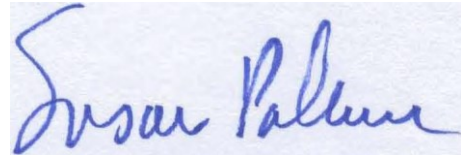
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IN WITNESS WHEREOF, I have hereunto set my hand this 1st day of October, 2021.



Susan Palmer
Certified Reporter
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