

DOCKETED

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BUSINESS MEETING

BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:)
) 21-BUSMTG-01
Business Meeting)
 _____)

REMOTE ACCESS ONLY

The California Energy Commission's (CEC) February 10, 2021 Business Meeting will be held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage physical distancing to slow the spread of COVID-19. The public may participate consistent with the direction in these Executive Orders.

Pursuant to California Code of Regulations Title 20 section 1104(e), any person may make oral comment on any agenda item. To ensure the orderly conduct of business, such comments will be limited to three minutes or less per person. Any person wishing to comment on information items or reports (non-voting items) shall speak during the general public comment portion of the meeting and have three minutes or less to address all remaining comments.

WEDNESDAY, FEBRUARY 10, 2021

10:00 A.M.

Reported by:
 Marth Nelson

APPEARANCES

Commissioners (Via Remote)

David Hochschild, Chair
Karen Douglas
Andrew McAllister
Patricia Monahan
Siva Gunda

Staff Present: (Via Remote)

Drew Bohan, Executive Director
Darcie Houck, Chief Counsel
Courtney Smith, Chief Deputy Director of Programs
Noemi Gallardo, Public Advisor
Matt Chalmers, Chief Counsel's Office
Cody Goldthrite, Secretariat

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b. Pursuant to Government Code sections 11126 (a) and (e), the CEC may also discuss any judicial or administrative proceeding that was formally initiated after this agenda was published; or determine whether facts and circumstances exist that warrant the initiation of litigation, or that constitute a significant exposure to litigation against the CEC, which might include personnel matters.	
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1 P R O C E E D I N G S

2 FEBRUARY 10, 2021

10:02 a.m.

3 CHAIR HOCHSCHILD: Welcome, good morning. And
4 everyone, thank you for joining and welcome to our February
5 business meeting. And we have a lot to celebrate early in
6 the meeting here and we'll get into that in a moment. But
7 first let's begin if we could, with the Pledge of
8 Allegiance. Commissioner Douglas, would you be willing to
9 say the Pledge?

10 COMMISSIONER DOUGLAS: Absolutely, here we go.

11 (Whereupon the Pledge of Allegiance is recited.)

12 CHAIR HOCHSCHILD: Thank you, Commissioner.

13 Again, we have over 3 million cases of COVID-19
14 in California and that number is still climbing, so asking
15 everyone to continue to wear a mask when in public and wash
16 your hands, keep your distance. For more information visit
17 covid19ca.gov.

18 Oh, and by the way there's another development
19 regarding the pandemic, which is a tool created by Governor
20 Newsom called My Turn. It's a website where you can be
21 notified when you're eligible to get vaccinated. And to
22 schedule your vaccination appointments in that website is
23 myturn.ca.gov.

24 So today's business meeting is being held
25 remotely without a physical location for any participant

1 consistent with Executive Orders N-2528 and N-2920, and the
2 recommendations from the California Department of Public
3 Health, to encourage social distancing in order to slow the
4 spread of COVID-19.

5 The public may participate or observe the meeting
6 consistent with the direction of these executive orders.
7 Instructions for remote participation can be found in the
8 notice for this meeting, as set forth on the agenda posted
9 to the Commission's website link for the business meeting.

10 We're using a combination of Zoom and Verizon for
11 remote access. If Zoom shuts down today we'll continue
12 this meeting on the Verizon phone line. Call 1-888-823-
13 5065. And the pass code is "business being."

14 The Commission values public participation and
15 stakeholder engagement pursuant to California Code of
16 Regulations Title 20 Section 1104(e). Any person may make
17 oral comments on any agenda item.

18 To ensure the orderly conduct of business such
19 comments will be limited to three minutes or less per
20 person as to each item listed on the agenda that has voted
21 on today. Any person wishing to make comments on
22 information items or reports, which are non-voting items
23 shall reserve their comment for the general public comment
24 portion of the meeting agenda. And shall have three
25 minutes or less total to state all remaining comments.

1 Before turning to the agenda items, I'd like to
2 introduce a new -- actually before we get on further, let
3 me actually begin if we could with these two remarkable new
4 Commissioners.

5 So yesterday we had some very big news. The
6 Governor appointed Siva Gunda to be a Commissioner at the
7 Energy Commission. I had the pleasure of swearing him in
8 this morning. And appointed Darcie Houck, our tremendous
9 Chief Counsel, to be a Commissioner at the Public Utilities
10 Commission. And I wanted to begin with a few words about
11 each of them and then turn to my fellow Commissioners for
12 comments.

13 I just want to remark, though, first, that it is
14 virtually unprecedented for a Governor to select a member
15 of agency staff to become a Commissioner. I think in the
16 entire 45-year history of the Energy Commission that's only
17 happened once before. And for it to happen two times in
18 one day is both an incredible validation of the unique
19 tremendous talents of Siva and Darcie, as well as a
20 validation of what we're all doing here together at the
21 Energy Commission. The Governor saw what we get to see
22 every day, which is we have an incredibly talented team.

23 I have very, very high hopes for both of you. I
24 believe both of you are uniquely talented, committed,
25 passionate, capable, collaborative people. And the

1 challenges that we face are colossal. We all know that,
2 but the way we overcome those is by working as a team and
3 being relentless. And bringing that creativity and smarts
4 and sound judgment and just common decency in heart that
5 that you both have.

6 So Siva to you, first welcome Commissioner Gunda.
7 You're going to get used to hearing that a lot. And I just
8 want you to know that the Governor doesn't make mistakes on
9 these things, okay? This is fully deserved. It's
10 something you've earned. And we're really thrilled to
11 welcome you as a colleague.

12 And I believe in a week or so we'll have
13 Commissioner Houck be sworn into the PUC. And the same
14 goes for you, Darcie. Just this is something that you
15 deserve, that you've earned. That you are really built to
16 do this job. So, I'm really excited as well, because the
17 collaboration between the PUC and the Energy Commission is
18 so fundamental to our success.

19 And so, knowing the strong bond the two of you
20 have with each other, is yet another reason why we should
21 all be excited. But with that, let me just turn it over to
22 my colleagues for comments. Maybe beginning with
23 Commissioner McAllister.

24 BOARD MEMBER MCALLISTER: Great, well thanks.
25 What a difference a day makes. Yeah, it's hard to build on

1 what you just said, because it all just rings so true. And
2 it is fundamentally true, so. But I have been really lucky
3 to work with both Siva and Darcie. And I'll go in order,
4 and I really think I'll have maybe a little more personal
5 perspective on Siva, just because we've worked so closely
6 together the whole time. Actually, since before you came
7 to the Commission, and certainly since you've come to the
8 Commission.

9 And just watching your native ability to tune
10 into a situation and make it better is just tremendous.
11 And apart from technical skills and sort of the substance
12 subject matter, which you also have in spades, I think that
13 team building and that kind of consensus building skill is
14 really fundamental to your success. And what we need in
15 California.

16 And so, you and I have also been through somewhat
17 similar personal experiences at a very, you know, sort of a
18 deeply affecting level with our core relationships. And I
19 feel like that's a sort of a core commonality that we have
20 that's given our personal bond a particular strength. And
21 so I couldn't be happier for you and for the Commission and
22 for California.

23 And you know, working with you as I oversaw EAD
24 and now as I pass that mantle essentially to you I think
25 it'll be really strong partnership. In particular the top

1 to bottom energy planning that we're doing in this state is
2 really across those two divisions, the Assessments Division
3 and Efficiency Division and Buildings. And so you know
4 there's just a really -- there's a lot to build on and I
5 couldn't be happier with this foundation that we've got
6 with you coming on board.

7 And I guess I'll finally just wrap up. I'm a
8 little bit at a loss for words, which as you guys know it's
9 not often that happens to me. But Chair, you said it, just
10 kind of the heart and doing things for the right reasons
11 and doing your best. And that in and of itself as a
12 guiding principle is something that you manifest all the
13 time. And that centeredness, that balance, that personal
14 commitment, people feel that. We all feel it. And we know
15 you bring that to the Commission and it's only -- it's all
16 for the good. So welcome and I'm really looking forward to
17 working with you, Siva.

18 And then Darcie, I almost forgot. Yeah, it's
19 been what a pleasure to work with you since you came to the
20 Commission. I wish we could have had you for longer. And
21 really as an intellect and a legal mind, you've just been
22 amazing, incredible. And we're a little bit - it's
23 bittersweet that you're taking all those skills over to the
24 PUC. But we will still benefit from the relationship with
25 you over there. And I'm sure, you know, very good things

1 will come from that as well.

2 You're, and in both cases really, just the
3 representation of our state in terms of its diversity and
4 its willingness to accept anyone who is willing to
5 contribute. I mean, that happened to me as an immigrant to
6 California. But as a true immigrant, Siva, and Darcie as a
7 native person I just couldn't be prouder of our state for
8 sending those messages that that is fundamentally important
9 to who we are as a state. And it makes our decision making
10 better.

11 So, Darcie, all the best luck. Hopefully you'll
12 be working at the Commissioner for the week until you get
13 sworn in. So anyway, I'll leave it there, but I'm just
14 really happy for both of you and congratulations. It's
15 totally deserved.

16 CHAIR HOCHSCHILD: Well said, Commissioner.

17 Let's go to Commission Douglas next.

18 COMMISSIONER DOUGLAS: All right, well I want to
19 first join in all the comments that have been made by the
20 Chair and Commission McAllister, because it's absolutely
21 right. I couldn't be happier when I learned who was being
22 appointed. Well, for Siva I couldn't have been happier.
23 For Darcie, I had moments of ambivalence. But I'm really
24 proud of her and her appointment to the PUC. And just so
25 happy that we have had the benefit of having Darcie here as

15

1 long as we have even though we would have liked longer.

2 But I know she's going to do just great work at the PUC.

3 Siva, you're amazing. You've been so fun to work
4 with. I think in addition to everything Commissioner
5 McAllister said, you know, just you're so grounded. You're
6 so just human and strong in relationships.

7 But one of the things I've most enjoyed about
8 working with Siva in his role is that even when he has a
9 specific division to run and a specific set of mandates or
10 jobs to do, he's always looking at the big picture. I mean
11 Siva was one of the people who we could just talk to about
12 how different issues related to other issues and the big
13 picture. And so I think that's part of what he brings
14 that's so important to us, is not only the really detailed
15 knowledge of EAD and electricity systems and analysis, but
16 that ability to relate it to policy. And to the direction
17 we're going into the mandate of the Energy Commission,
18 which is in a lot of ways a balancing mandate. It's
19 reliability. It's environment. It's the shift to clean
20 energy. It's getting all of this to work, and so it really
21 requires understanding how the different pieces fit
22 together. And I think Siva's really very well prepared to
23 step in and help us do that.

24 So, Darcie, you're going to be great at the CPUC.
25 I mean it's so great, I talked to Darcie last night. I

1 just told her, you know, her knowledge. I mean coming in
2 to the CPUC as a Commissioner with her experience in both
3 the Energy Commission and the Public Utilities Commission
4 and her experience as an AlJ. And her knowledge of energy
5 and her passion and desire to do really strong work with
6 tribes. But also with a range of all Californians. It's
7 just really exciting.

8 And so congratulations and we'll be working with
9 you closely. I told her we'd give her - I'd give her about
10 a week to settle in and then we'll start asking for things.
11 But congratulations.

12 CHAIR HOCHSCHILD: Thank you, Commissioner.

13 Let's go to Commissioner Monahan next.

14 BOARD MEMBER MONAHAN: Well, very excited to
15 welcome Commissioner Gunda to the virtual dais. And I
16 think, as we all know the new Commissioner is a stickler
17 for calling us "Commissioner." And so I've warned him that
18 now that he is one, he can't call me Commissioner Monahan
19 when we're not on the dais. So I hope he actually is able
20 to follow through with that.

21 And I just want to say I couldn't -- like
22 everybody else I'm so overwhelmed and joyful that -- well
23 for both of you. But let me start with Siva and then
24 Darcie, I'll turn to you.

25 Siva, what I have been so impressed with in my

1 time working at the Commission is the level of integrity
2 that you bring to everything that you do. You are so
3 thoughtful. You're curious about how we can continue to
4 improve. You never rest on your laurels. You're always
5 thinking. When we raise new ideas, you're always very open
6 to considering them and thinking through well how do we get
7 there? And you know just that relentless curiosity and
8 striving for improvement is something that really I think
9 personifies you.

10 And the other thing I really -- so many things
11 appreciate, but one is that you give credit to others, and
12 you do it so graciously and so consistently. I've never
13 heard you say, "I did this." I always hear you say, "The
14 team did this," and that is something I think that we can
15 all learn from in terms of recognizing that it takes all of
16 us working together to be successful. And you really model
17 that, so I look forward to working with you. I look
18 forward to learning from you and I look forward to having
19 many, many opportunities for us to have a dialogue.
20 Especially on the dais since now we're going to be kayoed
21 (phonetic) out of other conversations. But I welcome you.

22 And Commissioner Houck, it's so fun to call you
23 guys Commissioners I've got to in the time that we've
24 worked together you've helped me so much.

25 And one of the things, which I still do is like

1 you're constantly working nights and weekends, which is on
2 the one hand you've helped me a lot. But on the other
3 hand, I worry. I think, oh my God she's working so many
4 nights so many weekends, how does she do it?

5 And I just want to say you know we're lucky, the
6 state of California, to have you and your wealth of
7 experience. The PUC is lucky that you are going to be a
8 Commissioner and you're going to be able to use the
9 knowledge that you've acquired through your years, in
10 private practice through your years, working for the PUC
11 and for us and apply that to the real pressing problems
12 that are facing the state right now.

13 So, I'm going to miss you, and I'm sure you're
14 happy that you don't have to deal with any more of these
15 issues that I have been - (laughter) how do we make this
16 strike force (phonetic) functional? You've really helped
17 and I'm glad that we can check the box on that strike force
18 issues we've been working on with that before you leave.
19 So otherwise, I'd be saying, "Don't go until we get it all
20 straight!"

21 But I welcome you to being in this Commissioner
22 world and really look forward to working with you closely.

23 So, congratulations to both of you.

24 CHAIR HOCHSCHILD: Thank you, Commissioner.

25 And just a final comment here before I ask Darcie

1 and Siva to say a few words. You know, I really want
2 everyone to recognize the historic nature of these
3 appointments. And Siva for you in particular, as an
4 immigrant from India coming here, really making your way
5 and working your way up, and having the kind of positive
6 impact that you can. That's the story of immigration to
7 the United States and it's really an incredible story. And
8 it's something that I think California is especially proud
9 of. We're a state of immigrants in a nation of immigrants,
10 but this appointment is historic.

11 Actually, I think you'll be the only immigrant
12 appointee to the PUC or the Energy Commission. The
13 President of CAISO is also an immigrant, but on that front
14 as well it's really historic.

15 And then Darcie, your tribal background and
16 tribal work, you know is really an incredible legacy that
17 you've created. And I want to remind everybody that
18 incredible historic decision the PUC made I guess maybe a
19 year ago where tribal lands, the surplus lands from
20 utilities, the tribes now have the first opportunity to get
21 those. That was really led by you with Commissioner Guzman
22 Aceves, and I know you're going to continue to push the
23 ball forward there.

24 I will say you know Darcie with your news, it
25 really is bittersweet, because you're such a fundamental

1 core part of the team here. So, it's a big loss and I feel
2 that. I feel simultaneously thrilled for you and sorry to
3 see you go. But I think the right thing is for you to do
4 this. I know it's the right thing for the state. And I
5 think it will bring our agencies closer together and that's
6 good for everybody, so we're really just going to be one
7 big family on this journey together. And I'm just really
8 excited for your new role at the PUC.

9 So, with that let's hear from our two new
10 Commissioners just any thoughts you'd like to share, maybe,
11 starting with Commissioner Gunda.

12 BOARD MEMBER GUNDA: Thank you. Thank you,
13 Chair, and thank you to all the Commissioners for the
14 kindest words and welcoming me to joining this group. So,
15 I we already had the ceremony this morning and I shared a
16 lot of my thoughts then. I just want to reiterate a few of
17 those in the spirit of just being able to thank the staff.

18 The staff at the Energy Commission are one of the
19 most passionate, committed and intellectually honest group
20 of people that I've ever met. And it's been an absolute
21 honor and pleasure to be a part of EAD and be able to help
22 lead the Division and call each one of them, my colleagues,
23 friends and family.

24 So, I will -- the thing that I'm going to miss
25 the most taking on this role is to just making random calls

21

1 at 10:30 in the night and talking about a chart. So, I
2 hope that that work will continue and they'll not close the
3 doors on me to join them when I would want to.

4 But I just I just want to thank the EAD and
5 everything that the EAD has done over the last six months,
6 particularly in helping keep the lights on in California.
7 And in the collective success that the team had, I get to
8 be the face of it. And I just want to recognize the
9 success of all the staff together, and all the work we've
10 done in SB 100 and the root cause analysis and lastly the
11 liability issues, culminates in this opportunity for me.
12 And that's not lost on me and I just want to thank
13 everybody for helping me take this honor and opportunity to
14 contribute further.

15 Chair and Commissioner McAllister, you both noted
16 this, I am deeply thankful to both of you for your
17 generosity and kindness bringing me to the Energy
18 Commission, helping me take on important challenges, and
19 continue to contribute. And so I hope to do that.

20 And to Commissioner Monahan, I'm really glad I
21 could call you, Commissioner, because (indiscernible)
22 virtual dais. Thank you. Thank you for opening up those
23 lunch slots (phonetic) with me and just talking through
24 with me and just connecting with me on a human level and
25 just helping me grow as a person.

1 You were one of the first people who said, "You
2 know, I just want to help you, I want to help you grow and
3 I want to help you succeed." And that's just such a
4 wonderful sentiment and I just am so thankful that I get to
5 work with you more closely.

6 And Commissioner Douglas, I think we are over-
7 sizing the geographical and diversity of the Commissioner
8 (indiscernible). But I just look forward to continue to
9 working together, and thank you so much for your words.
10 And really helping unlock some of the jam we were in, in SB
11 100 early on thinking it through. How you sat us down and
12 then got us through. Thank you so much for all the support
13 and guidance.

14 And to Darcie I am so, so, so grateful. And I'm
15 so, so over the moon for your appointment. I could not - I
16 mean, I feel the same way, but you live only half a mile
17 away from me, so I can come and knock on your door. But
18 also I just look forward to the opportunity to work with
19 you, Darcie, together. And I'm just thankful.

20 Before I close, I just want to thank my family
21 and my friends for helping me get here in my journey. I do
22 want to call out my friends at UC Davis, and all the work
23 that we've done at UC Davis at the Energy Efficiency Center
24 that really helped me learn a lot of the subject matter
25 that I'm walking into. And helped me grow some of my early

23

1 preferences on how to work with people and how to
2 collaborate.

3 So, I just want to thank Ben Finkelor at UC
4 Davis, Bill McNamara, Andrew Hargadon and a number of my
5 mentors who really helped cultivate some of the good things
6 I have.

7 And lastly, we, as the Chair noted 2020 has been
8 an incredibly difficult year. Apart from the pandemic it
9 has been a time where the voices that couldn't find a
10 voice, that was lost in the vacuum, I know the glass
11 finally shattered. And there was a lot of voices out there
12 that are looking for equity and equality and there is so
13 much in energy that we could do in terms of equity. And
14 then just a common playing field for everybody. And I just
15 am so thankful that Our Commission, our leadership, and all
16 the people here in this Commission embrace that so -- the
17 idea of inclusivity and the idea of diversity at their
18 hearts. So, I just am so thankful to be a part of this
19 organization.

20 And before I hand it over to Darcie, I'm so
21 grateful to Governor Newsom for the faith he has put in me
22 to take this on. One of the things that I was asked was
23 why I think this would be a good thing. And just all the
24 company, the company that I'm going to continue to be in
25 and the opportunity to just be there and help in every way

24

1 I can.

2 And we have such a huge, huge path going forward.
3 2045 is not that far away and there is so much going on.
4 And I would just want to be a part of the solution and then
5 collaborate and bring as you all noted that ability of
6 intellectual honesty and the collaborative spirit to the
7 best I can. And just a promise to all my colleagues and
8 friends that I will do my best.

9 Chair, back to you.

10 CHAIR HOCHSCHILD: Thank you, Commissioner.

11 Now, Darcie, I think we have you for another week
12 or so as Chief Counsel, but would love for you to share a
13 few words if you're ready now.

14 MS. HOUCK: Yes, I'm going to be here for another
15 week, until next Wednesday, I think. This is all happening
16 so fast I'm sort of caught off guard, but I started out at
17 the Energy Commission fairly shortly after law school. I
18 was a staff counsel during the energy crisis and I can't
19 think of a better job to have had as a young lawyer.

20 I was able to work in so many areas and had so
21 many great mentors that I was able to learn from at that
22 time when Bill Chamberlain was here as Chief Counsel and
23 Jonathan Blee and Karen Holmes, who is also still here.
24 Ironically now she was my mentor then and now I'm the Chief
25 Counsel and she's still in the Legal Office. And I sign

25

1 her time sheets and she's just been amazing to have as an
2 asset, her and Bill both. And I was an advisor for Jim
3 Boyd, who I also just have a tremendous amount of respect
4 and learned a lot from.

5 And so, coming back here to the Energy Commission
6 as the Chief Counsel was a big deal to me to be in that
7 role, after having worked here as a junior lawyer. And
8 it's really sad that it hasn't been that long you know in
9 one sense, with all the difficulties this year. It seems
10 like a long time. But in another sense, it seems like it's
11 just gone by really, really quickly. And I've been really
12 honored to work with each of you. You've just been amazing
13 commissioners and clients and I just feel very lucky to
14 have been able to get to know each of you, and to work in
15 your different areas.

16 My biggest hurdle here is I am so excited about
17 the work that the admin part has been difficult. And I
18 really enjoyed getting to know each of you and learning
19 more about all the different work that we're doing. The
20 load management standards with Commissioner McAllister,
21 working with Commissioner Monahan on some of the EV
22 expansion, the issues that have come up.

23 Commissioner Douglas and the Chair, you both
24 brought me on and encouraged me to apply for this position.
25 And have just been amazing you're concerned about the

1 tribal communities and the ability to allow me to
2 participate in our outreach and what we're doing there has
3 just been amazing and the support all of you have shown. I
4 just feel really honored.

5 And my team and the CCO has also -- just we've
6 got an amazing full-service law firm that has a lot of
7 great people that are excited and care about their mission.
8 All of my chief counsels, Allan Ward, I couldn't have done
9 this job without him over the last year. And just cannot
10 say enough about what a wonderful person and colleague he
11 is.

12 James Qaqundah got hired on in the middle of the
13 pandemic and has just really stepped up and gotten to know
14 people and done an excellent job. And he'll be able to
15 take over working with you, Commissioner Douglas, on the
16 tribal issues.

17 And Linda Barrera stepped in as Assistant Chief
18 in the Hearing and Policy Unit. And I also just could not
19 have done things without Linda. She's amazing, brilliant.
20 Her engineering background has really come in very useful
21 on so many issues and she's just so thorough and detailed.

22 And you know, Kerry Willis in the Siting Unit,
23 I've learned a lot working with her and the work that she's
24 doing, and again Karen Holmes. So, everybody in CCO.
25 We've also hired a number of people over the last year with

1 the workload increases in retirement, and so I just want to
2 acknowledge that great team that you've got there to
3 support you. And they'll continue supporting you.

4 And all of the deputy directors have just been
5 amazing to work with and to really, I think welcome the CCO
6 into being part of the team on all of all of their issues.
7 You know, Natalie, Hannon, Mike Sokol, and especially Siva
8 and I had to work on a number of issues over the last
9 couple of months. And he's been just an amazing colleague
10 and I'm so excited to be able to work with him in this new
11 capacity and his new role, which he is so deserving and is
12 going to do an amazing job.

13 And I really just want to also particularly and
14 especially thank Drew for all of his support. He has been
15 a really great partner in the Executive Office and I think
16 we've made a good team, you know, all of us.

17 So, it is really bittersweet. It's still all
18 sinking in. I've got a great group of people at the PUC
19 and you know there's nine amazing Commissioners I'm going
20 to be able to work with. And I really look forward to
21 continuing working with all of you and really making sure
22 that those relationships between the two agencies get
23 stronger and can grow positive.

24 So, thank you for giving me this opportunity to
25 say a few words. And to just be here over the last year, I

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1 really love the Energy Commission. It's the state's think
2 tank on energy and it's really about the future of how
3 we're going to get to our renewable goals. And I think
4 being able to partner with you from the PUC will be a great
5 opportunity.

6 And I will be here over the next week though, so
7 I will continue to be part of the CCC till next Wednesday
8 and again look forward to this new opportunity.

9 CHAIR HOCHSCHILD: Thank you so much, Darcie.

10 So, we have one other new superstar who's joined
11 the Energy Commission. Anna Ferrera who was appointed
12 Governor Newsom to serve as Assistant Executive for
13 Governmental and International Affairs. And I do want to
14 thank Barry Steinhart for leading OGA these past five
15 years, and thank him for all his service.

16 Anna is going to take over international as well,
17 so my International Advisor Alana Sanchez will become kind
18 of part of that shop. Anna is not able to be with us this
19 morning, because she's at the Assembly Budget 3 Committee
20 meeting with Drew. But I will say a few words about her.

21 She's incredible. We're really lucky to have her
22 talents. She has worked in the State Legislature, most
23 recently was with CalEPA doing their governmental affairs
24 for Secretary Blumenfeld, has run the Schools Energy
25 Coalition, did all the advocacy for Prop 39 among her

1 varied experience including Department of Energy and other
2 private sector work. And brings incredible strategic
3 talents to CEC. We're really, really thrilled to have her
4 on the team. And at the next business meeting when she's
5 able to join us by video, we'll have her patch in.

6 I also wanted to point out that at today's
7 meeting we're going to be giving -- making almost \$6
8 million in grants which is going to help with California's
9 economic recovery. We're going to try and total those
10 every month, so folks have a chance to see what the total
11 numbers are.

12 And at this point we're going to turn to an
13 audience survey the Public Advisor has put together. Do
14 you want to run that, Noemi?

15 MS. GALLARDO: Hello, everybody. Yes, I will.
16 This is Noemi Gallardo, the Public Advisor. The Energy
17 Commission is conducting this audience survey to gain a
18 better understanding of the public's experience in our
19 business meetings. And to use that information to help us
20 improve our processes moving forward.

21 This is an effort that Vice Chair Scott and I
22 worked on before she left the Commission, so I'm invoking
23 her positive spirit here and her enthusiasm for always
24 wanting to make things better for the public.

25 This is a voluntary survey. We have 4 questions

1 we'll pose using Zoom's polling feature. We will show you
2 the results, but we will not hold any discussion today
3 about the responses.

4 For those of you who are not able to use the Zoom
5 polling feature, we have it available for you. You can
6 participate in the survey through the Energy Commission's
7 business meeting webpage. And on that page look for the
8 link that says Business Meeting Participation & Engagement
9 Survey. I'll share that link here shortly.

10 So, let's begin. We're going to go to the first
11 question. Okay, so here's the first question. This is
12 anonymous. You can only pick one response from the six
13 options. And the question is, "How many CEC business
14 meetings have you attended from January 2020 through
15 today?" So, we'll give it about 30 more seconds. I see a
16 lot of you are engaging here, thank you. And the options
17 are:

- 18 • This is my first
- 19 • 2-4
- 20 • 5-7
- 21 • 8 or more
- 22 • All of them
- 23 • Not sure

24 Okay, we'll give it about 15 more seconds. I
25 still see some activity here. Okay, we're going to close

1 the poll now. View the results, and then we'll go to the
2 next question.

3 All right, so here we go. The second question
4 is, "Why do you join CEC business meetings?" And this is a
5 multiple-choice question. It is anonymous. And the five
6 options are:

- 7 • I am personally passionate about energy
8 policy.
- 9 • I'm here for work purposes.
- 10 • I join when there are issues that will
11 impact me directly.
- 12 • All of the above.
- 13 • None of the above.

14 So, we'll give you about 30 more seconds here.
15 Okay, I still see some movement, thank you for those who
16 are participating. All right, and we'll close this poll
17 and share the results. And then we'll move on to the next
18 question.

19 So, this third question is, "What is your
20 preferred way to join CEC business meetings?" And it is
21 multiple choice and not anonymous. The six options are:

- 22 • In-person in CEC building.
- 23 • Zoom virtual platform.
- 24 • Verizon phone line.
- 25 • I prefer multiple options to join.

1 • Not sure.

2 • Or other.

3 And we'll give it about 30 more seconds. All
4 right, I'm still seeing some activity here.

5 Okay we're going to end the poll now, and share
6 the results. And then we'll go to our final question.

7 All right, so this question is, "How easy is it
8 to participate in CEC business meetings?" This question is
9 anonymous and you can choose multiple answers. The options
10 are:

11 • Very easy.

12 • Satisfactory, but it is difficult to locate
13 the meeting material.

14 • Satisfactory, but it is unclear how to make
15 public comment.

16 • Satisfactory, but I'd like to learn other
17 ways to engage the CEC.

18 • Not easy.

19 • Or other.

20 I will give you about 30 more seconds. All
21 right, thanks to those of you participating. I still see
22 some activity here. We're going to close this soon, so
23 please hurry.

24 All right, we're going to close this one now,
25 share the results real quick.

1 All right, thank you so much everybody. That
2 concludes our survey and, Chair, I'll hand it back to you.

3 CHAIR HOCHSCHILD: Okay. Thank you so much,
4 Noemi, for that.

5 So today we also have a farewell, a lot of
6 movement here, to Courtney Smith who is embarking on a new
7 journey with a sister agency. And we are really proud of
8 her. I have a resolution I'd like to read it's dedicated
9 to her. She has served as Deputy to Drew Bohan for the
10 last few years, and before that ran the Renewables
11 Division, before that was an advisor to Vice Chair Scott
12 and really has done incredible work.

13 So, let me begin with this resolution.

14 "Whereas, Courtney Prideaux Smith devoted five
15 and a half years of her career to the California Energy
16 Commission, as an advisor to Commissioner Janea A. Scott,
17 the deputy director for the Renewable Energy Division and
18 finally as chief deputy director; and

19 "Whereas, Courtney lost the Energy Commission's
20 annual Halloween costume contest five years in a row
21 despite her homemade, creative submissions as a black and
22 white character; a television; a suffragette; the Milky
23 Way; and Minerva the mighty; and

24 "Whereas, despite this annual setback, Courtney
25 modeled an unparalleled commitment to excellence and

1 stellar spirit of service while working diligently to
2 advance the agency's mission on behalf of the people of
3 California; and

4 "Whereas, Courtney helped oversee the
5 transportation policy as an advisor before leading teams
6 responsible for several key energy and climate policies
7 including the Renewables Portfolio Standard, New Solar Home
8 Partnership Program, and Power Source Disclosure Program;
9 and

10 "Whereas, Courtney is a known "fixer" who applied
11 her problem-solving skills to manage and improve the Energy
12 Commission's annual workplan process in her first year as
13 chief deputy director, meeting with every division and
14 office to manage the change; and

15 "Whereas, Courtney supported then-newly appointed
16 Commissioner Patty Monahan to engage new equity-focused
17 partners, including the Disadvantaged Communities Advisory
18 Group, to inform investments for the Clean Transportation
19 Program; and

20 "Whereas, Courtney co-founded the Energy
21 Commission's Inclusion, Diversity, Equity, and Access
22 Initiative, which inspired the staff to identify
23 opportunities to increase equity and encouraged
24 collaboration and creativity to conquer the challenges; and

25 "Whereas, Courtney dusted off her crown after

1 getting knocked down, reclaiming her power in part by
2 ironically wearing pink on Wednesdays but mostly by
3 empowering others through daily actions and the annual
4 International Women's Day celebration she helped
5 establish;" which is wonderful. And

6 "Whereas, Courtney responded to the COVID crisis
7 and the stay-at-home order by initiating and leading a
8 cross-departmental strike team to ensure that staff had the
9 tools and support to successfully work remotely; and

10 "Whereas, Courtney kept the weekly Executive
11 Office meetings rolling and productive despite kids, pets,
12 moms, and significant others appearing; noisy gardening
13 equipment, glaring back lights, and muted speakers; and
14 knock-your-socks-off healthy homemade snacks; and

15 "Whereas, while Courtney was a work warrior, she
16 also laughed contagiously and wore her heart on her sleeve.
17 She helped staff feel better during trying times, shedding
18 ugly and happy tears with staff during ups and downs, and
19 always lending a helping hand and a shoulder to lean on;
20 and

21 "Whereas, while Courtney will warmly receive
22 this, she dreams of a formal resolution process and policy
23 to ensure equity in recognizing the Energy Commission's
24 dedicated and brilliant staff.

25 "Be it therefore resolved that the California

1 Energy Commission recognizes and commends Courtney Prideaux
2 Smith for all of her extraordinary efforts and achievements
3 throughout her tenure at the California Energy Commission
4 and wishes her the best in the next stage of her career.”

5 Congratulations, Courtney.

6 Let’s turn to the Commissioners. Can we start
7 with Commissioner Monahan?

8 BOARD MEMBER MONAHAN: Courtney, this is really
9 bittersweet for me. I’ve got to say when I was a new
10 Commissioner, you helped me so much in terms of just
11 getting my feet on the ground and helping with engaging
12 external stakeholders and just really being a sounding
13 board. And somebody I could count on to give me a really
14 good advice, also really good editing. And Courtney, does
15 writing come up? Because Courtney is also an amazing
16 writer.

17 And I would just say like you’re the fixer. You
18 just like anytime there's a problem you have this way to
19 fix it. And I am going to be like speed dialing you in
20 your new job, because I've come to rely on that.

21 Sorry Courtney, but I just want to personally
22 thank you. And I look forward to seeing you flourish in
23 your new career. I just really appreciate all you've done
24 for the Energy Commission and for me and for the State of
25 California. So, let's continue to stay in touch, as

1 colleagues and friends. And I'm here to be a resource for
2 you in whatever way you need going forward, so thank you.

3 CHAIR HOCHSCHILD: Thank you, Commissioner.

4 Let's go to Commissioner Douglas.

5 COMMISSIONER DOUGLAS: All right, well Courtney,
6 good luck in your new position. You know, we're all so
7 excited for you and I think you're going to do great.
8 You'll have all the challenges you need to stay busy and
9 occupied and productive. And some really important policy
10 issues to work on and so it's really exciting.

11 I really enjoyed getting to work with Courtney,
12 most recently. Because, you know, in her role she does so
13 much management, but I actually got to work with her on a
14 policy issue recently. That she was our lead in the Carbon
15 Capture Working Group and she did great work in that. And
16 I got engaged and really enjoyed working with her on that.

17 So, you're leaving us with a lot of things that
18 we need to backfill, because you've been doing some great
19 work here. And that's okay. We'll manage and we wish you
20 the best of luck and look forward to continuing to work
21 with you.

22 CHAIR HOCHSCHILD: Thank you.

23 Commissioner McAllister?

24 BOARD MEMBER MCALLISTER: Yeah, hey Courtney.

25 So, congratulations. I know you've wanted to dig into more

1 policy for a while now. And you're going to have lots of
2 opportunities to do that, so I'm sure you'll have a big
3 shovel to really dig in.

4 But you know all that notwithstanding, your
5 administrative ability was just so - it has been so
6 valuable at the Energy Commission. So, you know we don't
7 maybe always get to use the right -- you know the full
8 balance of our skills that we have in the portion that we
9 might want, because you have so many skills that you know
10 there's more than enough to go around. The function of
11 your breadth of ability, so.

12 And I know Drew has just depended on you so much,
13 and you're leaving some big shoes to fill. But it was
14 really great to get to know you when you were over at
15 Janea's office next door. And just thanks for all your
16 contributions to the Energy Commission to help the trains
17 run on time and help them get started when they stalled out
18 on the track. And really just be that problem solver that
19 was so essential on many things along the way, so thank you
20 Thank you and good luck.

21 CHAIR HOCHSCHILD: Yeah. And I should mention I
22 did talk to Vice Chair Scott last night, who sends her
23 congratulations to you and to Siva and Darcie. She wanted
24 to join. She had a meeting with her new bosses in DC, so
25 couldn't be here, but let's go to Commissioner Gunda.

1 BOARD MEMBER GUNDA: And thank you, Chair.

2 Courtney, I think we had an opportunity to give
3 you all the kudos in our private deputies meeting. But I
4 just want to take the opportunity to repeat some of the
5 themes that came up there, right? I mean it think so I
6 mean you are kind of like the pinnacle of just bring me a
7 rock, (phonetic) and convert that into a problem statement
8 and solve it. So, you've been so amazing in being able to
9 do that for the organization on so many different fronts.

10 And I think on a personal note, I mentioned the
11 level of gratitude I had for your leadership on inclusivity
12 and diversity and justice. I think you embrace the values
13 of fairness and equity to your core. And that's something
14 that you've just instilled in this organization from top
15 down. And I'm just so grateful for your leadership in that
16 area.

17 As I mentioned to you in our in our previous call
18 staff in my Division, said we were moms and dads. As moms
19 and dads, we were just so grateful for Courtney, for her
20 leadership during the COVID times. And helping solve the
21 issues with an eye on fairness and making sure everybody
22 was taken care of.

23 I think you know you are a champion. You could
24 practically achieve anything you want to. And I just wish
25 you all the best. It's just crazy that we both are -- you

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1 hired me into the deputy position what. You were on the
2 interview. It's just interesting that we are both kind of
3 transitioning on the same day. All the very best, and I
4 heard the rumor that we'll all be pretty much in proximity,
5 in the future. So, I look forward to working together.
6 Thank you.

7 CHAIR HOCHSCHILD: Yeah, and thank you,
8 Commissioner. I would just like to add a few thoughts
9 myself. Courtney, I'm really proud of you. I remember a
10 drive we did; I can't remember what we were visiting, some
11 power plant out in the desert or a military base or
12 something. Anyway, we're in this middle of nowhere,
13 Southern California desert on a long, long drive together a
14 few years ago. And had a chance to really visit about so
15 your hopes and dreams for your career path, and I really
16 enjoyed that conversation.

17 And I guess the main thing I want to say to you
18 is I think what's happening with the state right now
19 hitting these huge challenges, bouncing back, showing
20 resilience, getting creative, that's often how our careers
21 go. We run into big challenges and all of us hit those.
22 And it's kind of about getting back up on your feet and
23 solving the issues and growing and learning. And I really
24 have just seen you face so many challenges.

25 This is a very fast paced work environment with a

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1 lot of big knotty challenges. And I just really want to
2 support you in keeping going, keeping growing, keeping
3 learning and keeping getting better. I think you have a
4 ton to offer. I really appreciate your energy; you have an
5 incredible motor and passion for this.

6 And I also wanted to in particular, you've heard
7 me say this before, but you know in hockey you get credited
8 with an assist when you're two passes away. We wouldn't
9 have Lindsay Buckley but for you. And the incredible work
10 she's doing to elevate our communications work, it was
11 really because of you bringing her in. And I know that's
12 true with many of the people you've helped bring in.

13 So, we wish you all the best and would love to
14 hear if you'd like to share a few words.

15 MS. SMITH: Sure, thank you.

16 Well, I'm not much of an Academy Awards gal, so
17 I'm going to keep it short, but first I do need to correct
18 the record. I did manage to win one of the Halloween
19 costume contests. (Laughter) My first year I was part of a
20 team of that one, so I guess the lesson there is we're
21 stronger together.

22 And so I just want to thank you all for the kind
23 words. You know, I'm really grateful for my time really
24 getting to know and working with and trying to support some
25 just really great staff here at the Energy Commission. And

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1 I'm going to really miss working with so many folks at the
2 Energy Commission on the daily.

3 You know, in many ways I grew up with the
4 Commission. I cut my teeth here on many issues. And so,
5 for those opportunities, I will always be really, really
6 grateful. And this experience has prepared me to be able
7 to take on that next challenge. So, thank you to all of
8 you for being part of my journey. And I'm not going to be
9 a stranger. I've still got decades more in my career, and
10 so I will be working with many of you again just in a
11 different capacity, so thanks so much.

12 CHAIR HOCHSCHILD: So big congratulations, and I
13 know Drew was going to try to join, but he's at the
14 Assembly budget.

15 Is he with us?

16 MR. BOHAN: Right here, Chair.

17 CHAIR HOCHSCHILD: Oh yeah, Drew would you like
18 to say a few words?

19 MR. BOHAN: Yeah, absolutely. I got the good
20 fortune of being selected to be the one out of 750 staff
21 who gets to speak about Courtney, because if -- when we
22 talked about the logistics of the meeting we would be here,
23 for a very, very long time if you heard from all of staff,
24 because she's touched so many people in her time here.

25 And I'll be brief, but you guys have already said

1 most of it. But Courtney, just incredibly versatile and
2 I've got to tell you guys, because I know this better than
3 I think anybody in the building what a joy it's been
4 Courtney, I just want to say to you, to work with you every
5 day.

6 And when I look back at COVID, I don't miss all
7 that much you know? I'm not a big Zoom guy and I am not a
8 cat and don't plan to be one, but I'd just as soon be on by
9 phone. But I really, really miss my day-to-day
10 interactions with Courtney, because we talk plenty now but
11 it's just not the same to be able to -- I mean she would
12 walk into my office or I'd walk into her office with
13 Courtney on a given day 5 times you know, maybe would be
14 the average, maybe 20 on some days. And it's the little
15 things. I'm not going to call her up just to tell her some
16 stupid joke I heard. And then that will lead to some other
17 conversation, but that was the sort of serendipity that I
18 really miss from the office.

19 One event, I think, sums up Courtney Smith and
20 that was COVID. I think Courtney Smith was built for the
21 COVID crisis, because he's clear. She's decisive. She's
22 smart as hell. And her public health background really
23 didn't hurt when it came to try and figure out what to do.
24 But there was a lot of people looking at each other going,
25 well what are we going to do? Are we going to stay in the

1 office or are we going to leave? And she was like, "No,
2 we're going to do this." And you know there were other
3 agencies and we've all heard about this, that were
4 struggling with the transition. And we just did so well.

5 So, I don't want to go on too long, but I want to
6 mention two other things. And that is as Commissioner
7 Gunda noted we did go around the room at our weekly
8 deputies meeting we host every Thursday morning. And it
9 was just so heartwarming to hear what all of her
10 colleagues, the ones that report to the Executive Office
11 and meet with her every day. And I mean she's the boss,
12 you know and but just the heartfelt gratitude and thanks
13 that they all had for her. I was really happy we had the
14 opportunity to do that.

15 So, I want to close by just saying, on behalf of
16 all staff, thank you Courtney and best of luck.

17 CHAIR HOCHSCHILD: Thank you, Drew.

18 Yeah, we wish you well, Courtney, and big
19 congratulations to you.

20 So, we're making absolutely terrible time on our
21 agenda. We haven't even got to the Consent Calendar. But
22 I just want to say we spend a lot of time on these send
23 offs and welcomes and congratulations, because our most
24 important asset are our people. That's the heartbeat of
25 the Energy Commission and it's worth every minute. So, I

1 really want everyone to know that's why we do this.

2 And we are -- you know, all of the incredible
3 achievements of the last years and it's just flows from our
4 team. So, I think you've all seen why we're so thrilled
5 with the team we have here today.

6 So, let me just say it's 11:00 o'clock now.
7 Commissioner McAllister and I have a hard stop at noon for
8 a meeting with the Governor's Office. We will go for the
9 next hour, break at noon, then reconvene at 1:00. And I
10 guess so with that we'll get into the agenda.

11 So, if I could have -- are there any public
12 comments on the Consent Calendar, Madam Public Advisor?

13 MS. GALLARDO: This is Noemi. There is no public
14 comment on Item Number 2, the Consent Calendar.

15 CHAIR HOCHSCHILD: Okay. Commissioner
16 McAllister, would you be willing to move the Consent
17 Calendar, Item 2?

18 BOARD MEMBER MCALLISTER: Move consent.

19 CHAIR HOCHSCHILD: Okay, Commissioner Douglas
20 would you be willing to second that?

21 BOARD MEMBER DOUGLAS: Second.

22 CHAIR HOCHSCHILD: All in favor say aye,
23 Commissioner McAllister?

24 BOARD MEMBER MCALLISTER: Aye.

25 CHAIR HOCHSCHILD: Commissioner Douglas?

1 BOARD MEMBER DOUGLAS: Aye.

2 CHAIR HOCHSCHILD: Commissioner Monahan?

3 BOARD MEMBER MONAHAN: Aye.

4 CHAIR HOCHSCHILD: Commissioner Gunda?

5 BOARD MEMBER GUNDA: Aye.

6 CHAIR HOCHSCHILD: And I vote "aye" as well.

7 That item passes unanimously.

8 Item 3 has been removed from today's agenda and
9 will be heard at a later business meeting.

10 Item 4, City of Needles.

11 MR. MOUA: Thank you and good morning Chair and
12 Commissioners. My name is Cheng Moua. And I am presenting
13 for Item 4 City of Needles. I'm a mechanical engineer in
14 the Efficiency Division's Building Standards Office. With
15 me is Matt Chalmers from the Chief Counsels Office. Next
16 slide, please.

17 This item is relating to Title 24, Part 6 of the
18 California Energy Code, which includes solar PV
19 requirements for all newly constructed homes. This item
20 benefits Californians by ensuring that the PV requirement
21 only applies where it is cost effective. It recognizes
22 where consumers have low-cost energy rates, and are paying
23 less for their energy than the current cost of a PV system.

24 This is a rare case as costs continue to decline.
25 This item can help reduce PV costs for California even

1 further. Next slide, please.

2 To provide background, the 2019 Energy Code
3 became effective on January 1, 2020, and requires rooftop
4 solar PV on all newly constructed low-rise residential
5 buildings. As part of the PV adoption, Section 10-109(k)
6 authorizes the CEC to determine that the PV requirement not
7 apply to certain buildings in areas where local utility
8 electricity rates, Net-energy-metering rules, or
9 interconnection fees, causes the PV requirement to not be
10 cost-effective. Next slide, please.

11 The City of Needles submitted an application to
12 the CEC for a determination that the PV requirements should
13 not apply to Needles due to its low-cost energy rates.

14 Needles is a small community of roughly 5,000
15 residents in eastern San Bernardino County, near the
16 borders of Nevada and Arizona. Needles provides electric
17 service to its residents through the Needles Public Utility
18 Authority.

19 Electricity rates are based on season and
20 customer consumption, including a summer and a winter
21 schedule that incorporates over and under hydro allotment
22 rates. These rates in 2020 ranged from roughly \$0.06 to
23 roughly \$0.09 per kilowatt-hour. Its Net-Energy-Metering
24 or NEM rules allow PV customers to be compensated at these
25 same rates for any PV generation.

1 Needles held a public meeting and approved the
2 decision to submit an application proposing that its low-
3 cost energy rates make the solar PV requirement not cost-
4 effective. Staff reviewed the application and performed a
5 life cycle cost-effectiveness analysis. Staff found that
6 applying both Needles energy rates and NEM rules for the
7 analysis resulted in the solar PV requirement to indeed,
8 not be cost-effective. Results show that the electric bill
9 savings generated over the life of having the solar PV
10 system were less than the solar PV system cost, having a
11 benefit-to-cost ratio of less than 1.0.

12 Staff prepared and published a report detailing
13 the analysis that was completed, and posted it on the CEC's
14 website for public comment. No comments were received on
15 this publication. Next slide, please.

16 Because the staff analysis showed that the solar
17 PV requirement is not cost-effective using Needles Public
18 Utility energy rates and rules, staff recommends approval
19 of the resolution determining that the 2019 Energy Code PV
20 requirements do not apply to City of Needles.

21 This concludes my presentation. Mr. Chalmers and
22 I are here to answer any questions. Thank you.

23 CHAIR HOCHSCHILD: Thank you so much, Cheng.

24 Any public comment, Madam Public Advisor?

25 MS. GALLARDO: Yes, this Noemi Gallardo, Public

1 Advisor. We have two people on the line. First, we'll
2 open up the line for Rick Daniels, Needles City Manager.

3 Rick, your line is open. Please feel free to
4 begin.

5 MR. DANIELS: Hi, welcome. We're so grateful
6 over here on the east coast of California along the
7 Colorado. But the City of Needles would like to thank the
8 Energy Commission and their staff for reviewing this
9 determination letter.

10 We're here to answer any questions that you might
11 have, but we work very hard to keep our power rates as low
12 as possible.

13 MS. GALLARDO: Thank you, Rick.

14 We also have Josh Stoops, Counsel for Needles.
15 Let's open up his line to see if Josh has any comments.
16 Josh, your line is open.

17 MR. STOOPS: Good morning, Commissioners. I'm
18 Josh Stoops, outside counsel for Needles. Just wanted to
19 say thank you to the Commission staff that prepared the
20 paper and who we've been working with through the process.
21 It's been a relatively long process with some unanticipated
22 changes along the way, or sorry unanticipated challenges
23 along the way, but we appreciate the diligence of staff.
24 Otherwise, I'm happy to answer any questions as needed.
25 Thank you.

1 MS. GALLARDO: All right, thank you.

2 Chair, that was the last public comment for Item
3 Number 4.

4 CHAIR HOCHSCHILD: Okay. Thank you.

5 Let's go to Commissioner McAllister for comment.

6 BOARD MEMBER MCALLISTER: Yeah, so you all
7 remember that we've had a small number of these cases. And
8 it really is a function of the nice design and sort of very
9 appropriate design of the last part sister update. That we
10 did open the door. Alongside of PV requirement we did open
11 possibilities for petitioning the Energy Commission for
12 exceptions to that requirement, and this is a very
13 reasonable exception.

14 And City of Needles gets power from the Western
15 Area Power Administration, it is the federal authority or
16 administration that has really cheap power. And kudos to
17 them. It's a good thing that they have affordable rates.

18 And this process, if you'll recall the first
19 time, we went through it, it was a little tortured, because
20 we were sort of feeling our way. And we wanted to make
21 sure that we had a protocol that was really reasonable and
22 worked. And that was rigorous and ended up with the right
23 answer when jurisdictions come to us for these exemptions
24 from that requirement. So, this process, you know worked
25 again here with the City of Needles.

1 I want to thank the city for bringing us the well
2 thought out petition and want to thank staff for digging in
3 and getting through it and bringing us this proposal. It's
4 a reasonable one. I think I would recommend that we
5 approve it.

6 CHAIR HOCHSCHILD: Thank you. Unless there's any
7 discussion, Commissioner McAllister, would you be willing
8 to make the motion?

9 BOARD MEMBER MCALLISTER: Sure, I'll move this
10 item.

11 CHAIR HOCHSCHILD: Commissioner Douglas, would
12 you be willing to second?

13 BOARD MEMBER DOUGLAS: Yes, second.

14 CHAIR HOCHSCHILD: All in favor say aye,
15 Commissioner McAllister?

16 BOARD MEMBER MCALLISTER: Aye.

17 CHAIR HOCHSCHILD: Commissioner Douglas?

18 BOARD MEMBER DOUGLAS: Aye.

19 CHAIR HOCHSCHILD: Commissioner Monahan?

20 BOARD MEMBER MONAHAN: Aye.

21 CHAIR HOCHSCHILD: Commissioner Gunda?

22 BOARD MEMBER GUNDA: Aye.

23 CHAIR HOCHSCHILD: And I vote "aye" as well.
24 That item passes unanimously. Thank you to the staff.

25 BOARD MEMBER MCALLISTER: Thank you, Cheng.

1 CHAIR HOCHSCHILD: Yes, sir.

2 MR. MOAU: Thank you.

3 CHAIR HOCHSCHILD: Did you have a comment?

4 BOARD MEMBER MCALLISTER: No, I was just saying
5 thank you to Cheng. That's all.

6 CHAIR HOCHSCHILD: Oh, yeah. Thank you.

7 Let's turn now to Item 5, Turning to Item 5, Town
8 of Truckee Petition, Cheng?

9 MR. MOAU: Hi, thank you. I am also presenting
10 for Item 5, the Town of Truckee Petition. Again, my name
11 is Cheng Moua and also with me again is Matt Chalmers from
12 the Chief Counsels Office. Next slide, please.

13 So, Item 5 is different from Item 4, but also
14 relates to the California Energy Code solar PV
15 requirements. This item is related to snow loads and PV
16 installation.

17 This item benefits California by confirming the
18 PV requirement applies where it can be safely installed and
19 does not apply where design requirements for snow loads
20 can't be met, protecting the consumer. This item also
21 provides clarification to the PV requirement in snow
22 country for local enforcement agencies and builders to
23 follow. Properly installed PV systems are an important
24 part of achieving the state's climate change goals and
25 reducing greenhouse gas emissions.

1 This item promotes the successful installation of
2 PV systems in snow country and encourages the solar
3 industry to solve snow load challenges. Next slide,
4 please.

5 So, to give a brief background, the
6 Administrative Regulations of Title 24 include provisions
7 where any local government agency, firm, or member of the
8 public may petition for the proposal, adoption, amendment,
9 or repeal of any building standard in Title 24.

10 The Town of Truckee and their local working group
11 submitted a petition to the 2019 Energy Code solar PV
12 requirement. Its members include Nevada, Sierra, Placer,
13 and Mono counties, and also the Town of Mammoth Lakes.

14 Truckee and the working group acknowledges the
15 CEC's efforts to reduce greenhouse gas emissions and
16 promote PV systems, however they are concerned that high
17 snow loads for some of their building sites make compliance
18 with the PV requirement impossible.

19 Truckee, and other parts of California that are
20 declared snow areas, are required to have studies based on
21 historical weather data, that they rely on to calculate
22 ground snow loads for each building parcel. This ground
23 snow load establishes the building design requirements for
24 snow.

25 The petition states that many building sites

1 located in the high Sierras have building design snow loads
2 that are greater than what PV panels are currently rated to
3 withstand, and that requiring PV would be in conflict with
4 the structural design requirements of the California
5 Building Code. Truckee is concerned that installing PV
6 would result in substantial damage and PV warranties would
7 be voided. Some building sites in snow country have ground
8 snow loads greater than 500 lbs/ft².

9 The petition seeks an exception to the 2019
10 Energy Code PV requirement for these building sites where
11 design snow loads can't be met. Next slide, please

12 The California Building Code and the California
13 Residential Code both require all PV system components,
14 including the panels and attachments, to structurally
15 withstand all applicable loads. Design snow loads, for
16 both codes, must be determined in accordance with the
17 American Society of Civil Engineers (ASCE) Standard 7-16,
18 Chapter 7 for Snow Loads.

19
20 Staff sought support from the solar industry to
21 review the petition, and also received assistance from the
22 Division of State Architect in understanding Standard 7-16.
23 Standard 7-16, Chapter 7 uses the ground snow load, along
24 with other site-specific variables, to determine the design
25 load requirements for the PV system. It also includes

1 substantial design considerations that are applicable to
2 snow loads.

3 The highest rated PV panels currently have a
4 design load rating of 125 lbs/ft² or less. Next slide,
5 please

6 Staff finds that all pertinent requirements of
7 the Energy Code, California Building Code, and the
8 California Residential Code should be met in as many newly
9 constructed homes as achievable. Staff finds that based on
10 the Standard 7-16 method, whether PV systems can be safely
11 installed depend heavily on site-specific conditions. And
12 builders, their designers and engineers, need to address
13 issues under their control to meet snow load structural
14 requirements such as the location of the panels on the
15 roof, the slope of the roof and panels, and using
16 installation practices that would make PV systems more
17 resilient to snow loads.

18 The local enforcement agency should take care to
19 ensure that practical approaches occur to design homes that
20 facilitate the installation of solar PV, if at all
21 possible.

22 However, staff also finds that regardless of best
23 effort design, there will be cases where it is not possible
24 to meet structural requirements due to the extreme ground
25 snow loads of some sites therefore not being able to comply

1 with building and residential code. Staff confirmed this
2 by performing Standard 7-16 calculations, considering the
3 current 125 lb/sf panel rating, and using assumptions
4 favorable to the installation of PV. Results show that
5 ground snow loads that would cause PV panels to fail, are
6 within range of those ground snow loads in the high
7 Sierras. Next slide, please.

8 Staff documented its review and findings as
9 discussed in the previous slides, in a Notice of
10 Preliminary Conclusions, and posted it to the CEC's website
11 for public comment. Twelve public comments were received
12 from local stakeholders, residents and the solar industry.
13 Most of the comments received were in support of staff's
14 recommendation. Many stakeholders shared positive stories
15 of successful PV installations in snow country, but
16 acknowledged that there will be a few exceptions where the
17 snow load is just too much.

18 There were also a few suggestions for the Notice
19 to provide clarification. Staff responded by revising the
20 Notice into a Final Conclusions document that incorporates
21 and addresses the comments. Next slide, please.

22 With that, staff recommends approval of the
23 resolution confirming that the solar PV requirement do not
24 apply to newly constructed low-rise residential buildings,
25 where such systems are unable to comply with the snow load

1 structural requirements of the California Building Code and
2 California Residential Code.

3 This concludes my presentation. Mr. Chalmers and
4 I are here to answer any questions. Thank you.

5 CHAIR HOCHSCHILD: Thank you.

6 Are there any public comments on this item, Madam
7 Public Advisor?

8 MS. GALLARDO: Yes, this is Noemi Gallardo,
9 Public Advisor. We have three people on the line. We will
10 start with Darcey Messner from the Town of Truckee.

11 And Darcey, if you could please spell your name
12 before speaking, your line is now open. You may begin.

13 MS. MESSNER: Yes, D-a-r-c-e-y M-e-s-s-n-e-r.

14 Good morning, Commissioners, thank you for
15 considering our petition for high snow load exemptions from
16 the 2019 Energy Code solar PV requirements. The Town of
17 Truckee submitted this petition on behalf of our local
18 building working group, including our member jurisdictions
19 Nevada County, Placer County, Town of Mammoth Lakes, Mono
20 County and Sierra County. The exemption would be of
21 relevance to all of California high snow load
22 jurisdictions.

23 As you are likely aware, this year Nevada
24 mountain range has the highest snow loads in the
25 continental United States. Even after reducing the ground

1 snow load per ASCE 716 using all appropriate roof snow load
2 factors the design snow loads for many projects are still
3 higher than the capacity of available solar modules and
4 typical mounting hardware. This presents concerns
5 regarding potential failures and conflicts with California
6 Building Code requirements.

7 We are pleased with the final version of the
8 CEC's Notice. It outlines the exemption process clearly
9 and addresses the various comments received during the
10 comment process. It's important to note that the extent of
11 the exemption -- I'm sorry -- the intent of the exemption
12 is to mitigate solar PV system failures, not to avoid
13 addressing energy sustainability. In that vein, the Town
14 of Truckee is considering a REACH code with offset
15 requirements for those projects that request and qualify
16 for the solar PV exemption.

17 We would like to thank the Town of Truckee
18 Engineers Association, and in particular Rick Fitzgerald,
19 Paul Laudenswagger (phonetic) and Rocky Woods, for their
20 valuable input and structural engineering expertise
21 throughout the process.

22 We look forward to continuing to work closely
23 with the California Energy Commission and the California
24 Building Standards Commission and appreciate your input and
25 consideration of this matter.

1 I'm happy to answer any questions, thank you.

2 MS. GALLARDO: Thank you, Darcey.

3 Next, we have Mark Dixon. And Mark, I'd remind
4 you to please spell your name and indicate your
5 affiliation, if you have one. Mark, your line is open, you
6 may begin.

7 MR. DICKSON: Good morning, Commissioners. My
8 name is Mark Dickson, M-a-r-k D-i-c-k-s-o-n. And I am the
9 owner of Simple Power Solar, a local solar provider up in
10 the Lake Tahoe and Truckee area. We've been installing
11 systems up there for about seven years now. And while we
12 admit in the very beginning, you know, there were some
13 learning steps to figure out how to do it and deal with the
14 snow conditions, we feel that we -- you know, in the year
15 since we've worked directly with solar manufacturers, the
16 module manufacturers and the racking manufacturers to come
17 up with design methods and equipment that can sustain most
18 of the situations up there in snow country.

19 Admittedly, there still are some situations where
20 we cannot install solar. Some of those photos that were in
21 the presentation were of the flat roof, and of course snow
22 just piles on top. But as long as they are on a pitched
23 roof, and there's places for the snow to shed, as you all
24 know solar modules are a slippery surface and the snow
25 slides right off. So, in that case the solar modules are,

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1 in fact, reducing the snow those on some of those roofs.

2 And I guess in closing, I'd just like to say that
3 also we are -- all of our systems are from custom engineers
4 required to have an engineering stamp of approval. We do
5 use a local engineer in Lake Tahoe that is familiar with
6 the snow region up there. So, they are looking at every
7 single one of our designs and giving it the thumbs up or
8 thumbs down. So, we feel that that liability should fall
9 back on to that engineer, whether they approve it or not,
10 not necessarily the building department.

11 And I guess furthermore we'd just like to say, as
12 the PUC provides the mandate for solar, the more holes that
13 are kind of punched into the mandate, you know the slower
14 it is. And we're going to achieve our goals here as the
15 state, so Simple Power does stand behind certain
16 exemptions. But not a blanket exemption across the whole
17 board up there. We'd like to have each of these projects
18 taken into consideration, specifically on their condition,
19 Thank you.

20 CHAIR HOCHSCHILD: Thank you.

21 MS. GALLARDO: All right, next is Seth Kielas. If
22 you could also please pronounce and spell your name for us,
23 I may have gotten that wrong, and indicate your
24 affiliation. Seth, your line is open, you may begin.

25 MR. KIELAS: Hi, Seth Kielas, S-e-t-h K-i-e-l-a-

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1 s. I'm affiliated with Simple Power Solar and I've been a
2 Truckee local for 19 years. And my original background was
3 working in high-end custom residential construction in the
4 area, so very familiar with, construction and design for
5 the homes that are built up here. And I am familiar with a
6 lot of the designers and engineers.

7 And I think you know, in general, I just want to
8 you know focus on that angle in terms of I think we have a
9 high concentration of talented architects and engineers in
10 Truckee. And you know I think our concern in the overall
11 climate goal is to make sure that everyone is doing their
12 part. And I think that there's no question that we have
13 talented designers that can plan for solar.

14 In my mind regulation, you know, often drives
15 design. And just like you have regulations to provide
16 egress for people to safely escape in a fire, the important
17 mandate of solar for combatting climate change needs to be
18 considered, designed and planned for. And we absolutely
19 can plan for, and I think Mark spoke about this in general,
20 of our experience up here in snow country. But also, I
21 guess my comment here, really I want to focus on engineers
22 and designers, speaking to them in snow country, can and
23 should plan for solar. And if it is properly planned for,
24 that solar can absolutely be a resource, you know, for
25 distributed generation.

1 And I think a couple of items that staff had
2 mentioned, you know choosing roof slopes and tubing panel
3 (phonetic) locations that maximize the roof slope and allow
4 the PV system to qualify as an unobstructed slippery
5 surface, I can't emphasize that enough, by the time the
6 house is built. You know, the planning for the solar, just
7 like any other design or energy requirement needs to happen
8 in advance and be planned for.

9 And like Mark mentioned, solar panels are made of
10 metal and glass. And providing a design and a roof area
11 that allows for the shedding of snow in a location that
12 makes sense, you know, in terms of orientation to the sun
13 is just common sense. Good planning and design, especially
14 in our area. And then their other item, modifying roof
15 designs, roof locations or PV panel mounting to avoid
16 issues such as unnecessarily snow accumulation or snow
17 sliding off the roof to undesirable locations on the site.

18 So, the second point, which is related to the
19 first and just a general design element, is this already
20 happens in snow country for all designs. You don't want
21 snow shedding where it can hurt people. You don't want
22 snow shedding in front of your garage. And so I guess I
23 want to close by saying this mandate is super important and
24 if we can continue to plan around it that's what we should
25 be focusing on. So, thank you.

1 MS. GALLARDO: Thank you, Seth.

2 That was the last comment, Chair, so I'll turn it
3 back over to you.

4 CHAIR HOCHSCHILD: Okay, thank you.

5 Unless there are other Commissioner comments,
6 let's turn to Commissioner McAllister for comments on this
7 item.

8 BOARD MEMBER MCALLISTER: So yeah, I have been
9 following this. Obviously, this is a really great example
10 of Commission staff rolling up their sleeves and taking a
11 proactive approach, being advocates for our policies as
12 we've sent them out. And focusing on getting results and
13 making sure that any exemptions are well founded.

14 And so I want to thank all three of the
15 commenters. Darcey, I did not write down your last name
16 but from Truckee. Thank you very much for bringing this
17 forward and Mark and Seth both, Mr. Dickson and Mr. Kielas,
18 thanks very much. I appreciate your comments.

19 And absolutely agree, I mean with a really good
20 design we can put solar on roofs. And you know a lot of
21 folks up there in the hill country do want solar, and we
22 need to create pathways to do it in a way that works and
23 respects structural engineering requirements and then meets
24 all the rest of the code.

25 So, I want to thank Cheng and the whole team,

1 also my advisor Bill Pennington. The Building Standards
2 Office really worked in a proactive and very constructive
3 and very positive way, with all the stakeholders and the
4 solar industry from the region. So really, I think this is
5 a great outcome and the process really has been a model for
6 how to get the right result. So, thanks Cheng, and the
7 whole team for that.

8 CHAIR HOCHSCHILD: Yeah.

9 BOARD MEMBER MCALLISTER: And if there's no other
10 comments -- I don't see any -- I'll move Item 5.

11 CHAIR HOCHSCHILD: Thank you. Yeah, I would just
12 add I think this is an example of our process working
13 exactly as it should. So, thank you to the staff and all
14 of the stakeholders.

15 Thank you for making the move. Commissioner
16 Douglas, would you be willing to second?

17 BOARD MEMBER DOUGLAS: Yes, second.

18 CHAIR HOCHSCHILD: All right, all in favor say
19 aye.

20 Commissioner McAllister?

21 BOARD MEMBER MCALLISTER: Aye.

22 CHAIR HOCHSCHILD: Commissioner Douglas?

23 BOARD MEMBER DOUGLAS: Aye.

24 CHAIR HOCHSCHILD: Commissioner Monahan?

25 BOARD MEMBER MONAHAN: Aye.

1 CHAIR HOCHSCHILD: Commissioner Gunda?

2 BOARD MEMBER GUNDA: Aye.

3 CHAIR HOCHSCHILD: And I vote "aye" as well.

4 Let's move on to Item 6, DOE-National Renewable
5 Energy Laboratory.

6 MR. KONALA: Good Morning, Commissioners. My
7 name is Sudhakar Konala. I am the Self-Generation
8 Forecaster in the Demand Analysis Office of the Energy
9 Assessments Division. Next slide, please.

10 I am presenting today seeking the approval of a
11 contract with the National Renewable Energy Laboratory or
12 NREL for \$350,000. Under this project, NREL will develop a
13 forecast of behind-the-meter Distributed Energy Resource
14 adoption for emerging market segments in California.
15 Before I proceed, I just want to touch on what a
16 Distributed Energy Resource or DER, is.

17 A DER refers to any device that produces or
18 stores electricity while connected to the distributed
19 system of the electricity grid. And behind-the-meter DER
20 specifically refers to devices installed behind a utility
21 customer's electrical meter. Examples of DEC include solar
22 that you might see on a neighbor's roof, or a battery
23 system, which can keep the lights on when the power goes
24 out.

25 Modeling DERs is an important component of the

1 Commission's Energy Demand Forecast, which is used in long-
2 term energy planning.

3 Our current forecast projects that behind-the-
4 meter DERs, including technologies like solar and energy
5 storage, will account for over 17 percent of the state's
6 electricity generation by the year 2030. Next slide,
7 please.

8 The purpose of this contract is to enhance the
9 Energy Commission's ability to forecast behind-the-meter
10 distributed energy resource (DER) adoption. And more
11 accurate forecasts of DER adoption benefit all of
12 California.

13 DER forecasts are often used to inform
14 electricity system resource planning, since DERs can
15 significantly alter the shape of electrical load. They can
16 impact both the timing and magnitude of peak electricity
17 demand. DERs can significantly alter the shape of
18 electrical load, for example. So accurate projections of
19 DERs are important for resource adequacy planning, to
20 ensure that California has sufficient generation when and
21 where it is needed.

22 DER forecasts also help in assessing progress
23 towards meeting the state's clean energy and
24 decarbonization goals, like SB 100. Next slide, please.

25 The project will look at DER growth in emerging

1 market segments, where modeling adoption is difficult. The
2 segments include solar in the multifamily residential
3 sector and behind-the-meter energy storage.

4 For multifamily residential sector, the current
5 rate of solar adoption is quite low. And it is difficult
6 to model adoption in this market, because occupants in the
7 buildings often do not have the authority to install solar,
8 and data is limited. However, the state's new building
9 efficiency standards require solar on most new residential
10 buildings of three floors or less, are expected to drive
11 growth in this market.

12 In terms of behind-the-meter energy storage,
13 adoption rates are also low, primarily due to the high cost
14 of storage. However, adoption is expected to rise rapidly.
15 This can already be seen by looking at applications for
16 rebate funding.

17 For example, in the fall of 2020, reservations
18 for California's self-generation incentive program were 470
19 MW, up nearly 7 times from the previous year.

20 Finally, the conditions and policies within the
21 state, such as increased Public Safety Power Shutoffs by
22 utilities, and changes to rates structures and incentive
23 schemes like Net Energy Metering, are also expected to
24 further promote storage adoption. Next slide, please.

25 So, the key outputs of this project will include

1 a forecast of behind-the-meter solar adoption in
2 multifamily and/or renter-occupied homes. And a forecast
3 of behind-the-meter energy storage adoption in all customer
4 segments.

5 The forecast will be completed using the
6 "California-adapted" version of NREL's distributed
7 generation market adoption model or dGen. For this
8 project, the California-adapted model will receive
9 important new updates including a new storage module that
10 improves the model's ability to forecast energy storage.

11 The results of the forecast are expected to be
12 ready for the 2022 IERP update.

13 NREL will also provide an updated version of the
14 dGen model, which will include new open-source code and the
15 new storage module, as well as any updates made to the
16 model during this agreement.

17 Finally, NREL will also provide support and
18 training to staff on how to use dGen, allowing staff to
19 perform independent model runs. Next slide, please.

20 Given the importance of forecasting DER adoption
21 for the Energy Commission's Energy Demand Forecast, and for
22 statewide energy planning, and given that this project with
23 NREL would help improve the Commission's ability to
24 forecast behind-the-meter DER adoption staff recommends the
25 approval of this agreement with NREL.

1 Thank you.

2 CHAIR HOCHSCHILD: Thank you, Sudhakar.

3 Madam Public Advisor, do we have public comment
4 on Item 6?

5 MS. GALLARDO: This is Noemi Gallardo, Public
6 Advisor. Yes, we do. We have one, so that is Kevin
7 McCabe. Kevin, please spell your name and state your
8 affiliation. Your line is open, you may begin.

9 MR. MCCABE: Great. Thank you, and yes my name
10 is Kevin McCabe, K-e-v-i-n M-c-C-a-b-e. I'm an energy
11 analyst with the National Renewable Energy Laboratory or
12 NREL.

13 First and foremost, I just want to thank the
14 Commission for considering this item. I also want to thank
15 Sudhakar for his continued support and direction for our
16 partnership with the Commission. Over the past several
17 years actually, and I don't know you mentioned it, but we
18 did have a previous agreement between NREL and the
19 Commission that allowed us to further develop the dGen
20 model. Specifically, to model the State of California, in
21 a way that we had never done previously.

22 And in this previous agreement started several
23 years ago, and in the years since the dGen team here at
24 NREL has yielded many requests from other states utilities
25 and commissions. You know, for example, we've worked with

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1 the Los Angeles Department of Water and Power, the Orlando
2 Utilities Commission just to name a couple.

3 In our initial work with the SEC, the Commission
4 paved the way for these types of partnerships to flourish,
5 as they have. And so now we're very excited to have this
6 new proposal in the works as it builds on much of what was
7 developed in the previous agreement.

8 And separately, our team at NREL has grown in
9 size and experience over the last few years, so we're
10 especially excited to have the opportunity to apply our
11 newfound knowledge on several of the topics at hand that
12 Sudhakar outlined, namely the analysis and modeling of
13 multifamily and renter occupied buildings. And especially
14 distributed or behind-the-meter storage.

15 As we all know, these are important topics in the
16 broader grid of the future. So, these are areas of
17 research that we believe are important to understand, not
18 only in the State of California, but nationwide and we hope
19 to be able to establish that and really continues this two-
20 way dialogue and information sharing with the Commission to
21 better develop methods to analyze these topics and apply
22 lessons learned to improve the well-being of individuals in
23 the State of California.

24 So, thank you once again for your time and
25 consideration.

1 CHAIR HOCHSCHILD: Thank you. And Kevin, let me
2 thank you for all your work with your colleagues at NREL.

3 You know NREL's work, I think, is more important
4 than ever now with President Biden adapting a 100 percent
5 renewable energy goal for the country by 2035. So, your
6 team's analysis is really needed now more than ever on
7 these kinds of items.

8 I don't believe we have any more public comment,
9 right? So, let's move to Commissioner discussion. Why
10 don't we go to Commissioner McAllister?

11 BOARD MEMBER MCALLISTER: Great. Well, thanks
12 Sudhakar, for your leadership over the years here. And to
13 Mr. McCabe as well, thank you for all the work. I will
14 just echo what the Chair just said. I mean NREL is a
15 national treasure and has been for decades. And we're
16 really glad to have a formal relationship to work on this
17 issue.

18 And I would just want to underscore the
19 importance of it for the forecast, but also the potential
20 sort of corollary benefits of understanding these resources
21 in more building sectors. And in particular the load
22 flexibility in behind-the-meter storage as a resource to
23 enhance reliability and assist the decarbonization effort.
24 I think there's a lot of opportunity in other parts of what
25 the Commission does, including the Building Code and load

1 management standards. And this could provide a healthy
2 foundation for other efforts as well, like those.

3 So, I'm very optimistic about this and very much
4 in support. And yeah, I want to just encourage adoption.
5 And thanks to Sudhakar and the NREL team as well.

6 CHAIR HOCHSCHILD: Okay. Commissioner Gunda, did
7 you want to add anything to this item?

8 BOARD MEMBER GUNDA: Yeah, thank you, Chair.
9 Yes, I just want to reiterate what Commissioner McAllister
10 said. This is vitally important work as we think through
11 the forecast and the reliability and DERs have an
12 incredible role to play, as we think through the scaling of
13 the clean energy resources, and ensuring reliability moving
14 forward that roll both in DERs, especially the storage side

15 And so I also want to thank Sudhakar for your
16 vigor and thoughtfulness to work that you've brought over
17 the last couple years to the self-gen forecasting.

18 I had the opportunity to closely work with you
19 over the last couple years, so I'd just congratulate you
20 for your good work. And thank you, Kevin. We look forward
21 to this continued relationship and benefiting the state and
22 the country as a whole. I as well, am very much supportive
23 of this item.

24 CHAIR HOCHSCHILD: Okay, thank you.

25 Commissioner McAllister, unless there's other

1 Commissioner comments -- I don't see any -- Commissioner
2 McAllister, are you willing to make the motion?

3 BOARD MEMBER MCALLISTER: Yes, I will move Item
4 7.

5 CHAIR HOCHSCHILD: Okay. Commissioner Gunda --

6 BOARD MEMBER MCALLISTER: Oh, I'm sorry --

7 CHAIR HOCHSCHILD: Is that Item 6 or 7? That's
8 Item 6.

9 BOARD MEMBER MONAHAN: It's 6.

10 BOARD MEMBER MCALLISTER: Yes, that's Item 6.
11 Sorry, yeah sorry. I move Item 6.

12 CHAIR HOCHSCHILD: Thank you. Commissioner
13 Gunda, would you be willing to second that?

14 BOARD MEMBER GUNDA: Yes, I second that.

15 CHAIR HOCHSCHILD: Commissioner Douglas, would
16 you be willing to second?

17 BOARD MEMBER DOUGLAS: Yes, second.

18 CHAIR HOCHSCHILD: Okay. All in favor say aye,
19 Commissioner McAllister?

20 BOARD MEMBER MCALLISTER: Aye.

21 CHAIR HOCHSCHILD: Commissioner Gunda?

22 BOARD MEMBER GUNDA: Aye.

23 CHAIR HOCHSCHILD: Commissioner Douglas?

24 BOARD MEMBER DOUGLAS: Aye.

25 CHAIR HOCHSCHILD: Commissioner Monahan?

1 BOARD MEMBER MONAHAN: Aye.

2 CHAIR HOCHSCHILD: And I vote "aye" as well.
3 That item passes unanimously. Congratulations to
4 everybody.

5 Let's turn now to Item 7, National Technology &
6 Engineering Solutions of Sandia, LLC.

7 MR. GRAVELY: Good morning, Chair Hochschild and
8 Commissioners, I'm Mike Gravely and Office Manager of the
9 Energy Research and Development Division

10 Today I bring for your consideration a proposed
11 Memorandum of Understanding between the DOE Sandia National
12 Laboratory and the CEC. The National Technology &
13 Engineering Solutions of Sandia, LLC is the contract
14 organization that manages Sandia for DOE.

15 This MOU is a zero cost MOU where each party will
16 cover their own costs and no funding will transpire between
17 the parties for the execution or management of this MOU.

18 Next slide, please

19 Energy storage is a big part of the State's
20 conversion to a clean, carbon free future. The state
21 currently has an estimated 2500 MWs of energy storage
22 systems installed or approved to be installed and the
23 future need is expected to grow substantially.

24 For example, the CPUC Integrated Energy Resource
25 Plan is estimating the state will need almost 10,000 MWs of

1 energy storage by 2030. And the recently released SB 100
2 plan produced by the CEC and other state agencies is
3 estimating the need for between 20,000 and 35,000 MWh of
4 energy storage by 2045. Of the currently approved 2500
5 MWh, over 90 percent of those systems are based on one
6 technology -- Lithium Ion.

7 Given this rapidly growing need for California to
8 have for energy storage, the research that DOE and CEC will
9 complete is even more important to ensure California can
10 meet the needs of the state with a portfolio of options
11 that provides the potential for higher performance,
12 improved safety, and lower costs. Next chart.

13 The CEC and DOE have a long history of supporting
14 and evaluating and field testing emerging energy storage
15 technologies. This slide illustrates the full spectrum of
16 energy storage technologies that both the CEC and DOE have
17 evaluated and supported in the past. This includes large
18 systems like pumped hydro and compressed air, utility scale
19 systems like lithium ion, advanced batteries, flow
20 batteries, and flywheel systems and smaller systems for
21 commercial and residential applications.

22 The variety of technology solutions will help
23 fill the various applications for energy storage including
24 at the customer site, along the distribution system, and to
25 support the challenges of the transmission systems. Next

1 slide, please

2 In 2020, the CEC EPIC program awarded the largest
3 number of energy storage grants in the history of the
4 program. These are innovative technologies and concepts
5 that offer California and the nation new solutions that are
6 safer to operate, provide a longer life, do not degrade
7 their performance over time and have a lower cost.

8 Here are a few examples based on the goals and
9 objectives provided by these vendors in their proposals
10 that were approved by the CEC. A new combination of
11 materials and manufacturing processes that are expected to
12 eliminate the challenge of thermal runaway that has seen
13 larger energy storage systems catch fire and burn up
14 worldwide. Advanced energy storage systems with life
15 expectancy of 10-20-year range where today that range is in
16 the 5-7 years. A projected price point of less than half
17 the cost of systems today.

18 And finally, as another example a larger utility
19 grade system. Several of these technology providers are
20 projecting a performance that will be a price point that
21 will deliver 4 days of energy storage capability in the
22 future, for what it cost for 4 hours just a few years ago.

23 This MOU is coming at a very exciting time.
24 Under the MOU, DOE will provide the CEC access to their
25 highly experienced technical staff who have firsthand

1 experience running energy storage testing and system
2 commissioning's, overseeing field operational challenges,
3 and a deep knowledge of the capabilities of the all-
4 different energy storage technologies.

5 The CEC will provide DOE access to a wide range
6 of technology demonstrations that can be used to educate
7 other states as the nation develops a clean energy and zero
8 carbon future as advertised under the new administration.
9 Working together, DOE and the CEC can ensure the energy
10 storage technologies that California and the nation needs
11 in the future for our clean, zero carbon future will be
12 available, meet the performance required, and be very cost
13 effective. Next chart, please

14 I am requesting approval of Item 7 to allow these
15 two parties to sign and execute the proposed MOU. I
16 understand we have two speakers from DOE who would like to
17 comment on this. The first is Dr. Imre Gyuk. He is the
18 Director of Energy Storage Research, the DOE Headquarters
19 Office of Electricity. The second is Daniel Borneo, an
20 Engineering Program Lead for Energy Storage at Sandia
21 National Lab.

22 I'll turn it back to you. I'm here to answer any
23 questions I can, sir.

24 CHAIR HOCHSCHILD: Thank you, Mike.

25 Madam Public Advisor do we have anyone in

1 addition to those two speakers, if not let's begin with
2 those two.

3 MS. GALLARDO: It looks like we may have one
4 more, but let's start with Imre from the Department of
5 Energy.

6 So Imre, please a reminder to spell your name and
7 state your affiliation. Your line is open, you may begin.

8 MR. GYUK: Do you patch me through on the Zoom or
9 do I -- exactly.

10 CHAIR HOCHSCHILD: Go ahead.

11 MS. GALLARDO: Imre, we can hear you. Speak
12 through the phone, Imre, on the Verizon line.

13 MR. GYUK: I just muted my Zoom. Okay, so my
14 name is Imre Gyuk, I-m-r-e G-y-u-k. And I direct the
15 Energy Storage Program at the Office of Electricity in the
16 Department of Energy. And I have done so for quite a
17 while. In fact, since before almost anyone realized that
18 storage would become an essential component of the grid.

19 In California, of course, they did realize this.
20 And one of the things we did early on, was to pass an MOU
21 between CEC and DOE. In fact, the first project we did
22 jointly was one on frequency regulation. And that DEMO
23 project eventually led to FERC making a regulation on
24 energy storage and frequency regulation becoming the first
25 commercially viable application for energy storage.

79

1 Since then, DOE has supported many storage
2 projects in California. And, of course, even more projects
3 have been funded by the California Energy Commission.

4 Much has happened since California, since then.
5 California has had its famous storage mandate and projects
6 of increasing size have been realized. Similarly, our
7 federal program has grown very substantially.

8 Throughout we have maintained contact with the
9 California Energy Commission, Mike Gravely personally, and
10 through projects. And we would now like to formalize this
11 relationship in the MOU.

12 The DOE program through Sandia has many things
13 that it can offer California, particularly our hands-on
14 experience in installing, commissioning and analyzing
15 projects. It's considerable effort in analytics to value
16 projects. And also its experience in safety and its
17 research on safety issues.

18 I should also mention that we have a considerable
19 number of projects with tribal entities going on, and we
20 would like to connect on that basis as well. And upcoming
21 issues such as social equity. So we very much look forward
22 to working, and rather to continue working with CEC through
23 this MOU.

24 And now, then Borneo who will be bearing the
25 brunt of the actual work.

1 MS. GALLARDO: Thank you, Imre, for keying up
2 Daniel.

3 So Daniel you are next, a reminder to please
4 spell your name and state your affiliation. We will open
5 up your line shortly. Your line is open, Daniel, you may
6 begin.

7 MR. BORNEO: Good morning, and thank you for
8 allowing me to speak today. My name is Daniel Borneo, D-a-
9 n-i-e-l B-o-r-n-e-o, like the "island of."

10 Just I've been working with Mike for 14 years.
11 He was probably the first person I met when I joined the
12 Energy Storage Group here at Sandia National Labs. Much
13 has changed since we first started off with the project
14 that Imre mentioned with the frequency regulation flywheel.

15 But much is left to do. We still need to worry
16 about the costs. We need to worry about the reliability.
17 We need to worry about the safety, the applications that we
18 can use energy storage for. And more so, we need to look
19 for different technologies for energy storage other than
20 battery.

21 California is the leading edge. I hate say it,
22 but coming from the third world state of New Mexico I just
23 sit in awe at the amount of money that California seems to
24 come up with for renewable energy projects and energy
25 storage projects. Without California, I do not think we

1 would be as far along as we are in the energy storage
2 industry. We are out of our infancy now in heading into
3 our adolescence, and I think a large part of that is due to
4 the efforts of California.

5 This partnership with California, is a win-win
6 situation for both. As Imre said we have technical
7 capability with within the labs, but being in a lab and
8 being a government sponsored entity, a lot of people are
9 not willing to allow us to kick the tires of their
10 projects. But working with California, on the other hand,
11 will provide us the opportunity to see projects that
12 California is funding up close and personal and be able to
13 learn from them. And see how are they working and how to
14 improve them.

15 So I'm looking forward, as always, to working
16 with Mike. We've been together for 14 years and until we
17 retire, I guess we still will be together. Thank you.

18 MS. GALLARDO: All right, thank you. And next up
19 we have one more commenter, Ranji George. And Ranji, please
20 a reminder to spell your name, indicate your affiliation,
21 and your line is now open. You may begin.

22 MR. GEORGE: Hello, my name is Ranji George. I
23 am from the new nonprofit called the Coalition for Advanced
24 ZEV. I am as a way of background -- I was a scientist at
25 the South Coast AQMD in the Technology Advancement Office.

1 And I had the privilege of being the lead scientist in the
2 1998 ARB ZEV regulations. And four years later under Dr.
3 Alan Lloyd we launched the hydrogen and fuel cell
4 technology. We were the first in the state, in the
5 country, to demonstrate that hydrogen is safe and can be
6 safely handled. And that's how -- and demonstrated the
7 feasibility of hydrogen fuel cells as a very viable zero
8 emission technology.

9 My comment here is I want to thank the DOE and
10 the CEC for the work they have put on solar and wind and
11 into energy storage and brought up broadening out from
12 lithium ion batteries. Please, have you considered
13 hydrogen? The whole world is now looking into hydrogen.
14 Others, Europe Japan, Korea, they're going to spend
15 billions embracing hydrogen technology. But I'm afraid I
16 am disappointed that California has lagged so much behind
17 that. And we should. Like Caltech and NREL both have
18 pointed out that hydrogen can be very cost effective for
19 longer days of shutdown of electricity.

20 So I would appreciate both CEC and DEO to fully
21 embrace hydrogen as the alternative storage. In fact,
22 Mitsubishi, the big company Mitsubishi, is looking at
23 hydrogen storage for LADWP. There's a project on going
24 online as we speak. I mean they are designing it. So I
25 would agree, I urge you to look at hydrogen as a viable

1 alternative for energy storage. Thank you.

2 CHAIR HOCHSCHILD: Thank you.

3 Is that everybody, Madam Public Advisor?

4 MS. GALLARDO: Yes, that was the last commenter,
5 no more. Thank you.

6 CHAIR HOCHSCHILD: Okay, well thank you all.

7 And let me just first of all say that with Vice
8 Chair Scott moving on to the Department of the Interior, I
9 will be taking over as the Lead on R&D. I've asked
10 Commissioner McAllister to be second on that with me and
11 he's agreed to do that. And I'm grateful for him for
12 stepping up, yet again on these issues.

13 I'll just say that though energy storage is
14 fundamental to our future, we're going to be doing
15 something historic this year. We're doing a tenfold
16 increase in utility scale energy storage for this year in
17 2021. And the PUC is working hard on that.

18 We have put in, you know in excess of \$100
19 million in energy storage at the Energy Commission with
20 every single chemistry you can imagine from benasium
21 (phonetic) to iron-chromium to lithium ion and so forth.
22 And these partnerships matter a great deal with the
23 National Labs, with Sandia and others. And I want to
24 recognize in particular Mike Gravely's terrific work on
25 this issue. And I'm in full support of this item.

1 Are there other Commissioners wishing to make a
2 comment on this? If not, Commissioner McAllister, would
3 you be willing to move Item 7?

4 BOARD MEMBER MCALLISTER: Yes, move Item 7.

5 CHAIR HOCHSCHILD: Okay. Commissioner Monahan,
6 would you be willing to second?

7 BOARD MEMBER MONAHAN: I second.

8 CHAIR HOCHSCHILD: Okay. All in favor say aye,
9 Commissioner McAllister?

10 BOARD MEMBER MCALLISTER: Aye.

11 CHAIR HOCHSCHILD: Commissioner Douglas?

12 BOARD MEMBER DOUGLAS: Aye.

13 CHAIR HOCHSCHILD: Commissioner Monahan?

14 BOARD MEMBER MONAHAN: Aye.

15 CHAIR HOCHSCHILD: Commissioner Gunda?

16 BOARD MEMBER GUNDA: Aye.

17 CHAIR HOCHSCHILD: And I vote "aye" as well.

18 That item passes unanimously.

19 Colleagues when I suggest we should do, actually
20 I think we can get through one more item and then break for
21 lunch. So let's move on to Item 8, Advanced Plug Load and
22 Smart Exterior Lighting.

23 MR. VILLANUEVA: Greetings Chair and
24 Commissioners. My name is Felix Villanueva and I am a
25 utility engineer with the Energy, Research and Development

1 Division. Today I will provide a presentation on the two
2 recommended awards from our Advanced Plug Load and Smart
3 Exterior Lighting Systems solicitation. Next slide,
4 please.

5 Plug loads are electric devices that are
6 typically plugged into a building's power outlet. These
7 devices include TVs, computers, electronic devices, and
8 appliances. Currently, it is estimated that a typical
9 residential building has more than 50 devices and
10 commercial buildings have hundreds.

11 Plug loads are one of the fastest growing
12 categories of energy use. This slide shows that plug loads
13 account for 40 percent of California's residential
14 electricity consumption and 27 percent of California's
15 commercial electricity consumption. As more and more
16 devices are brought into and used in buildings, the total
17 energy use for plug loads is expected to increase, because
18 these devices are generally not monitored or controlled or
19 covered by codes and standards. As a result, many of these
20 are left on 24/7.

21 The objective of the plug load projects
22 recommended today is to control energy use from these
23 devices. Next slide, please.

24 The benefits of the recommended projects include:
25 reduce plug load energy use and costs, which reduces

1 operating costs for building occupants. Integrate advanced
2 plug load controls with existing building energy management
3 systems to provide automated controls to maximize energy
4 savings and provide electric load control. Inform future
5 codes and standards by providing data on energy use,
6 savings potential and cost effectiveness.

7 CEC's past research on plug loads helped informed
8 code changes associated with external power supplies,
9 battery chargers, televisions and personal computers. and
10 these are expected to save Californians an estimated \$10
11 billion by 2025 with appliance turnover.

12 I will now discuss the two recommended awardees.
13 Next slide, please.

14 Item 8a is this project with the Regents of the
15 University of California, on behalf of the San Diego Campus
16 will integrate an advanced smart plug load control called
17 BertBrain with the campus's existing building energy
18 management system.

19 BertBrain controls will be installed in plug load
20 equipment such as TV displays, computer workstations, large
21 printers, water coolers, networking equipment,
22 multifunctional devices, vending machines, monitors,
23 copiers, and coffee makers. These controls will be
24 integrated with the campus's existing Johnson Controls
25 energy management system or EMS. The EMS can control the

1 operating schedule, detect operation problems and reduce
2 load as needed during grid events.

3 These controls will be tested in 10 campus
4 buildings and private office buildings in San Diego. The
5 project will be evaluated to determine performance, energy
6 and operational savings, cost effectiveness and
7 predictability of the reducing load during demand response
8 events. Next slide, please.

9 Item 8b. This project with the California Energy
10 Alliance will assess potential plug load devices for
11 appliance codes and standards consideration. One of the
12 most effective ways to reduce plug load energy use is
13 through the adoption of device-level appliance standards at
14 the state level.

15 California Energy Alliance will partner with UC
16 Davis's California Lighting Technology Center and UC
17 Irvine's Calplug Research Center to identify plug load
18 devices that are not covered by any standards. And to
19 determine those with the most potential for state-level
20 codes and standards consideration based on cost-
21 effectiveness.

22 Potential devices that will be tested include
23 commercial laboratory equipment such as centrifuges,
24 microscopes, and incubators; commercial office equipment
25 such as printers and multifunctional devices; and

1 residential networking equipment such as modems, routers,
2 and gateways.

3 Test procedures will be developed to quantify
4 energy use and performance attributes for compliance
5 purposes. The test will determine energy consumption in
6 different operating modes.

7 The research team will analyze the data and
8 determine specific codes and standards opportunities and
9 model their impacts to determine statewide energy and cost
10 savings and related impacts, if applicable. Next slide,
11 please.

12 So staff today recommends approval of these
13 awards with Regents of University of California, on behalf
14 of the San Diego Campus; and California Energy Alliance as
15 well as staff's determination that this action is exempt
16 from CEQA on both projects.

17 Thank you for your time and I am available to
18 answer any questions you may have. Also, I believe with me
19 today is California Energy Alliance's Executive Director
20 Josh Dean. I believe he would like to provide some remarks.

21 Thank You.

22 CHAIR HOCHSCHILD: Thank you.

23 Madam Public Advisor, how many public comments do
24 we have on this item?

25 MS. GALLARDO: We have two comments for this

1 item.

2 CHAIR HOCHSCHILD: Okay.

3 MS. GALLARDO: So we will -- since Felix teed up
4 the California Energy Alliance we'll have Josh Dean go
5 first. Josh, a reminder to spell your name and we will
6 open up your line. So you can begin, Josh. It is open.

7 MR. DEAN: Thank you.

8 Good morning, Commissioners, my name is Josh
9 Dean, J-o-s-h D-e-a-n. And I'm the Executive Director for
10 the California Energy Alliance. On behalf of the Alliance
11 I wanted to just say thank you to the Energy Commission for
12 funding this very important issue on plug loads.

13 Additionally, the Alliance would like to thank
14 the Commissioners for considering approving this grant
15 agreement today.

16 As noted in Felix's presentation plug loads are
17 one of the fastest growing categories of energy use in
18 residential and commercial buildings. And, with more and
19 more devices being brought in to and used in buildings it's
20 expected that the total energy use for plug loads will
21 continue to increase.

22 The California Energy Alliance is excited to be
23 partnering with UC Davis's California Lighting Technology
24 Center as well as UC Irvine California Plug Load Center, on
25 this project to evaluate, test and develop a set of codes

1 and standards recommendations for future appliance
2 standards rulemakings regarding commercial office equipment
3 laboratory equipment and residential networking equipment.

4 So I just wanted to say thank you again,
5 Commissioners, for considering the proposal and we look
6 forward to working with Energy Commission on this grant
7 opportunity. Thanks.

8 MS. GALLARDO: Thank you. That was -- so this is
9 Noemi Gallardo, Public Advisor. We did have a second
10 person, but it looks like he has disconnected. So that was
11 the last person, Chair, that we have.

12 CHAIR HOCHSCHILD: Okay, let's go to Commissioner
13 discussion, starting with Commissioner McAllister.

14 BOARD MEMBER MCALLISTER: Yeah, so just very
15 quickly, because I know we haven't kind of hard stop here
16 at noon. But really excited about this, the plug loads are
17 huge as Felix laid out and it's very exciting to be working
18 with existing expertise, the nodes of expertise at UC Davis
19 and UC Irvine. I'm really happy to be funding the
20 California Energy Alliance as well, so thanks to Josh for
21 that.

22 This is relevant, not only for the efficiency
23 piece of our authority around appliance standards, but also
24 the load flexibility piece. Which actually arguably is
25 more expansive, because it doesn't have federal preemption

1 issues and so I'm pretty excited about laying some
2 groundwork for the staff's work around SB 49 and that load
3 flexibility work. But really looking forward to getting
4 this moving, so thank you.

5 CHAIR HOCHSCHILD: Great. Unless there's
6 Commissioner discussion, Commissioner McAllister, would you
7 be willing to make the motion?

8 BOARD MEMBER MCALLISTER: Yes, I will move Item
9 8.

10 CHAIR HOCHSCHILD: Commissioner Douglas, would
11 you be willing to second?

12 BOARD MEMBER DOUGLAS: Yes, second.

13 CHAIR HOCHSCHILD: Okay. All in favor say aye,
14 Commissioner McAllister?

15 BOARD MEMBER MCALLISTER: Aye.

16 CHAIR HOCHSCHILD: Commissioner Douglas?

17 BOARD MEMBER DOUGLAS: Aye.

18 CHAIR HOCHSCHILD: Commissioner Monahan?

19 BOARD MEMBER MONAHAN: Aye.

20 CHAIR HOCHSCHILD: Commissioner Gunda?

21 BOARD MEMBER GUNDA: Aye.

22 CHAIR HOCHSCHILD: And I vote "aye" as well.

23 That item passes unanimously. Thank you to the staff.

24 Let's break now and reconvene at 1:00 o'clock.

25 Thanks everybody.

1 MS. GALLARDO: We are in a break of the
2 California Energy Commission's business meeting. We'll
3 resume at 1:00 p.m. Again, the California Energy
4 Commission is in a break and will resume at 1:00 p.m. for a
5 (indiscernible) business meeting.

6 (Off the record at 12:01 p.m.)

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

8 CHAIR HOCHSCHILD: We're on Item 9 now?

9 MS. GALLARDO: Yes, that is correct.

10 BOARD MEMBER GUNDA: Good afternoon, me I'm here.

11 MS. GALLARDO: Thank you, Commissioner Gunda.

12 CHAIR HOCHSCHILD: Okay, I think I'm ready when
13 you are. I see all the Commission except for Commissioner
14 Monahan, right?

15 MS. GALLARDO: That's correct. Well, she's
16 coming through right now.

17 CHAIR HOCHSCHILD: Great, okay so whenever you're
18 ready Noemi.

19 MS. GALLARDO: All right, we'll have Eleanor
20 present. I'll spotlight you in a minute. Go ahead,
21 Eleanor.

22 MS. OLIVER: Okay. So good afternoon, my name is
23 Eleanor Oliver and today I am here to request approval
24 of 6 awards for \$450,000 each, totaling \$2.7 million from
25 the EPIC's small grant program, the CalSEED Initiative.

1 Next slide.

2 Since the start of this small grants program in
3 2017, CalSEED has so far awarded a total of 71 awards to
4 clean energy start-ups with innovative technologies. From
5 the completion of awarded projects, those start-ups have
6 been able to achieve a total of \$65.8 million in various
7 types of follow-on funding. We can also see the growth of
8 these companies over the course of the program with an
9 increased number of career opportunities created, ownership
10 rights, and successful small-scale validations of the
11 unique technologies. Next slide.

12 In reflection of the CEC's commitment for
13 diversity, CalSEED actively conducts outreach to ensure
14 that the applicant pool is representative of all
15 Californians, including women, low-income entrepreneurs,
16 veterans, communities of color, and other underrepresented
17 groups. Next slide.

18 As you know, CalSEED provides small grants to
19 entrepreneurs with early-stage clean energy technologies.
20 Applicants first apply for a \$150,000 Concept Award, which
21 also comes with access to technical resources and business
22 development expertise. Those that successfully receive a
23 Concept Award are then eligible to compete for a \$450,000
24 additional to further develop their innovation. The awards
25 under consideration today are the third round of those

1 \$450,000 prototype awards. Next slide.

2 The Prototype Awards are evaluated through a
3 Business Plan Competition and awarded to CalSEED Concept
4 Awardees who have shown the greatest technical and
5 commercial potential. After being granted a Concept Award,
6 recipients went through a CalSEED-sponsored curriculum to
7 complete a written business case package and prepare a
8 technology business plan pitch. They pitched their case to
9 a panel of judges, who then evaluated both the written
10 portion and virtual pitch for the technical potential,
11 environmental and social impact, business strategy, and the
12 expertise and experience of the team.

13 The third Prototype Award Business Plan
14 Competition took place in November 2020 and the companies
15 with the top six scores are presented here for your
16 consideration today. Next slide.

17 The six companies with the highest scores are
18 Takachar, Icarus RT, Rejoule, EnZinc, SiLi-ion, and Antora
19 Energy. Next slide.

20 The first company is Takachar, who is developing
21 a low-cost mobile reactor unit that can turn small pockets
22 of crops and forest biomass into commercial products such
23 as fuel, fertilizer, and other high-performance filtration
24 media for water or air. This portable system of biomass
25 conversion can reduce normal waste transportation and

1 logistical costs by up to 70 percent while also allowing
2 the waste to be turned into viable bioproducts for
3 additional revenue.

4 During the Concept Award, Takachar validated the
5 performance and output of bioproducts from an initial
6 prototype at lab scale. With the prototype award, the
7 project will conduct a field-scale demonstration of the
8 prototype at three different biomass locations and have
9 partnered with some key stakeholders, PG&E and Orange
10 County Water District, to support independent testing of
11 output bioproduct samples. Next slide.

12 Next is Icarus RT. This team is developing a
13 hybrid solar thermal system that can be retrofitted on the
14 back of readily available or existing PV panels. This
15 system is designed to absorb low-grade waste heat,
16 improving panel cooling, and charging a thermal battery
17 without consuming solar power as traditional batteries do.

18 This low-cost dispatchable system can generate
19 on-demand carbon-free energy by utilizing their novel
20 Organic Rankine Cycle method. A cycle method that utilizes
21 organic fluid and nanotechnology to convert thermal waste
22 heat into usable power for peak demand while increasing PV
23 panels' performance and life span.

24 During the Concept Award, this team was able to
25 develop key prototype components for the system, which

1 included the heat extractors, energy storage system, and
2 the control and monitoring platform. If awarded, the
3 project will combine these newly develop prototype
4 components with their novel Organic Rankine Cycle method
5 and collect data from a real-world application. Next
6 slide.

7 Here is EnZinc. The EnZinc Team is looking to
8 advance their 3D zinc microstructure sponge technology that
9 can be used in a wide array of batteries. This innovation
10 uses a safe recyclable metal that inherently can achieve
11 high power output and energy density even with an increased
12 number of cycles, making it ideal for batteries. By using
13 alternative batteries with this core metal micro-sponge,
14 such as nickel batteries for transportation or grid
15 applications, silver batteries for military and space
16 application, or even magnesium for overall inexpensive
17 batteries, we are able to get rid of commonly used toxic
18 materials and provide a lightweight lower-cost battery with
19 equal life span and higher power.

20 During the Concept Award, EnZinc was able to
21 fabricate and define their novel zinc sponge anodes with
22 battery cells on a lab scale. With the Prototype Award,
23 the project will design and demonstrate their novel anode
24 within a commercial size nickel-zinc battery to validated
25 performance. The project team will also integrate and

1 field test the prototype with an e-bike manufacturer. Next
2 slide.

3 Our fourth company is Rejoule. They are
4 developing a multifaceted portable battery diagnostic
5 platform. This technology is a fast and accurate battery
6 management system that measures critical health and charge
7 metrics on large-format lithium battery packs without the
8 need for disassembly.

9 This innovation uses a combination of cutting-
10 edge electrochemical measurement applications, and a
11 collection of real-world aging data to give instant grade
12 of health and charge. The application of this system will
13 give a much-needed insight into how batteries degrade,
14 improve operational efficiency, and increase life
15 expectancy. ReJoule's custom battery management system
16 provides unprecedented analytics on a battery's health to
17 enhance the performance of second-life batteries and enable
18 leaner, long-lasting storage systems.

19 During the Concept Award, the Rejoule team was
20 able to build and test the concept of the system -
21 validating the core grading functionality of the
22 technology. With the Prototype Award, the project will
23 continue the development of the battery management system
24 by expanding the testing capabilities to include battery
25 packs with higher voltages and capacities. Next slide.

1 Next is SiLi-ion. They are advancing the
2 development of their silicon-carbon composite that can be a
3 "drop-in" additive to replace graphite currently used in
4 commercial Li-ion battery anodes. Since this technology is
5 comprised of silicon and carbon, both abundant and
6 sustainable materials, this replacement can lower the cost
7 of batteries while enabling a boost in energy density
8 without requiring any change to current battery
9 manufacturing procedures.

10 Under the Concept Award, this team demonstrated
11 their first functional lithium-ion battery using their
12 novel silicon carbon additive and confirmed the increase in
13 energy capacity. If awarded, they will transition from
14 lab-scale to pilot-scale production of the silicon-carbon
15 powder and will validate its performance in a high-capacity
16 battery prototype. Next slide.

17 Finally, we have Antora Energy. They will be
18 taking a solid-state approach to developing a low-cost
19 thermal battery for grid-scale energy storage. Antora's
20 system uses a combination of low-cost raw materials that
21 can be heated to high temperatures in combination with
22 their unique high-efficiency thermo-photo-voltaic heat
23 engine, to enable scalable long-duration energy storage at
24 a fraction of the cost of lithium-ion batteries.

25 During the CalSEED Award, or the Concept Award,

1 sorry, the team designed and built the first fully
2 operational prototype system. With the Prototype Award,
3 the project will focus on improving the reliability of the
4 thermo-PV under variable harsh environmental conditions to
5 improve the performance of their system. Next slide.

6 We recommend approval of these 6 grant awards and
7 adoption of staff's findings that these projects are exempt
8 from CEQA. Staff is available for questions. Thank you
9 for your time.

10 CHAIR HOCHSCHILD: Thank you, Eleanor.

11 Madam Public Advisor, any public comment on Item
12 9?

13 MS. GALLARDO: Yes, we have five people wishing
14 to speak on Item 5. (sic) We will begin with Joy Larson and
15 Joy I remind you to please spell your name and state your
16 affiliation. Your line is open. You may begin, Joy.

17 MS. LARSON: Thank you. My name is Joy Larson.
18 That's J-o-y L-a-r-s-o-n. I'm the Program Director for
19 CalSEED at CalCEF Ventures, brand name New Energy Nexus.

20 Thank you for the opportunity to comment today in
21 support of the resolution for the 2020 CalSEED Prototype
22 Awards.

23 For my comment, I really want to revisit the
24 intention of these EPIC funding programs. You know, under
25 normal circumstances this CalSEED grant can be a lifeline

1 for early-stage innovations, especially for companies
2 working on these longer-term storage ideas. Technologies
3 at this early stage of development are typically too risky
4 for private funding, the amount of time and investment
5 that's needed for development and testing of some of these
6 clean energy ideas. And so the typical startup investors
7 are not generally interested.

8 These technologies tend to be very capital
9 intensive and often operate in more regulated markets. So
10 this funding is, under normal circumstances, very
11 important. And 2020 was a rough year for everyone. The
12 pandemic has affected all clean energy startups in a number
13 of ways.

14 For example, access to lab space has been limited
15 and supply chains for equipment have been disrupted. So
16 all the CalSEED companies that you see here, and that have
17 been awarded have become very lean. And have had to get
18 creative about how they do research and build their
19 businesses. We've also heard from awardees that they've
20 seen a slowdown in corporate investment and venture capital
21 is become more conservative.

22 So the intention of these grant programs under
23 EPIC is even more important. This grant money is critical
24 to keep the momentum going on these long-term energy goals.

25 This competition would not have been possible

1 without our partners at cleantech open and the technical
2 advisory committee. Everyone transitioned to a virtual
3 process in 2020, so a big shoutout to the people who
4 brought their domain expertise in clean energy,
5 entrepreneurship and social equity, who scored the business
6 plans in the pitch competitions. The tech is really the
7 group of people that is driving the rigor behind this
8 entire program.

9 We're also grateful to our colleagues at the CEC
10 for their support of the process: Josh Croft, Eleanor
11 Oliver, Michael Ferrera and Eric Stokes. This is a really
12 exciting day and we look forward to continuing to work with
13 these companies, thank you.

14 MS. GALLARDO: Thank you, Joy.

15 Next is Michael Burz. Michael, I'll remind you
16 to please spell your name and state your affiliation. And
17 after him, it will be Kevin Kung. So Michael, your line is
18 open, you may begin.

19 MR. BURZ: Thank you. Good afternoon,
20 Commissioners. I'm Michael Burz, spelled M-i-c-h-a-e-l,
21 Burz, that's Bravo Uniform Romeo Zulu. And I'm the
22 President and Co-Founder of EnZinc.

23 And I want to just reinforce what Joy said, is in
24 both comments. One, it is a lifeline for us and the
25 support given was terrific. So just in review we're

1 developing a battery based on the common material zinc
2 using technology from the United States Naval Laboratory.
3 The battery is safe. It's recyclable. It's low cost and
4 high performance.

5 I'm speaking today from our engineering lab at
6 the Richmond Field Station University of California
7 Berkeley.

8 It was those CalSEED funds in Phase 1 that Joy
9 talked about, which helped us get here and put it in
10 operation. These funds allowed us to build and test our
11 zinc cells, such that that allowed us then to get voted
12 People's Choice at the Cleantech Open Global Forum. It
13 allowed us to get voted the technology to make the greatest
14 impact at the UC Berkeley Cleantech To Market Symposium,
15 which was hosted by former Vice Chair Scott.

16 And with our testing it allowed us to brief Mr.
17 Gravely and his staff on how this technology can help
18 California achieve its DER and renewable energy goals,
19 providing energy storage for everyone, including and
20 especially our low-income and disadvantaged communities.

21 So we're honored and excited to be nominated for
22 this award that will allow us to build a prototype and test
23 it with one of California's largest e-bike manufacturers as
24 a precursor to building a larger battery to meet Mr.
25 Gravely's requirements.

1 And we especially want to thank those people in
2 the EPIC and CalSEED. And of course, those at New Energy
3 Nexus: Danny Kennedy, Joy Larson, Sarah Chester and Jon
4 Bonanno for their support during Phase 1 and we look
5 forward to working with them in Phase 2.

6 We also look forward to hosting any and all of
7 the Commissioners at our lab at the Richmond Field Station
8 when you're available. So thank you very much for the
9 opportunity, and we want to thank the ratepayers of
10 California for making this all possible.

11 MS. GALLARDO: Thank you, Michael.

12 So now we will have Kevin. And a reminder to
13 please spell your name and state your affiliation. And
14 after Kevin will be Russell Okamura. Kevin, your line is
15 open, you may begin.

16 MR. KUNG: Good afternoon, Commissioners, and
17 everyone else, my name is Kevin Kung, K-e-v-i-n K-u-n-g,
18 and I'm a Co-Founder of Takachar Limited where our mission
19 is to turn crop and forest residues known as biomass into
20 higher value products in a small scale decentralized manner
21 for rural communities.

22 I went to echo what Joy, as well as Michael said.
23 And for us, we were fortunate about two years ago to be
24 awarded on the CalSEED Concept Award, which allowed us to
25 initially set up our own lab scale demonstration of which

1 we are still testing right now. And what is more, is that
2 a CalSEED program through a partnership with the Cleantech
3 Open was able to help us develop our business
4 (indiscernible) market strategy through market discovery as
5 well as development where we were able to procure a few
6 letters of interest.

7 And for us, we are excited to be nominated for
8 the CalSEED Prototype Award. If granted that it would
9 allow us to actually act on some of these letters of
10 interest to actually do the next step, which is to bring
11 our prototype to the end users for testing. And all of
12 this would not have been made possible without the support
13 of CalSEED, which also brought on additional funding for us
14 and opened up many more resources and partners.

15 So I would like to again thank both the CalSEED
16 and EPIC as well as New Energy Nexus for the opportunity
17 and the consideration. And we hope to continue to work
18 with them, as well as to keep you updated our progress.
19 Thank you.

20 MS. GALLARDO: Thank you, Kevin.

21 So now we will have Russell and then after that
22 will be Ranji. Russell, a reminder to spell your name and
23 state your affiliation. Your line is open, you may begin.

24 MR. OKAMURA: All right. My name is Russell
25 Okamura, R-u-s-s-e-l-l O-k-a-m-u-r-a. And I'm speaking

1 today on behalf of ReJoule where I have been the Embedded
2 Systems Engineer for a little over three years. And so we
3 would just like to thank the CEC for its ongoing support
4 and for providing the clean tech space, especially lean
5 startups like ourselves, for such opportunities.

6 We're very passionate about maximizing the value
7 of every battery as we believe they will be a major factor
8 in facilitating our transition to a cleaner future. And
9 this award will really support the development of a
10 reliable and scalable battery diagnostics platform that
11 boosts battery safety and performance without requiring
12 specialized skill sets.

13 And so while wind turbine technician is the
14 fastest growing job in the U.S. today, we want to make a
15 battery technician the fastest growing job in California
16 and in the U.S. in the future.

17 Our goal is not only to improve the safety and
18 performance of a battery in its first life, but also open
19 the door to the endless possibilities of second life
20 applications for repurposing these batteries. By
21 maximizing the value of every battery from the time it's
22 manufactured until it must be recycled ReJoule's goal is to
23 make clean energy accessible and affordable for everyone.

24 We'd like to thank the CEC once again and all of
25 the ratepayers for this opportunity. Thank you.

1 MS. GALLARDO: Thank you.

2 We will now have our final commenter Raji George.
3 A reminder to please spell your name, and state your
4 affiliation. Your line is open, you may begin.

5 MR. GEORGE: Good afternoon, Commissioners. My
6 name is Ranji George, George is the last name. I have a
7 new nonprofit Coalition for Advanced ZEV.

8 As I mentioned before, I was a scientist at the
9 South Coast AQMD in the Technology Advancement Office.
10 And before that I helped ARB set up the 1990 ZEV mandate
11 when South Coast was a major player in that. And today the
12 ZEV mandate is the foundation for a lot of the battery
13 technologies and battery cars coming on the market. And we
14 really want to thank the Commissioners for the great
15 support for solar, wind and zero emission technologies.

16 In that context, if I may, I hope the
17 Commissioners will discourage cobalt-based batteries.
18 Coburn has performed its job very well, it is the
19 workhouse, the showcase for battery technologies. But as
20 we see what's happening in the world, given the serious
21 human rights violations going on in Congo (indiscernible)
22 of the cobalt and the other toxic materials that's going
23 into current battery technologies. I strongly would
24 strongly urge the Commissioners to support alternate
25 battery technologies, more sustainable with minimum toxic

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1 materials in it.

2 A lot of the major battery manufacturers are
3 indeed going that way. And I hope you would limit and
4 restrict and even outright ban cobalt-based batteries,
5 before we get drowned in it. Because ultimately, even
6 after reuse it has to be recycled. And guess where all
7 these recycling facilities would be in AB 617?
8 Disadvantaged communities. Only there will you be able to
9 relocate these recycling facilities, so is that fair?

10 So I urge you to become aware of these other
11 technologies that are coming down the line and throw all
12 your mighty weight behind that. Even Tesla has announced
13 they are going to get away from cobalt. That's a major
14 announcement and I hope the Commissioners will join in that
15 effort to move us away from a battery and more sustainable
16 world.

17 Thank you again, Commissioners, for allowing me
18 to share these thoughts with you. Thank you.

19 MS. GALLARDO: Chair, that was the last comment.
20 I'll hand it over to you.

21 CHAIR HOCHSCHILD: Okay, thank you, everybody.
22 And again, this program has been a remarkable piece of our
23 strategy. And I just want to thank all the staff and the
24 awardees for participating and for helping push the
25 envelope forward.

1 Is there any other Commissioner wishing to make a
2 comment on any of these? If not, Commissioner McAllister,
3 would you be willing to move the item?

4 BOARD MEMBER MCALLISTER: Yeah. And just and by
5 way of a tiny comment just thanks, Joy, for assembling and
6 doing the process in bringing all these great packages
7 forward. And it's great to see the diversity of
8 technologies here, so really fabulous. And thanks Eleanor,
9 for the presentation.

10 So I move Item 9.

11 CHAIR HOCHSHILD: Commissioner Douglas, would you
12 be willing to second?

13 BOARD MEMBER DOUGLAS: Yes, I will second.

14 CHAIR HOCHSCHILD: All in favor say aye,
15 Commissioner McAllister?

16 BOARD MEMBER MCALLISTER: Aye.

17 CHAIR HOCHSCHILD: Commissioner Douglas?

18 BOARD MEMBER DOUGLAS: Aye.

19 CHAIR HOCHSCHILD: Commissioner Monahan?

20 BOARD MEMBER MONAHAN: Aye.

21 CHAIR HOCHSCHILD: Commissioner Gunda?

22 BOARD MEMBER GUNDA: Aye.

23 CHAIR HOCHSCHILD: And I vote "aye" as well.

24 That item passes unanimously. Congratulations to all the
25 awardees.

1 Let's turn now to Item 10 for approval of the
2 January 25th business meeting minutes.

3 Any comments, any public comments on this?

4 MS. GALLARDO: This is Noemi Gallardo, the Public
5 Advisor. There are no public comments on Item Number 10.

6 CHAIR HOCHSCHILD: Okay. Unless there's comments
7 from the Commissioners, Commissioner Douglas, would you be
8 willing to move the item?

9 BOARD MEMBER DOUGLAS: Yes, I move approval.

10 CHAIR HOCHSCHILD: Commissioner Monahan, would
11 you mind seconding?

12 BOARD MEMBER MONAHAN: I second.

13 CHAIR HOCHSCHILD: Okay. All in favor say aye,
14 Commissioner Douglas?

15 BOARD MEMBER DOUGLAS: Aye.

16 CHAIR HOCHSCHILD: Commissioner Monahan?

17 BOARD MEMBER MONAHAN: Aye.

18 CHAIR HOCHSCHILD: Commissioner McAllister?

19 BOARD MEMBER MCALLISTER: Aye.

20 CHAIR HOCHSCHILD: Commissioner Gunda?

21 BOARD MEMBER GUNDA: Aye.

22 CHAIR HOCHSCHILD: And I vote "aye" as well.

23 That item passes unanimously.

24 Moving now to Item 11, Lead Commissioner or
25 Presiding Member Reports. Let's begin with Commissioner

1 McAllister.

2 BOARD MEMBER MCALLISTER: Well, thank you very
3 much, Chair. I'm going to have a lot that I want to report
4 on, but just wanted to congratulate the IEPR team for that
5 start off. Congratulate the IEPR team for the Econ and
6 Demo workshop last week. It was so good, I think all of us
7 -- well most of us, I think the Chair, you were otherwise
8 occupied -- but everybody else was on including
9 Commissioner Gunda back when we called him Siva.

10 This is a little weird right, because you know
11 EAD was at this workshop, and Siva you were in the middle
12 of it. So I want to thank you as Commissioner now, for
13 organizing that. And the whole team really do just an
14 incredible job. Like lots of chefs in that kitchen and I
15 don't want to call out everybody, but there was a good
16 start to the IEPR cycle in looking forward, however the
17 various (indiscernible) relationships and aligning.

18 I'm looking forward to having a really robust
19 IEPR development process of big-ticket items and big issues
20 in coming up this year. And the scope is out for comment,
21 so hopefully people will have a look at that.

22 And I want to just make a comment on a couple of
23 other topics. One is the development of the 2022 Title 24
24 Part 6 Update. A couple of weeks ago we had a workshop on
25 low res residential and had a lot of great interaction with

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1 stakeholders. I want to really acknowledge that Building
2 Standards Office: Will and Mozi and Payam, Peter, R.J.,
3 Danny and Mike Sokol in the Efficiency Division and really
4 the whole Building Standards Office.

5 They are doing so much analysis. And I know
6 those of you who've been through one of these cycles know
7 what it's like to have to really do an amazing amount of
8 modeling and count lots of carbon molecules and electrons
9 and therms to figure out what the footprint of a building
10 is. And in all 16 California climate zones and lots of
11 different building types. And so that analysis is rigorous
12 and ends up with a very solid result that then can go out
13 into the world for discussion. And that's what's happening
14 now.

15 And so the process, you know my assessment is
16 that it's working. We really appreciate all the input.
17 There's lots of creativity, stakeholders are across the
18 spectrum. Obviously, there's a lot of interest in
19 decarbonizing our buildings and we are headed that
20 direction really at breakneck speed by any measure, I would
21 say. And there's just lots of interest in figuring out
22 ways that we can get there faster and better.

23 And it's a tremendous amount of creativity and
24 organization. And so we really deeply appreciate all that
25 across the board with stakeholders and trade allies and

1 staff.

2 And you know I think most recently at the latest
3 workshop, we've gotten a fair amount of comments already.
4 And are looking at the drawing the climate zone-based
5 energy budgets as stringently as we can, while still
6 keeping it feasible. So that's an ongoing discussion and
7 stakeholders have been -- and remain really critical for
8 that.

9 And then second, looking at how we can facilitate
10 decarbonization in the future and sort of so we can sort of
11 carbon proof buildings when they get built to account for
12 new and cheaper technologies that come down the pike. So
13 what kind of infrastructure could we plausibly require for
14 heat pumps essentially to be installed down the road, if
15 they're not installed at the outset. So those are ideas
16 that have had a lot of stakeholder interest. And we're
17 working on trying to see how feasible those are and where
18 we can apply them.

19 So it's really exciting to be working with all
20 the trade allies up and down the chain, the whole supply
21 chain, manufacturers and installers and really across the
22 board. So lots of activity, not only in low-rise single
23 family, but also in multifamily and a bunch of
24 nonresidential building types as well.

25 So I just kind of wanted to give my colleagues an

1 update of that. That there's a lot of progress and 45-day
2 language will be coming up here in the coming weeks. And
3 that that process will keep moving down the road. But
4 there's a lot of really great interaction and that's our
5 process, right? That's California's process to get to good
6 answers. And to make sure we're paying attention to the
7 details as we move forward in a responsible way, but also
8 being aggressive.

9 I mean our state is among the states with the
10 highest gas system coverage right, like 87 percent or so.
11 And starting from that base, we're strengthening what's
12 already the most aggressively decarbonizing building code
13 in the country. So, you know, it's a series of big steps
14 that we're taking here. And I believe the fundamentals of
15 the path we're pursuing are quite solid, so that
16 interaction with everyone is key. So I just wanted to give
17 up a few thoughts on that just to update my colleagues in a
18 public place, in the business meeting.

19 The last thing I wanted to mention is that
20 tomorrow there's a role of a task force that I've been
21 participating in, the NARUC-NASEO task force on
22 comprehensive electric system planning. I started
23 participating in that. Actually, Commissioner Gunda
24 participated in a meeting or two along the way. And it's
25 been a really interesting process.

1 So it started out, you know, the sort of vision
2 for it was to incorporate distribution system planning,
3 more integrally into overall system planning. Sort of to
4 appreciate that the fundamental role of distribution system
5 planning as the distributed energy world really became a
6 full-fledged reality. And it ended up being a
7 comprehensive approach, so from large-scale generation,
8 transmission all the way down to sub-transmission and
9 distribution. And to really reflect the fact that that's
10 the way planning has to happen.

11 And so over a two-year process, public service
12 commissions, public utilities commissions and state energy
13 offices from 16 states participated in this dialogue. And
14 came up with a whole bunch of models about how planning
15 could take place in a responsible way. Paying attention to
16 all the details and the timelines and the complications of
17 how planning takes in regulatory environment. And it
18 really, I think was very valuable for the states that were
19 involved.

20 And California already does a lot of that. We
21 already have a very articulated interagency planning
22 process with the PUC and the CAISO. But bringing that kind
23 of model and other models and different levels of
24 restructured environments across the country was, I think
25 immensely valuable. So the big reveal is tomorrow morning

1 with a press conference and a bunch of materials that'll be
2 rolling out.

3 So hopefully California and the other states who
4 participated will be kind of be giving assistance helping
5 other states who didn't participate or who aren't maybe
6 quite in the same place or as far along, to improve their
7 planning using lots of data analytical tools, rigorous
8 coordination across agencies. And some concepts that I
9 think will help them be more effective.

10 So that's been a nice activity to be involved in
11 for the last couple years. It's coming to fruition, so I
12 just wanted to give people a heads up on that.

13 And then, finally I just wanted to say to
14 Commissioner Gunda, thanks a lot. We're going to be
15 working together a lot on these issues. I'm not exactly
16 sure what the aisles that we'll be reaching across or the
17 BK barriers (phonetic) and everything. But it's so
18 gratifying to know that whatever topics you'll be taking on
19 will be in good hands, first of all. But then also, in
20 particular on these planning issues and reliability. And
21 those sorts of things that really have been fundamental to
22 EAD and that you've helped nurture and mature. You'll be
23 integrally involved in those, so it's just a great thing
24 for the state.

25 All right, and with that I will pass it to my

1 next colleague.

2 CHAIR HOCHSHILD: Thank you. Thank you,
3 Commissioner.

4 Let's go to Commissioner Douglas.

5 BOARD MEMBER DOUGLAS: All right, I just have a
6 few very quick updates. I had a nice briefing from LADWP
7 on their plans for hydrogen storage at the IPP plant in
8 Utah. That was really, you know, a good brief thing. I
9 appreciated it.

10 I had a chance to talk to NCPA about a number of
11 projects and priorities that some of their members are
12 undertaking, including floatovoltaics. Those are floating
13 solar panels, in this case at a wastewater treatment plant
14 in Healdsburg. Some electric bikes, some new generator
15 that can run on more than 50 percent hydrogen in Lodi,
16 although they are still working on the details of how to
17 realize some carbon benefits from that. But they've got it
18 in place. So that's all been fantastic.

19 I enjoyed participating in the kickoff of the
20 IEPR. I'm looking forward to that process. And really
21 that's all I've got today. Thank you.

22 CHAIR HOCHSCHILD: Okay, thank you.
23 Commissioner Monahan?

24 BOARD MEMBER MONAHAN: Yeah, so it's funny. In
25 this round, Commissioner Gunda, usually the newest person,

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1 the newest Commissioner gets tapped first. The first time
2 I was on, all eyes were on me. "Well, come on,
3 Commissioner Monahan, give your updates." And I was like,
4 "What?"

5 CHAIR HOCHSCHILD: And really you had been a
6 Commissioner for four hours.

7 BOARD MEMBER MONAHAN: They're being nice to you.
8 (Laughing.) I want to say the Chair is being nice to you.

9 Well, first, I just want to say there's been a
10 lot of follow up with the Governor's budget proposal. And
11 the proposal to reauthorize the Clean Transportation
12 Program and provide a billion dollars for ZEV
13 infrastructure.

14 And I just want to acknowledge Hannon Rasool and
15 his team in the Fuels and Transportation Divisions, because
16 they've been fielding a lot of questions. And putting
17 together very long Q&A documents that are really impressive
18 and very thorough and very thoughtful. So I just wanted to
19 give a shout out to the team for all they're doing to
20 support the Governor and the budget that he has proposed.

21 You may have seen ACEEE gave California an award
22 -- I see Commissioner McAllister smiling -- for being the
23 best in the country on transportation electrification. And
24 that comes on the heels of California winning for energy
25 efficiency. So I was lucky enough to be the one to speak

1 on behalf of the State of California and all of our work to
2 accelerate transportation electrification. So that was
3 satisfying that we're getting some recognition from ACEEE.
4 Yay, California.

5 So we did publish, the staff published it's Draft
6 2127 Analysis on Charging Needs to reach California targets
7 for 2030. And that includes both the 5 million easy
8 targets before Governor Newsom's EO and Governor Newsom's
9 EO survey is that they've estimated 8 million that in the
10 passenger vehicle sector will be needed by 2030. So the
11 team has done that evaluation. Usually, draft reports are
12 a little bit ho-hum. This one's not so ho-hum. It's
13 interested the Legislature and people are just like very
14 curious about this.

15 We did have a commissioner workshop on a topic
16 that I participated in. And the team did a really great
17 job, so it's a lot of folks. I'm going to just to name a
18 few names, because they deserve a shout out. But Matt
19 Alexander, Tiffany Kwong, Tom Lopez, Noel Christostero,
20 (phonetic) Jeffrey Lou, Roger Ramesh, Michael Wolford and
21 Larry Riatta. (phonetic) They've all been very deeply
22 involved in this 2127 Analysis, looking at it from
23 different points of view. So we hope to self-publish that
24 in the final form in the spring.

25 And you know at least the initial -- the current

1 draft has us needing 1.5 million chargers light-duty and
2 about 160,000 for medium and heavy-duty. The medium and
3 heavy-duty numbers, I would say are much rougher than the
4 light-duty numbers, where we have more analysis to back it
5 up, but more to come on that.

6 And I've mentioned in the past that we have been
7 part of a charging infrastructure strike force. That it
8 includes a lot of members of industry, NGOs and utilities,
9 that are all working on a zero-emission vehicle future. So
10 that we had a meeting of the strike force earlier this
11 year, talked a lot about equity. There's different work
12 groups. They've basically -- the goals work group that
13 Hannon was leading has embraced the goals that are coming
14 out of the 2127 Analysis. So that will really form, I
15 think talking points for a lot of groups that are working
16 in this space, especially on the charging and battery
17 electric side to help hopefully, you know, support the
18 Governor's budget request.

19 I think that's about it. I too met with NCPA,
20 but Karen stole my thunder about some of the cool things
21 they're doing. Actually, I was going to use -- I want to
22 try screen sharing in the future, because maybe we could
23 even show pictures on these. We need to play with Zoom,
24 and become more advanced. Because they did send me some
25 cool pictures from some of those projects, including the

1 floating solar.

2 So yeah, and I think that that is it on my list.

3 CHAIR HOCHSCHILD: Thank you.

4 Commissioner Gunda, that you've been in office
5 for about four hours, so is there anything you would like
6 update on or share?

7 BOARD MEMBER GUNDA: Yes, Chair. I am glad that
8 Commissioner McAllister, Commissioner Douglas, Commissioner
9 Monahan covered a lot of things that the Division supports.
10 So I think we'll be focusing a lot, the next two to three
11 weeks on helping transition the management team in EAD.

12 I just want to give a heads up that Alicia
13 Gutierrez will be Acting Deputy, while the search for the
14 new deputy begins.

15 Apart from that, the primary focus over the last
16 several weeks has been interagency coordination on near and
17 long-term electrical reliability issues and will continue
18 to work on that and hopefully at the next business meeting
19 I'll be able to report more on them.

20 CHAIR HOCHSCHILD: Thank you, Commissioner.

21 Well, I guess, in terms of updates from me, I
22 would just ask everyone's patience a little bit, as we are
23 reshuffling assignments here with the departure of the Vice
24 Chair and the arrival of Commissioner Gunda.

25 There are some things I need to sort through.

1 Obviously we adhere strictly to the BK rules and that
2 always gets a little complicated as we deal with issues
3 that actually, I would like more than just two of us to
4 touch on.

5 There's a few things I can share now. One is
6 that I've asked Commission Monahan to take on the ports
7 work that Vice Chair Scott was engaged in and she's going
8 to do that. And I thank her for that. And I've asked
9 Commissioner McAllister to join me second on R&D. And also
10 to engage with the western states. We are doing quite a
11 lot of work engaging in various forums with western states
12 on clean grid issues. There'll be more to come, but it's
13 going to take me a little while to kind of work through all
14 the details. And I'll be sharing that in an all-staff
15 announcement.

16 I did do a couple of media interviews this week
17 with Good Morning America on some energy efficiency and
18 clean energy stuff with CalMatters on Lithium Valley. I
19 spoke at VerdeXchange on resilience, the L.A. Metro Energy
20 Resilience Summit and a few other things. But I think I'll
21 leave it at that.

22 I will say you know we're going to be doing a
23 public search obviously for the successor to Darcie as
24 Chief Counsel. And we'll get that process launched as
25 well, as you know, supporting Drew on finding a successor

1 to coordinate.

2 In terms of priorities for the year looking
3 ahead, you know, my top legislative priority is to support
4 the success of the Governor's budget. And the full one-
5 and-a-half billion for clean transportation, including the
6 billion for clean transportation infrastructure. As well
7 as working with Commissioner Douglas on offshore wind and
8 to really try to push the envelope forward there and get
9 momentum and get that launched in California.

10 As well as Lithium Valley, we're going to stand
11 up to this Lithium Valley Commission. We have, I think, 9
12 of the 14 appointments. We've done our part. We're
13 waiting for the final members of that Commission to be
14 appointed. And that's going to be a really robust
15 dialogue.

16 I will be supporting Commissioner McAllister's
17 terrific work on building decarbonization in this code. I
18 just wanted to say again, you know, this is a very heated
19 process. There's a lot of really strong views and it's
20 complicated, but that's why we have a careful process. We
21 do a lot of diligence and we take a lot of public comment.
22 And I think the record has shown over the years we've done
23 a terrific job on that. And we're going to continue to do
24 the best that we can and to really stick to the landing
25 with this stuff. These kinds of transitions are difficult.

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1 And I think that's the path we're on, is really to make it
2 a sustainable transition to decarbonization.

3 So those are a few of my priorities for the year.
4 I mean, I think as well you know electric reliability is
5 just front and center. And been continuing to be in close
6 dialogue with the principles of PUC, CARB, CAISO,
7 (indiscernible) on all the actions that we need to take.
8 We did have a very fruitful discussion with all the
9 stakeholders in Demand Response last Friday, which just
10 going over some of the challenges there.

11 So that's my update. Let's turn now to the
12 Executive Director's Report.

13 MR. BOHAN: Thank you, Chair. I just have a
14 couple items I wanted to cover this morning. As was noted
15 for me I testified in front of the Assembly Subcommittee on
16 our items, our BCPs and our trailer bills. There were no
17 votes set to be taken, and there were no votes taken.

18 The ZEV item was not on the agenda and that's
19 going to be taken up by the Assembly on March 17th. And
20 the Senate hearing to cover all of our issues, the ones we
21 covered today in the Assembly plus the ZEV issue will be on
22 February 23, so just a couple of weeks from today.

23 The LOA expressed some concern about some of our
24 trailer bills, and we're going to continue to meet with
25 them between now and the next iteration of this

1 conversation with the Legislature very soon.

2 Next, just a reminder to everybody we're moving
3 to the new CNRA Building. The details are to be worked
4 out. Later this month we're going to be meeting with
5 hopefully all staff. We're going to be inviting all staff,
6 and in separate meetings of chunks of individuals, to talk
7 about the move and get input from everybody. But we're
8 excited about doing it.

9 And we are cleaning out the building, as we
10 speak. The Fifth Street building is almost fully vacated.
11 Our lease is up at the end of this month. and staff over
12 there have been great. I want to thank Laurie ten-Hope for
13 her leadership in getting that moving very, very quickly.

14 The next three vacancies as we've noted here with
15 Commissioner Gunda being elevated and Darcie being
16 elevated, and Courtney as we discussed earlier this
17 morning, leaving. I'll be sending those around and seeking
18 your input.

19 And then, finally, I just want to give my
20 congratulations to Commissioner Gunda as well. I love the
21 message it sends that a staff person who is brilliant and
22 works really hard and gets everybody every day trying his
23 or her best can become a Commissioner. Thank you.

24 CHAIR HOCHSCHILD: Thank you, Drew.

25 Let's move on to Chief -- sorry to the Public

1 Advisor's Report.

2 MS. GALLARDO: Hello, there. Noemi Gallardo,
3 Public Advisor. I do not have a report today, but I do
4 want to comment that it is fun to say "Commissioner Gunda."
5 I'm getting used to it really quick and excited to say,
6 Commissioner Houck very soon. So thank you and
7 congratulations to you both, Commissioner Gunda and soon to
8 be Commissioner Houck.

9 CHAIR HOCHSCHILD: I would like to just note,
10 Noemi, these meetings are running really, really well. And
11 having seen a number of other public meetings not go so
12 well with technical issues and so I just really want to
13 give praise to you for all the attention to detail, the
14 preparation. You are doing a spectacular job just helping
15 our public process go well. And I just want to note that.

16 I know I speak for all my colleagues in that
17 regard, so thank you so much for getting us all organized
18 and working so well with these remote meetings.

19 MS. GALLARDO: I appreciate that, Chair. And I
20 have an awesome team working on this, so it's not just me.
21 I just wanted to make sure that I note that and appreciate
22 all of their hard work as well.

23 CHAIR HOCHSCHILD: Yes, thank you to your team,
24 really, really grateful. Oh, by the way, do you want to
25 share briefly about the Clean Energy Hall of Fame Awards,

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1 just our schedule for the year? Any update on that maybe.

2 MS. GALLARDO: Sure, I can give a quick update.

3 We are planning to have the Clean Energy Hall of Fame
4 Awards this year in December. When we did that last year
5 in December, it worked out really well. And we're hoping
6 that if we have it later in the year and that we can be in
7 person. So that's what we're aiming for, to have an in-
8 person ceremony, but we will also be planning for virtual
9 one just in case. And we're really excited about it.

10 We don't concrete dates just yet. We will be
11 posting our nomination forms in the next few months. We
12 will also be organizing a selection committee, so I will
13 provide more updates once I have more concrete information
14 on that.

15 CHAIR HOCHSCHILD: Thank you so much.

16 MS. GALLARDO: But we're very excited about it.

17 CHAIR HOCHSCHILD: Okay. Let's move on to public
18 comment.

19 MS. GALLARDO: Yes, we -- this is Noemi Gallardo,
20 the Public Advisor. We do have several people on the line.
21 There are about seven, and I want to give some instructions
22 before we open up the lines.

23 So this is a period for any person wishing a
24 comment on information items or reports of the meeting
25 agenda or any other item. Each person has three minutes to

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1 comment and comments may be limited to one representative
2 or organization.

3 As a reminder, we are not accepting public
4 comments through the Zoom system. Please call our Verizon
5 line at 888-823-5065. There's still time to hop on. The
6 pass code is "business meeting." After your line is open,
7 please spell your first and last name and state your
8 affiliation if you're representing an organization.

9 Do not use the speakerphone when talking, because
10 we won't hear you clearly. If you're also on Zoom, either
11 mute or leave Zoom to avoid feedback.

12 So we will begin with Lauren Cullum, and then
13 we'll have Robert Gould after that and Jonny Kocher after
14 him.

15 So Lauren, your line is open, please go ahead.

16 MS. CULLUM: Thank you. Good afternoon,
17 Commissioners. I'm Lauren Cullum. I'm a Policy Advocate
18 with the Sierra Club of California, representing 13 local
19 chapters in California and half a million members and
20 supporters throughout the state.

21 I'm calling in today to express the Sierra Club
22 of California's disappointment with the current proposal
23 for the Title 24 2022 Code Update. Over the last year,
24 hundreds of organizations ranging from environmental to
25 environmental justice groups, public health groups,

1 utilities, local governments and many others have called
2 into the CEC during business meetings, and the Title 24
3 workshops to urge the CEC to adopt an all-electric code.
4 We needed the CEC to listen and help move the state in the
5 direction we need to go for cleaner air and a cleaner
6 climate.

7 Instead, the CEC presented a disappointing
8 current proposal that will certainly throw our state off
9 course and set us back. This current proposal does not
10 include all-electric baseline for new residential
11 construction. And instead, only incorporates a single
12 electric appliance; either an electric heat pump space
13 heater or heat pump water heater. However, which of these
14 appliances is dependent on where the building is located.
15 And the proposal opts for the clients that would use the
16 least energy in the given climate zones.

17 This will certainly set us back on our air
18 quality goals emission reduction targets, and will end up
19 costing Californians more in the future.

20 If California intends to be a leader on climate
21 policies, we really need to see more aggressive action
22 taking on the sector that is a major contributor to climate
23 emissions and poor air quality. All eyes are on the
24 California Energy Commission right now to set the pace and
25 tone for reducing emissions from the building sector. And

1 this current proposal falls badly short of what we need to
2 make an impact.

3 We urge the CEC to commit to prioritizing the
4 health of Californians. And put the state on a determined
5 path to achieve its climate goals by committing to an all-
6 electric baseline for all building types and all appliance
7 in the 2022 code.

8 Thank you so much.

9 MS. GALLARDO: Thank you, Lauren.

10 So next up is Robert Gould. Robert, again a
11 reminder to spell your name and state your affiliation.
12 Your line is open, you may begin.

13 DR. GOULD: Thank you. I just wanted to check if
14 you can hear me?

15 CHAIR HOCHSCHILD: Yes, we can hear you.

16 UNKNOWN SPEAKER: Yes, we can.

17 DR. GOULD: Very good, thank you. Again, my name
18 is Dr. Robert Gould, that's spelled G-o-u-l-d. And I
19 worked as a -- and I'm speaking for Physicians for Social
20 Responsibility. So thank you for giving me the time to
21 speak today.

22 After working as a pathologist for over 30 years
23 of Kaiser hospital in San Jose, since 2012 I've been an
24 Associate Adjunct Professor in the Department of
25 Obstetrics, Gynecology and Reproductive Sciences at UCFS

1 School of Medicine, working as a collaborator with our
2 program on reproductive health in the environment.

3 I've been on the National Board of Physicians for
4 Social Responsibility since 1993, serving twice as
5 President in 2003 and 2014. Since 1989 I've also been
6 President of the San Francisco Bay PSR (indiscernible)
7 speaking representing hundreds of health professionals who
8 speak for the health of our patients and communities.

9 We are all increasingly impacted by the unfolding
10 public and environmental health crisis of global warming
11 and connected issues of air pollution. Reinforced by new
12 research from Harvard University and other universities
13 released yesterday, indicating that more than 8 million
14 people died from fossil fuel pollution in 2018. Because of
15 this, we support increase electrification of our
16 infrastructure provided by renewable and sustainable non-
17 nuclear sources as a replacement for natural gas, in
18 support of climate and respiratory and cardiovascular
19 health.

20 Accordingly, we strongly urge the CEC to move
21 expeditiously towards adopting a single all-electric
22 baseline for all building types, because all-electric
23 buildings are cheaper to build and operate; are better for
24 public health and a critical pathway to protect us from
25 chronic crises.

1 Opposition floats on the fact that the combustion
2 of gas inside our homes for this is harmful indoor air
3 pollutants, specifically nitrogen and dioxide, carbon
4 monoxide, nitric oxide, formaldehyde, (indiscernible) and
5 ultra-fine particles. In its 2016 integrated science
6 assessment on nitrogen dioxide, the EPA concluded that
7 short-term exposure to nitrogen dioxide has a causal
8 relationship to respiratory effects, including the
9 development or exacerbation of asthma.

10 In this regard, we're very concerned that African
11 American and Hispanic children with asthma are likely, the
12 most disproportionately burdened by indoor air pollution
13 from gas stoves. Inequity of such impacts is reinforced by
14 housing conditions whereby factors, including smaller unit
15 size, bigger occupant density and often inadequate stovetop
16 ventilation contribute to elevated concentrations of ten-o-
17 two (phonetic) lowering from multifamily buildings.

18 And of course we need to consider the highly
19 impacted outdoor air pollution suffered by the same multi-
20 burdened communities.

21 Underscoring this is a 2013 meta-analysis looking
22 at the association between gas stoves and childhood asthma
23 counts. Children in homes with gas stoves had a 43 percent
24 increase in experiencing asthma systems, or current asthma.
25 A 24 percent increase risk of ever being diagnosed with

1 asthma by a doctor or lifetime asthma. And an overall 33
2 percent increased risk in with both current and lifetime
3 asthma.

4 In addition, a 2018 study published in the
5 Medical Journal of Australia indicated that for 12.3
6 percent of asthma sufferers, age 14 and younger --

7 MS. GALLARDO: Robert? Robert, this is the
8 Public Advisor. I apologize for interrupting you, but your
9 time is up.

10 DR. GOULD: Can I just finish my last statement?

11 MS. GALLARDO: Yes.

12 DR. GOULD: So in conclusion the CEC can heed the
13 advice offered by the California Air Resources Board when
14 it unanimously passed a resolution in support of CEC and
15 other agencies adopting standards in 2022 code cycle that
16 could result in both stronger gas stove ventilation
17 standards, and electrification of appliances for all-new
18 buildings.

19 We call on you to use this critical opportunity
20 to update the 2022 statewide building code, to demonstrate
21 leadership and commitment in providing us a needed push for
22 the pollution-free buildings we need now for the optimal
23 public, environmental and climate health that new and
24 future generations so deserve. Thank you.

25 MS. GALLARDO: All right, so next up we have

1 Jonny and then we have multiple new speakers on the line.
2 We have about 15 now, so because of that we're going to
3 reduce the time to two minutes after Jonny speaks.

4 So Jonny, a reminder to spell your name and state
5 your affiliation. Your line is open and you may begin.

6 MR. KOCHER: Hello. My name is Johnny Kocher.
7 That's J-o-n-n-y K-o-c-h-e-r. And I work at the Oakland
8 Office of RMI, an independent nonprofit working to shift
9 towards a low-carbon future.

10 At last month's workshop the CEC presented a very
11 disappointing proposal for the 2022 code language that
12 would do very little to meaningfully -- to drive meaningful
13 market adoption, which the CEC stated they intended to do
14 ahead of an all-electric requirement in 2025.

15 Instead of proposing a baseline with all electric
16 space and water heating, the proposal instead recommended
17 electrifying the smaller of the two loads depending on
18 climate zones. In essence, for cold climates that are
19 dominated by space heating loads the proposals chose to
20 electrify water heating, while for hot climates where water
21 heating would be the larger load, they chose to electrify
22 space heating.

23 This code proposal will do very little to drive
24 electrification areas that are heavily coin (phonetic)
25 dominated such as Southern California. These areas also

1 happen to be where there are very small numbers of local
2 jurisdictions that have required all-electric ordinances
3 and thus further decreasing the effectiveness of the
4 proposal.

5 In this era of climate leadership at the national
6 level, California should be taking the lead. To do this we
7 encourage that the Commission adopt rules that promote all-
8 electric buildings in the 2022 code cycle as recommended by
9 the California Air Resources Board in November of last
10 year.

11 Thank you for the time and your consideration.

12 MS. GALLARDO: Thank you.

13 Next, we will have Karl Aldinger and then after
14 that Sasan. Karl, a reminder to spell your name and state
15 your affiliation. Your line is open, you may begin.

16 MR. ALDINGER: Thank you. My name is Karl
17 Aldinger, K-a-r-l A-l-d-i-n-g-e-r. And I'm speaking today
18 as the President of the North County Climate Change
19 Alliance, an educational and advocacy volunteer nonprofit
20 organization in San Diego.

21 We recognize that this body understands the
22 magnitude of climate crisis. We observe through your
23 meetings that this body is fully aware all-electric will be
24 the code standard for new construction in 2025 Title 24
25 Part 6 code. What we cannot understand is how this body

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1 could consider proceeding with the half measure recently
2 described as including electrification of either hot water
3 or space heating, but not together for the 2022 code.

4 It is as if there's a full understanding of the
5 need, but some grand bargain is playing out that prevents
6 this body from protecting our future with a logical move of
7 executing on what you have said you will eventually do.

8 We respect that these changes may be disruptive
9 to the building industry and its workers and that
10 transition assistance will be needed. I assure you that
11 three extra years of building additional homes with gas
12 will affect far more in our communities and our planet.
13 History will judge us poorly for understanding what we must
14 do, but instead delaying our transition.

15 We respectfully ask that you be bold and
16 reconsider making all-electric new construction the 2022
17 standard. Thank you.

18 MS. GALLARDO: Thank you.

19 Sasan, you're next. And then after that will be
20 Ranji. A reminder to spell your name and state your
21 affiliation. Sasan, your line is open, you may begin.

22 MR. SAADAT: Yes, Sasan Saadat with Earthjustice,
23 S-a-s-a-n S-a-a-d-a-t. I'll start by quoting something
24 Commissioner McAllister during a recent (indiscernible)
25 conversation. He said, "This is the moment if we're going

1 to really chart the course for this low-carbon future. We
2 can make infrastructure investment decisions now that will
3 be with us for a while." So why after over 100
4 organizations urged the Commission to end the needless
5 practice of expanding fossil fuels in these buildings, are
6 they declining to do so? This is after all, one of our
7 lowest hanging fruit (indiscernible).

8 To justify that, "incremental approach," Josh
9 says that the currently low rate of electric appliance
10 installations means builders need more time to get
11 comfortable. So they will only electrify the smaller of
12 the two largest appliances and worse, the proposal won't
13 even apply itself to provide the necessary space and
14 plumbing services to retrofits that we know need to happen.

15 This explanation is based on the broken logic
16 that ramping up heat pump installations is somehow a more
17 intractable problem than retrofitting thousands of
18 additional new buildings. There's absolutely no
19 comparison. The challenges that this proposal creates for
20 future generations and a future Commission, are so much
21 larger than asking builders to do what affordable housing
22 developers in cities across the state have already proven
23 is possible and cost effective.

24 And in fact, the state this last proposal says to
25 avoid asking more of the builders, we will assume the debt

1 of a massive new pile of building retrofits and 3 million
2 more tons of greenhouse gases, on behalf of the state.

3 I mean, I'm a young climate activist, but I'm old
4 enough to know this is the common pattern of thinking that
5 has contributed to the state of our climate crisis. What
6 feels like the immediate consensus of this Commission is
7 the proposition of a powerful industry. Even though, what
8 we're asking them to do now is a far more manageable task
9 than what will need to be done in the future.

10 But now, there is no further into the future.
11 The date has already come, the climate crisis is here, and
12 this is the final decade for transformation. It's time for
13 California's actions to match its rhetoric. Taking fossil
14 fuels out of new construction is one of our easiest tasks.

15 This Commission must decide whether it will
16 continue procrastinating so that a future party has to make
17 the tough calls or whether they will be the ones to work
18 against our default initiatives and we're just entering an
19 era of ambitious climate actions. Thank you.

20 MS. GALLARDO: Thank you. So up next is Ranji
21 and then after will be Shiba. Ranji, please your line is
22 open, please begin.

23 MR. GEORGE: Yes, thank you. My name is Ranji
24 George. I am with the Coalition of Advanced ZEV. And it's
25 a voluntary nonprofit entity. Our goal is to promote

1 sustainable batteries, environmentally friendly batteries
2 and hydrogen fuel cells. Because ultimately, we have to
3 look from cradle to grave, the emissions and impacts on all
4 facets of environment including air quality. So that's why
5 the advocacy for sustainable batteries.

6 The context I come from, and as I mentioned
7 before I've been a scientist at South Coast, was working
8 for 25 years, more than 25 years in batteries, fuel cells
9 and natural gas technology. So I'm somewhat familiar with
10 these technologies.

11 I just want to bring to your attention the GNB
12 Exide experience. I'm not sure and I apologize, if there's
13 any Commissioner from South Coast. If there are they may
14 realize that company name. We had two battery recycling
15 facilities. They were recycling lead acid batteries from
16 each car in the South Coast. And what happened, GNB Exide
17 was doing a very useful social function that is recycling
18 those batteries, rather than ending up in a landfill.

19 But what happened was AB 617 community started
20 litigation and they believed that the facility had emitted
21 toxic vapors, not only lead but other emissions from the
22 facilities.

23 Now I put that as context, and this is a bitter
24 litigation been going on for years, I was not directly
25 involved. But what it gives us a context, today we are

1 going through millions of new battery vehicles. We are
2 promoting that. And each battery pack is at least 10 times
3 bigger than the current lead acid one-battery pack per
4 week. So you have 10 times, maybe more than 10 times with
5 battery waste coming down the pipeline. And even though
6 it's going to be reused and this great, excellent
7 commitment to reuse it, at some point you have to recycle
8 it. And if you have to recycle it, you may end up if you
9 don't plan well, like the GNB Exide disaster.

10 So I urge the Commissioners to put more focus on
11 it and not simply dismiss it. If I may, respectively
12 dismiss it as a footnote or asterisk that oh somebody else
13 had (indiscernible) --

14 MS. GALLARDO: Ranji, your time is up. Sorry, to
15 interrupt. This is the Public Advisor, your time is up.

16 MR. GEORGE: I'll be sharing more in the future,
17 thank you.

18 MS. GALLARDO: Next up is Shiba, and I apologize
19 if I mispronounced that. Please spell your name, state
20 your affiliation. After Shiba will be David Moller.

21 So Shiba, your line is open, please begin.

22 MR. BHOWMIK: Thank you, can you hear me?

23 MS. GALLARDO: Yes, we can.

24 MR. BHOWMIK: Okay, hi. I'm Shiba Bhowmik of
25 Sinewatts. The name is spelled as S-h-i-b-a as in apple.

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1 The last name is B-h-o-w-m-i-k.

2 On behalf of everyone that is pursuing true
3 energy sustainability of our electricity platforms, I would
4 like to offer my heartfelt gratitude for California's
5 leadership. And our deep respect to the Commissioners at
6 the CEC for their dedication towards decarbonization.

7 As you know very well, the world is intently
8 following all the developments in California, with respect
9 to decarbonizing our electricity. Especially under the new
10 paradigm of public safety power shut-off events and the
11 rolling blackouts. It is imperative for us to recognize
12 that we are indeed observing the very first signs of the
13 inherent fragility of a centralized electricity platform.

14 And then on top of it, we are also bringing on an
15 unprecedented amount of electricity load on the
16 distribution network, on the same fragile system, with more
17 and more but justified mandates of transportation
18 electrification.

19 The very definition of resiliency is not having
20 to rely on a system that is prone to its very own
21 fragility. We request all stakeholders, automotive, OEMs,
22 utilities, regulators, to embrace this predicament as
23 perhaps one of the greatest opportunities of a few
24 lifetimes. We implore the State of California to double
25 down on research, development and demonstrations that

1 fundamentally strives to re-architect our electricity
2 platform holistically from the bottom up, to deliver deeply
3 embedded resiliency, inherent reliability, affordability,
4 sustainability and energy equity for all.

5 Thank you so much for your time.

6 MS. GALLARDO: Thank you.

7 Next up, we have David and then after David will
8 be Vanessa. David, a reminder to spell your name, state
9 your affiliation. Your line is open, you may begin.

10 MR. MOLLER: Great. Thank you, my name is David
11 Moller, D-a-v-i-d M-o-l-l-e-r. I'm representing the
12 Climate Reality Project Bay Area Chapter. And I'm calling
13 to urge you to adopt an all-electric baseline for all
14 building types in the 2022 code cycle. However, I'm not
15 going to go into the compelling reasons to do so. You
16 already know those reasons, and there are many of them.

17 Instead, I'm going to focus on the reasons why
18 not to act now. And how those reasons are not very
19 compelling. So let's start with because the manufacturing
20 sector needs time to gear up. That's nonsense. Most
21 households in the U.S. are already all-electric and a large
22 portion of these already use heat pump technology. With
23 almost two years to gear up before the January 1, '23
24 effective date there's plenty of time for manufacturers to
25 get ready.

1 Another reason is because the building industry
2 needs time to prepare and train. This reasoning is even
3 weaker than the manufacturing rationale. Builders already
4 know how to pull wire and install two 40-volt circuit
5 breakers. And again there's at least two years to prepare.

6 How about because the natural gas industry will
7 lose future customers? Okay, a valid concern. But the gas
8 industry is going to lose those customers tomorrow, if not
9 today. The good news for the natural gas industry is it
10 will likely take a decade or more to scale down gas usage
11 in existing buildings. So there will be plenty of time to
12 scale down the industry and transition workers to other
13 sectors.

14 How about big change takes time to implement?
15 This isn't much of a rationale when there's almost two
16 years before the effective date and exemptions can be built
17 into the code to handle any real-world hurdles that get
18 encountered after the effective date.

19 How about because of loss of jobs? What job
20 loss? It's going to be the same number of buildings
21 designed, equipped and built by the same number of workers.
22 The buildings just will have electric infrastructure,
23 instead of gas.

24 Costs? Your own studies show there isn't a cost
25 downside.

1 How about because of prior commitments or
2 expectations? Look, we all make commitments based on what
3 we know at the time. But we know a lot more now than we
4 did during the last code cycle. We need new commitments,
5 based on what we know now.

6 So in summary, this really isn't the time for an
7 incremental incentivized approach. It's a damn climate
8 emergency. You're in a pivotal position to make all the
9 difference. We need you to act now. Thank you very much.

10 MS. GALLARDO: Thank you.

11 Next is Vanessa. Vanessa, a reminder to spell
12 your name and your affiliation, if any, and then after that
13 will be Eric. Vanessa, your line is open, you may begin.

14 MS. TEO: Good afternoon, Commissioners, and
15 thank you for your time and service. My name is Vanessa
16 Teo, spelled V-a-n-e-s-s-a T-e-o. I'm a senior at
17 Burlington High School and I am the President and Founder
18 of the Bay Area Youth Climate Action Team.

19 I urge the CEC to adopt a single all-electric
20 baseline for all building types, because of the long-term
21 economic and health benefits of electrification. All-
22 electric buildings are cheaper to build, and to operate.
23 And that they would actually reduce construction costs and
24 utility bills, ultimately making housing more affordable.

25 Additionally, avoiding the addition of new gas

1 lines to buildings would also reduce stranded asset risk as
2 California begins the process to electrify its buildings
3 (indiscernible). But also, according to the Rocky Mountain
4 Institute for the City of Oakland, purchasing all-electric
5 appliances result in generally a net saving of \$1,350 to
6 \$1,650.

7 In addition, there is conclusive evidence that
8 even just short-term exposure to nitrogen dioxide has a
9 causal relationship to respiratory affects including the
10 development of asthma. Moreover, smaller unit size, more
11 people in a home, and inadequate stovetop ventilation
12 strongly contribute to increased concentration of nitrogen
13 dioxide in low-income multifamily building. These citizens
14 are facing dangerous health effects when they're using gas
15 appliances.

16 With climate change so rapidly approaching, and
17 its dangerous effects increasing of the day, we do not have
18 the time to continue delaying an all-electric performance
19 standard. We cannot continue to let the gas from our homes
20 and buildings pollute our air, our climate, and damage our
21 health. Ultimately, adopting a single all- electric
22 baseline for all building types would lower costs, improve
23 internal air quality, and reduce climate change pollution.

24 Thank you very much for your time, once again.

25 MS. GALLARDO: Thank you, and now is Eric Arens.

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1 After Eric will be Jenny. Eric, a reminder to spell your
2 name and state your affiliation. Your line is open, you
3 may begin.

4 MR. ARENS: Hi, I am Eric Arens, E-r-i-c A-r-e-n-
5 s. And I'm in the League of Women Voters. Good afternoon.

6 The CEC should move towards adopting a single
7 all-electric baseline for all building types, because all
8 electric buildings are cheaper to build, cheaper to
9 operate, better for public health, and critical to protect
10 us from the climate crisis.

11 At the last workshop the CEC presented
12 inflammation that indicated that in the 2022 Code, the
13 baseline would require only one all-electric appliance in a
14 residential building. The CEC said it would take an
15 incremental approach when mandating electric appliances and
16 may go all-electric in the 2025, 2028 code.

17 Last September in the middle of the historic
18 California wildfires, Governor Newsom stated this is a
19 damned climate emergency. Our goals are inadequate to the
20 reality we're experiencing. The CEC should pursue goals
21 that Governor Newsom would find adequate.

22 The state agencies, like the California Air
23 Resources Board and the Bay Area Air Quality Management
24 District have submitted letters and made oral arguments
25 that the CEC should move to all-electric buildings in 2022.

1 The CEC is a national player as evidenced by Commissioner
2 Scott being pulled into the Biden Administration. We set
3 the tone for national action.

4 Heat pumps are all over the country and
5 California has a lot to catch up on this. The technology
6 is there and we can do it. So anyway, thank you.

7 MS. GALLARDO: Thank you, Eric.

8 Next is Jenny Green, after her will be Laura.
9 Jenny, a reminder to spell your name, state your
10 affiliation. And we will open your line in just a second.
11 Your line is open, Jenny, go ahead.

12 MS. GREEN: Good afternoon, Commissioners. My
13 name is Jenny Green, J-e-n-n-y G-r-e-e-n. I'm a resident
14 of San Jose and a volunteer with Mothers Out Front, a
15 national movement of mothers and fathers mobilizing for a
16 livable climate for all children. We have a rapidly
17 growing California base of over 7,500 supporters stretching
18 from the Capital Region and Bay Area to the Central Valley
19 and the southern border.

20 I'm speaking to you today, because as a mother
21 and deeply concerned that California is failing our
22 children. Last fall, as the previous speaker said, when
23 wildfires were sweeping the state, Governor Newsom declared
24 we're in a climate emergency and that our current goals are
25 inadequate.

1 Despite these last few words, we see that you,
2 one of the most important agencies in the state, may be on
3 the brink of adopting a wholly inadequate goal. During
4 last month's CEC workshop your Building Decarbonization
5 Lead declared that the state should take an incremental
6 approach when mandating electric appliances. On behalf of
7 mothers across our state, let me make it clear, an
8 incremental approach will doom our children to a rapidly
9 stabilizing climate and extremely compromised futures.

10 Delaying the inevitable switch to all electric
11 appliances until the 2025 code update would allow new
12 buildings to be dealt with gas equipment and plumbing. And
13 new gas infrastructure could be deployed for those
14 buildings until 2029, because of the lag between permitting
15 and end up construction, particularly on large projects.

16 This is incompatible with the science and with
17 the climate reality we are now experiencing. As you know,
18 the IPCC says we have massive cuts in carbon emissions
19 during this decade to avoid a climate disaster, so we must
20 act now.

21 We also must back now to protect our children's
22 health. Children living in homes with gas stoves are 42
23 percent more likely to have asthma symptoms. And those are
24 disproportionately children of color.

25 For the sake of our children and grandchildren,

1 please. You must adopt an all-electric building code,
2 starting in 2022. There's no good reason to continue to
3 build with outdated dangerous and climate destabilizing
4 fossil gas when all-electric buildings are safer,
5 healthier, and more cost effective and climate protected.

6 Please listen to the scientists, the doctors and
7 nurses and 7,500 mothers. Please move forward to require
8 that new construction in California be all-electric as of
9 2022.

10 As you know, 42 local California jurisdictions
11 have already adopted local codes for electric new
12 construction. It's time for the state to follow suit and
13 to blaze the trail for other states. Our children will be
14 living and working in these buildings --

15 MS. GALLARDO: Laura? (sic) Your time is up,
16 apologies for interrupting. Can you please wrap up?

17 MS. GREEN: I'm finished.

18 MS. GALLARDO: Okay, sorry about that, Laura.
19 Thank you. Next -- sorry, I actually called you Laura, I
20 meant Jenny. So Laura, you're up next. And then after
21 that will be a Sonja. A reminder to spell your name and
22 your state affiliation. Laura, your line is open.

23 MS. DEEHAN: Thank you, this is Laura Deehan.
24 And I'm the State Director at Environment California.
25 Thank you Chairman Hochschild, and Commissioners, for the

1 chance to comment. And I'm also joining my colleagues
2 here, urging you to really strengthen this proposal and
3 instead of adopting the current proposal adopting an all-
4 electric baseline for the 2022 building codes.

5 As we've already seen in this meeting today
6 California, and you know all of you have been real leaders
7 when it comes to how we respond to the climate crisis. On
8 solar, on renewables, with electric vehicles California has
9 been such a leader and that leadership really matters.
10 Other states, other industries, other nations follow our
11 lead.

12 And unfortunately, in this instance, with this
13 proposal, it would really hold California back. We still
14 have the opportunity to be leaders. And so I really wanted
15 to urge all of you to ensure that homes that are built in
16 2022 are the most energy efficient that they can be, that
17 are using the best available technology, so that
18 Californians can save money and save energy. And, you
19 know, no longer be exposed to the dangerous air that gas
20 can lead to in the home.

21 We've already seen this leadership with the 40
22 cities that have already taken action. And around the
23 country nearly 60 percent of new homes are already being
24 built all-electric. And the majority are using heat pumps.

25 We are really lagging behind, with only 5 percent

1 of new single-family homes built with heat pumps. And this
2 is just completely at odds with the climate leadership that
3 we've long had and so it's time to take bold action. I
4 really want to urge you to adopt a stronger proposal and an
5 all-electric baseline. Thank you.

6 MS. GALLARDO: Thank you.

7 Next up we have Sonja. After Sonja, will be
8 Ronni. A reminder to spell your name, state your
9 affiliation. Your line is open, you may begin.

10 MS. ROBINSON: Thank you. My name is Sonja
11 Robinson, and that's S-o-n-j-a R-o-b-i-n-s-o-n. And I am
12 calling on behalf of Public Power San Diego. And I'm
13 calling in reference -- and I want to say greetings to the
14 Commissioners and its own staff for this meeting today.

15 And I am suggesting that we move forward in a
16 very strong and aggressive way to make sure that our
17 buildings are electric. Globally, we know that our energy
18 is renewable, is the future. Globally they're looking at
19 (indiscernible) either and I believe that California can
20 really set the pace here in our country, and definitely
21 meet the needs for our residents here.

22 I also believe that aligning our standards and
23 codes to make sure that we meet an all-electric building by
24 2022 will also be aligned with our California climate
25 policy equity framework. As well as we are leading on the

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1 clean energy future. And coupling that with our California
2 air resources.

3 So we know that our respiratory pandemic is very
4 frightening for many of us. We've all been impacted
5 somehow. And so getting away from fossil fuels and natural
6 gas is another way in addressing our health, which is also
7 in a state of being an emergency, as well as our climate is
8 in a state of emergency. And as well as for many
9 Californians cost and affordability is in the state of
10 emergency.

11 And so moving into all electric is a way that
12 we're able to address all of these areas. And reduce our
13 emissions significantly, so we can have healthier air that
14 can improve our respiratory for those that may suffer. As
15 well as just a moving forward in our future with our energy
16 and keeping our health in consideration as well, thank you.

17 MS. GALLARDO: Thank you.

18 Next up we Ronni, and then after that will be
19 Christy. Ronni, a reminder to spell your name, state your
20 affiliation. Your line is open, you may begin.

21 MS. SOLMAN: Good afternoon. My name is Ronni
22 Solman, R-o-n-n-i S-as in Sam-o-l-m-a-n. I'm a retired
23 LAUS teacher and a member of SoCal 350 Climate Action in
24 Southern California.

25 The CEC should move towards adopting a single

1 all-electric baseline for all building types, because all
2 electric buildings are cheaper to build and operate, better
3 for public health and critical to protect us from the
4 climate crisis. As others have said, moving to all
5 electric will not increase construction costs, in fact, it
6 will reduce them. Building all electric is less expensive
7 than building with gas for every single housing type,
8 according to data from SF Environment.

9 Frankly it's the gas industry that is an obstacle
10 in the way of progress, and our world's need for
11 electrification. An industry-led opposition campaign has
12 been spreading false information on the costs and public
13 support of electrification. It was mentioned how recently
14 at a workshop the CEC said the state should take an
15 incremental approach when mandating electric appliances.
16 Why? We're in a climate emergency.

17 It's time to tell the gas industry and other
18 fossil fuel companies the time is now, to either reinvest
19 in renewable energy and electrification or get out of the
20 way. Like the horse-drawn carriage of yesteryear.

21 Finally, we have leadership in the White House
22 that will support a radical and quick approach to
23 electrification nationwide, which is what our planet needs.
24 California has been a leader in the past, let us lead now.
25 Please, vote against this proposition and adapt a single

1 all-electric baseline for all building types, we need this.

2 Civilization depends on you, thank you.

3 MS. GALLARDO: Thank you.

4 Next up is Christy and then after that will be
5 Bret. Christy, a reminder to spell your name and state
6 your affiliation. Your line is open, you may begin.

7 MS. ZAMANI: Good afternoon, Commissioners. My
8 name is Christy Zamani, C-h-r-i-s-t-y, last name Z-a-m-a-n-
9 i. I am the Executive Director for Day One, a local
10 nonprofit that has been committed to advancing public
11 health for over 30 years.

12 I'm here today to express my support for moving
13 towards adopting a single all-electric baseline for all
14 building types. All-electric buildings are better for
15 public health and critical to protecting us from the
16 climate crisis.

17 As a lead agency that works with low-income
18 communities of color, I can vouch that this pandemic has
19 only highlighted the systemic racism and disparities that
20 have impacted low-income communities of color for decades.
21 Crammed families in single-unit apartments don't have the
22 luxury to quarantine, be socially distant, or have access
23 to clean fresh air. As leaders, we have the responsibility
24 to improve the environmental and economic injustices, we
25 know to be true, by adopting policies that protect the

1 people and our planet.

2 Children living in areas with high levels of
3 outdoor air pollution and low lower-income African American
4 and Hispanic children with asthma have been
5 disproportionately burdened by indoor air pollution from
6 gas stoves. In the quest to advance public health, we see
7 moving to all electric buildings as a golden opportunity to
8 reduce utility bills, increase affordable housing, and
9 advance clean energy while improving indoor air quality.

10 There is no doubt that this is the right time
11 and that this is the California thing to do. Thank you for
12 your leadership and time in advance.

13 MS. GALLARDO: Thank you.

14 Now we have Bret, and after that will be Ann.
15 Bret, a reminder to spell your name and state your
16 affiliation, please begin.

17 MR. ANDERSON: Yes, hello. This is Bret
18 Anderson. I'm a member of Carbon Free Palo Alto and act as
19 a Bay Area advocate for building decarbonization. I'm here
20 to add our support for an all-electric baseline for all
21 building types in 2022.

22 And in the case of going all electric in the next
23 two years, I think there's really no doubt here that it's a
24 feasible high-impact way to address the climate crisis.
25 And that it's a much better alternative to the gas business

1 as usual that we're doing today. If you look at economy,
2 health, safety, reliability, resiliency, community benefits
3 you just can't be an all-electric approach. Granted
4 California has a legacy of gas and oil production and
5 service to the buildings here, but despite that this is a
6 common practice around the world.

7 And California is behind on this, so we've got to
8 deal with this legacy. But the first thing to do in this
9 legacy situation is to stop digging the hole deeper, stop
10 adding to that legacy, and creating that resistance one,
11 from customers who would have invested in stranded assets
12 that they know, that we all know, will be stranded or are
13 stranded already in our gas network. But also we to create
14 an environment that helps people make long-term investments
15 in the right energy sources for their buildings.

16 I participated in some of the REACH code efforts
17 across our region. Most of the resistance faded away when
18 the Council and the staff were supported by efforts from
19 CCAs, utilities, local builders and advocates to convince
20 them of the all-electric story. It's much better looking
21 than the gas alternative to most people. And that's why
22 they mostly all gone for aggressive REACH codes. So it
23 kind of proves that the case is there and that the
24 community desires that wants have been formed.

25 So here is really a perfect opportunity for this

1 CEC to stand out and fulfill its mission in the interests
2 of all Californians, by taking this extremely well
3 justified step to establish an all-electric REACH code in
4 2022. Thank you for your attention.

5 MS. GALLARDO: Thank you.

6 It is now Ann's turn, and Ann I'd remind you to
7 spell your name, state your affiliation. After Ann will be
8 Aaron and your line is open, please begin.

9 MS. FEENEY: Hi, my name is Ann Feeney, A-n-n F-
10 e-e-n-e-y. I'm from San Diego 350, a volunteer
11 organization working to prevent the worst impacts of
12 climate change.

13 I urge you to include total building
14 electrification in the 2022 building codes. And an all-
15 electric baseline for both residential and commercial
16 should be adopted, because all-electric homes are cheaper
17 to build and operate. And importantly they're far better
18 for health reasons.

19 Of the highest importance is the climate crisis,
20 which demands bold aggressive action now. Some of the
21 reasons we're giving it the workshop that was about two
22 weeks ago for the phased approach of introducing building
23 electrification over two code cycles included the thought
24 that builders were worried about supply chain availability
25 and expertise, and limited builder and consumer experience.

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1 However, over 40 (sic) homes across the United
2 States are being built with heat pumps whereas only 5
3 percent of California homes are. The supply chain is
4 clearly there and limited experiences, because they're not
5 encouraged or required by the building codes. California
6 will be rapidly phasing out natural gas and fossil fuels,
7 so why let new homes be built with what will be antiquated
8 technology?

9 The climate crisis and public health concerns
10 would be best served by aggressive bold steps in this next
11 2022 building code. Thank you very much for your
12 attention.

13 MS. GALLARDO: Thank you.

14 Next we have Aaron. Aaron, a reminder to spell
15 your name state your affiliation. Your line is open, you
16 may begin. Aaron Harvey, your line is open. Would you
17 like to speak?

18 MS. HARVEY: Oh, are you saying Ann Harvey?

19 MS. GALLARDO: Aaron?

20 MS. HARVEY: My name is Ann Harvey. I don't know
21 if the person misunderstood me or --

22 MS. GALLARDO: Apologies, go ahead. No, it's
23 you. Go ahead.

24 MS. HARVEY: Oh, okay. Thank you, sorry. Yeah,
25 my name is Ann Harvey, A-n-n H-a-r-v-e-y. And I'm with

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1 Climate Health Now. We're a group of approximately 500
2 California health professionals who call for a rapid and
3 just transition to a clean energy economy in order to
4 promote our patients' health today and of the global
5 climate tomorrow.

6 We applaud the CEC's position, as stated by Bill
7 Pennington in the October session. And I quote, "The
8 energy Commission has a strong policy to pursue
9 decarbonization as its highest priority goal." I would
10 strongly urge you to follow through with that highest
11 priority by establishing an all-electric baseline for the
12 2022 code.

13 Together, carbon dioxide and methane are driving
14 climate change. And climate change is a health emergency,
15 especially for our kids. Warming temperatures themselves
16 and increasing extreme weather events threaten our health,
17 our air, water, food, shelter and economic security. And
18 pose an existential threat to humanity. The rising
19 temperatures themselves affect every aspect of our health,
20 including causing heat-related illnesses and deaths such as
21 from heatstroke. Which particularly kill farm workers and
22 other outdoor physical laborers as well as the elderly.
23 And also the poor who more often live in poorly weatherized
24 homes without air conditioning.

25 The higher temperatures also accelerate the

1 formation of smog, which in turn promotes lung disease and
2 cardiovascular disease and death.

3 More severe and prolonged droughts, quicker
4 melting of the yearly Sierra snowpack and sea-level rise
5 all threaten our fresh water supply, which is already
6 precarious in California.

7 Higher temperatures have also been found to
8 decrease the nutrient density in foods.

9 Physical and psychological quality of extreme
10 weather events are also severe, like from floods, wildfires
11 heatwaves, emergency evacuations.

12 And in order to protect ourselves, and our kids
13 in particular from the worst effects of climate change, we
14 really must drastically cut our greenhouse gas emissions,
15 now. That means leaving the gas in the ground and instead
16 using clean sources with energy.

17 And apart from global warming, the indoor and
18 outdoor air pollution from burning gas is disabling and
19 killing too many Californians. Fine particulate matter
20 impacts our health from before birth to old age. The
21 increase in well-known and frequently cited, but their
22 problems from before birth and into old age and just about
23 every organ system.

24 Days with higher particulate matter measured are
25 followed by increased hospitalizations and deaths due heart

1 attacks, strokes and exacerbations of chronic lung disease.
2 But the fine particulates are also being linked more and
3 more to diabetes, obesity, all the chronic diseases that
4 are killing people more than anything else.

5 MS. GALLARDO: Sorry, your time is up. Do you
6 mind finishing up?

7 MS. HARVEY: Thank you. All right, well I just
8 encourage you to please go with the baseline of all
9 electric. It really doesn't make sense those less than
10 halfway measures, thank you.

11 MS. GALLARDO: Thank you.

12 Next, we will have Robert. After that will be
13 Elaine. Robert, a reminder to spell your name and state
14 your affiliation. Your line is open, you may begin.

15 MR. WHITEHAIR: Good afternoon, this is Robert
16 Whitehair, R-o-b-e-r-t, Whitehair, W-h-i-t-e-h-a-i-r. To
17 the Chair and Members of the Commission, thank you for the
18 opportunity to speak today. And thank you for paying
19 attention to all of us speaking during this public comment
20 period, even after a very long meeting.

21 The CEC should move towards adopting a single
22 all-electric 2022 baseline code for all building types,
23 because the utilities and appliances of new all-electric
24 buildings are cheaper to build and operate, better for
25 public health, and critical to protect us from the climate

1 crisis. There are countless groups and agencies looking to
2 the CEC to take the lead. I am the Vice Chair of
3 Sustainable San Mateo County and this is a mission
4 important to us.

5 As an example, where your leadership would be
6 helpful, please consider that many affordable housing
7 developers and others are proposing to eliminate many of
8 the sustainability issues, including all-electric. This is
9 leading to the unfortunate situation where some
10 organizations or companies would want to eliminate all of
11 that, including as I said all-electric. Your leadership
12 will go a long way.

13 For affordable housing, natural gas will be more
14 expensive than electricity. Residents of affordable
15 housing will suffer the most, because of the higher utility
16 bills. And because of the health impacts of gas.

17 In my own case I'm dealing with a 70-year-old
18 house that I'm trying to make all electric, because when it
19 was built it was not outfitted with electricity that would
20 support furnaces, gas water heaters, and all the rest of
21 things that would be better for the environment. I'm in
22 the process of doing that right now.

23 Last week with Bay Ran and PEC (phonetic) I was
24 able to install a heat pump water heater. It's very
25 effective in the cost is running just about where we

1 thought it would and we're very pleased for the
2 installation. But retrofitting is very expensive. So I
3 say, please act now and take time to get rid of natural
4 gas. I thank you for the opportunity to speak today.

5 MS. GALLARDO: Thank you. Next, we'll have
6 Elaine. After that will be Mark. A reminder to spell your
7 name and state your affiliation. Elaine, your line is
8 open. Please begin.

9 MS. SALINGER: Hi, my name is Elaine Salinger, E-
10 l-a-i-n-e S-a-l-i-n-g-e-r. Thank you so much for allowing
11 me to speak with you and I really want to thank you so much
12 for your service. I'm here today, because I believe the
13 CEC should move towards adopting a single all-electric
14 baseline for all building types. Because all-electric
15 buildings are cheaper to build and operate, better for
16 public health, and critical to protect us from the climate
17 crisis.

18 So I'm going to focus on something different from
19 what the other speakers have spoken about. They've done a
20 great job explaining the many reasons that I agree with for
21 why we need to stop using carbon-based energy. But I want
22 to share -- they've done a great job, so I'm not going to
23 go there. I want to share something with you, that is
24 really important. And it may be new information for you.

25 Oh, and I forgot to tell you I'm with an

1 organization called Citizens Climate Lobby.

2 So the single most effective way to stop climate
3 change is putting a price on carbon-based energy and why is
4 this? Why is it the single most effective way to stop
5 using oil and gas? It's because it requires no
6 infrastructure to be built, no new technology needs to be
7 invented, and money changes people's behavior faster than
8 anything else. So as climate change becomes worse
9 lawmakers in California and in Washington will eventually
10 pass legislation putting a gradually increasing price on
11 carbon-based energy. And when they do this oil and gas
12 prices will increase much more than you might imagine.

13 If people are locked into using oil and gas their
14 costs will go way up until they switch to green energy. So
15 you would help people save money, a lot of money. And
16 again more money than you might imagine by requiring all
17 new building and appliances to be electric.

18 I know you are leaders, I am asking you to lead
19 us and to drive the car by looking forward, instead of just
20 through the rearview mirror. Thank you so much.

21 MS. GALLARDO: Elaine, your time is up, thank
22 you.

23 All right, next we have Mark. After that will be
24 Lauren. Mark, a reminder to spell your name and state your
25 affiliation. Your line is open, please begin.

1 MR. ROEST: Thank you. My name is Mark Roest, M-
2 a-r-k R-o-e-s-t. And I am with Sustainable Energy Inc and
3 I volunteered in the past with 350.org and I am speaking as
4 a public and as an individual citizen.

5 Thank you for affording the public the
6 opportunity to speak. The CEC should immediately adopt a
7 single all-electric baseline for all building types.
8 Because all-electric buildings are cheaper to build and
9 operate, better for public health, and critical to avoid
10 making the climate crisis worse.

11 We can address the stress on the grid as an
12 opportunity to relieve load on it, by both putting as much
13 solar on rooftops as is feasible and as much more on solar
14 canopies as is necessary to support both the building and
15 all the vehicles associated with it.

16 The technologies to do this affordably already
17 exist and it creates substantial financial benefits on a
18 well distributed basis, once the financing has been paid
19 off. You know, probably 25 percent of a family's budget
20 goes to energy and fuel for their car, and maintenance on
21 it, on an internal combustion engine.

22 As a marketer in a battery and solar technology
23 startup, I know that the solar and battery capacity can
24 grow far faster than California demand. By instituting a
25 single all-electric standard for all building types in the

1 2022 code, the market will increase. The manufacturers and
2 contractors will gear up to fill the mandate with the
3 effect of achieving economies of scale, which will increase
4 the savings in capital and operating costs. Which other
5 commenters have already identified for using electricity in
6 place of gas.

7 I'd like to salute the CEC's pioneering role
8 after Enron and other corruption market players manipulated
9 the energy market two decades ago, causing an energy crisis
10 across the state, which the CEC found ways to put control
11 over. The gas industry is being just a selfish and greedy
12 as Enron was then. And so it really is time to not listen
13 to them anymore and to listen to the people who are saying
14 we must save the planet. We must save each other. And
15 save ourselves.

16 We do that by going to a full electric standard
17 immediately, thank you very much.

18 MS. GALLARDO: Thank you.

19 Next is Lauren. After Lauren will be Diane.
20 Lauren, a reminder to spell your name and state your
21 affiliation. Your line is open, please begin.

22 MS. WESTON: Hi everyone, I'm Lauren Weston,
23 Executive Director of Acterra Action for a Healthy Planet,
24 L-a-u-r-e-n W-e-s-t-o-n. Thank you so much for this
25 opportunity. I'm also a resident of San Francisco and I am

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1 the mom of a toddler who deserves a healthy fossil free
2 future.

3 And I am calling on behalf of Acterra today in
4 urging the CEC to move California further towards
5 decarbonization by setting an all-electric baseline for new
6 construction in the 2022 building code. The CEC should
7 adopt a single all-electric baseline for all building
8 types. Because all electric buildings are cheaper to build
9 and operate, better for public health and critical to
10 protect us from the climate crisis.

11 We have to rapidly decrease our greenhouse gas
12 emissions. Allowing the development of new gas dependent
13 infrastructure will only make it harder and more costly for
14 us to fully decarbonize in the future. And science tells
15 us that we need to fully decarbonize in order to protect
16 our future and to keep things from getting worse than they
17 already are.

18 As per NRDC data shows that on average a baseline
19 code compliant gas furnace and AC system unit is 14 percent
20 more expensive than a baseline heat pump. Cost data for
21 ultra-low NOx furnaces, which are required in key
22 California markets including the South Coast and San
23 Joaquin Valley air districts show that the average cost of
24 the furnace/AC unit is 29 percent higher.

25 On the health side, the EPA made the conclusive

1 finding that short-term exposure to nitrogen dioxide has a
2 causal relationship to respiratory effects, including the
3 development of asthma. Additionally, factors including
4 smaller unit size, high occupancy density, and inadequate
5 stovetop ventilation contributes to an elevated
6 concentrations of NO2 in lower-income multifamily
7 buildings.

8 All-electric homes are more economical and better
9 for public health than gas-powered homes. Acterra urges
10 the CEC to adopt an all-electric baseline for new
11 construction in the 2022 building code.

12 Do it for us. Do it for our kids. Thank you for
13 your time.

14 MS. GALLARDO: Thank you.

15 Next, we have Diane. After that will be Bronwyn.
16 Diane, a reminder to spell your name and state your
17 affiliation, if any. And your line is open, please begin.

18 MS. BAILEY: Good afternoon to talk show them
19 Commissioners, my name is Diane Bailey. That's spelled D-
20 i-a-n-e B-a-i-l-e-y. I'm Director of Menlo Spark, a
21 community climate group working towards a carbon-free and
22 climate safe future.

23 I'm commenting today to urge you to move towards
24 adopting a single all-electric baseline for all building
25 types. Because all-electric buildings are cheaper to build

1 and operate, better for public health, and critical to
2 protect us from the climate crisis.

3 Many other commenters have discussed the climate
4 crisis that we're in, the urgency to phase out phase out
5 fossil fuels, the serious health and safety hazards of
6 using gas. And the favorable economics of all-electric new
7 construction, so I'll keep this brief.

8 Waiting three more years would not only miss an
9 opportunity to save a lot of money on new construction and
10 build much needed housing faster since all-electric
11 construction is cheaper and saves time avoiding gas
12 infrastructure. Delaying an electric requirement would
13 cost Californians \$1 billion in unnecessary gas
14 infrastructure. And it would lock them into 3 million tons
15 of additional carbon emissions by 2030.

16 We know that we need to transition off of fossil
17 fuels, including gas rapidly within 10 years. And if we
18 want to meet our state's goals and stabilize the climate
19 California will need to electrify and retrofit 14 million
20 homes and over 8 billion square feet of commercial
21 buildings. Why would we even consider allowing new
22 construction with gas that will make this electrification
23 challenge even more difficult.

24 Last September in the midst of another
25 devastating wildfire season, which we know was far worse as

1 a direct result of climate change Governor Newsom vowed to
2 accelerate the state's efforts to tackle climate change.
3 Following this direction from the Governor, the CEC should
4 ensure a single all-electric baseline for all building
5 types in 2022 building code.

6 Thank you so much for the opportunity to comment.

7 MS. GALLARDO: Thank you.

8 So next we have Bronwyn and then after that we
9 will have Matthew. Bronwyn, a reminder to spell your name
10 and state your affiliation, if any. Your line is open,
11 please begin.

12 MS. BARRY: Thank you, can you hear me?

13 MS. GALLARDO: Yes.

14 MS. BARRY: Hello, great. Thank you, my name is
15 Bronwyn Barry, spelled B-r-o-n-w-y-n, my last name is
16 Barry, B-a-r-r-y. And I am speaking on behalf of the North
17 American Passive House Network and Passive House
18 California. I'm also a long-term resident of California
19 and an architect based here, working directly here in
20 California on all-electric buildings.

21 I'm calling to add our voice to the many others
22 on this call who have been urging the CEC to make the leap
23 to an all-electric baseline code for all building type and
24 make it this year.

25 We already know that the costs are lower. I have

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1 been seeing this in my own projects here since 2013 when I
2 first switched to during all-electric buildings. And we've
3 seen that the hybrid code that the CEC is currently
4 proposing actually costs more, because it requires not just
5 the cost of the appliances themselves, but the actual line
6 service on top of the electric service actually costs a lot
7 more than just an all-electric building.

8 In terms of urgency, nobody needs to we iterate
9 this point. We know that we have no time to lose in
10 addressing our climate emergency. And so locking buildings
11 into another three years of being dependent on fossil fuels
12 cannot be justified on either an economic, social, or moral
13 level. So I remain a little perturbed that the CEC is
14 proposing this incremental approach.

15 Lastly, in terms of transparency, we cannot call
16 ourselves leaders. At the last workshop the staff for the
17 CEC revealed that our energy code is still based on a 2006
18 benchmark building. Now that's a 15-year-old building and
19 it would be the equivalent of saying that your cell phone
20 is a Nokia flip phone with an old text type. This is not
21 leadership. This is just an old baseline and if the
22 California Energy Commission does want to play in the
23 mantle of leadership, switching to an all-electric baseline
24 code would be a way to actually finally justify that
25 leadership.

1 So I thank the CEC for the consideration. I
2 thank you for the opportunity to do this. And I urge you,
3 in fact I implore you, this is no time to be incremental.
4 Please switch to an all-electric baseline community. Our
5 children and the future will thank you. Thank you very
6 much.

7 MS. GALLARDO: All right, next is Matthew. And
8 after that will be Coleen. Matthew, a reminder to spell
9 your name and state your affiliation, if any. Your line is
10 open, please begin.

11 MR. VASILAKIS: Thank you. Good afternoon,
12 Commissioners. This is Matthew Vasilakis, M-a-t-t-h-e-w V
13 as in Victor-a-s-i-l-a-k-i-s. I'm the Co-Director of
14 Policy at Climate Action Campaign, dialing in to urge the
15 Commission to move towards adopting a single all-electric
16 baseline for all building types. Because all-electric
17 buildings are better for public health and critical to
18 protecting us from climate change.

19 We are in a dire climate crisis and the state
20 must start taking corrective steps to decarbonize our homes
21 and businesses. Not only to reduce emissions and stop
22 climate change, but to improve the health and quality of
23 life for all California.

24 As countless studies have shown, piping in
25 dangerous methane gas into our homes increases the rates of

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1 asthma, cardiovascular disease and other disorders.
2 Methane gas is as much a public health crisis as it is a
3 contributor to our climate crisis. I will also highlight
4 that all-electric homes and buildings are cheaper to build,
5 operate, and maintain, offering significant savings to
6 Californians during our prolonged housing affordability
7 crisis.

8 Given the many benefits and the dire consequences
9 of an action, we urge the Commission to adopt a single all-
10 electric baseline for all building types, thank you.

11 MS. GALLARDO: Thank you. Next is Colleen, after
12 that is Bruce. Colleen, a reminder to spell your name, and
13 state your affiliation if any. Your line is open, please
14 begin.

15 MS. FITZSIMONS: Thank you. Hi, my name is
16 Colleen, spelled C-o-l-l-e-e-n, and Fitzsimons, spelled F-
17 i-t-z-s-i-m-o-n-s. I'm calling from the San Diego Green
18 Building Council and I want to thank you for the
19 opportunity to comment today. And to wish you a good
20 afternoon and thank you for sitting through all of our
21 comments.

22 The CEC should move towards adopting a single
23 all-electric baseline for all building types. Because all
24 electric buildings are cheaper to build and operate, better
25 for public health and critical to protecting us from the

1 climate crisis. Waiting three more years would not only
2 miss an opportunity to unleash a faster, cheaper way to
3 build as already mentioned in this meeting, it would also
4 cost Californians \$1 billion in unnecessary gas
5 infrastructure. And lock us into 3 million tons of
6 additional carbon emissions by 2030.

7 This is a decade where we need to be making great
8 strides in the other direction. We need to be moving
9 towards decarbonization instead of locking in more
10 greenhouse gas emissions. And that's not to mention the
11 untold impacts to our healthcare system and the costs that
12 will be incurred addressing the increased rates of asthma,
13 susceptibility to diseases like COVID and others caused by
14 burning fossil fuels in the home, as we have been warned by
15 no less than CARB.

16 So please get us to an all-electric baseline now,
17 when we can have the most impact. Thank you so much.

18 MS. GALLARDO: Thank you. Next, we have Bruce.
19 After that will be Paul. Bruce, a reminder to spell your
20 name and state your affiliation, if any. Your line is
21 open, please begin.

22 MR. NAEDEL: Hi, can you hear me?

23 MS. GALLARDO: Yes, we can.

24 MR. NAEDEL: Okay. Yes, my name is Bruce Naegel,
25 B-r-u-c-e, last name N-a-e-g-e-l. I'm part of a number of

1 different sustainability organizations including the fossil
2 free buildings effort to move the San Jose, Santa Clara and
3 San Mateo to all buildings being fossil free and moving to
4 all-electric.

5 We need this in our portfolio, to move all of the
6 cities in California to this. One of the more dramatic
7 cases of this was during the Council meeting at Mountain
8 View however, which I live in. And the mayor stated she
9 was voting for an enhanced REACH code, because of this
10 specific thing that her children were telling her. They
11 wondered whether they had a place to live in the future.

12 And we've heard this from a number of people.
13 That that you know, this is a real concern and we have a
14 very motivated younger generation, because they're
15 concerned that there won't be a place. You know, we're
16 handing them the keys to a planet that has failed at that
17 point.

18 One of other things that's kind of interesting is
19 we need to deal with the equity issue. As was mentioned
20 before gas stoves emit all kinds of poisonous things. One
21 of the challenges is that in low-income housing the
22 kitchens smaller, which concentrates the -- be even more so
23 it makes it more of an issue. So we really need to do
24 that.

25 If we leave -- we only have the rich people get

1 the all-electric houses then as the number of people that
2 are buying gas goes down, what will happen is the price per
3 unit of gas will go up and the people that are left behind
4 will be the poor ones who are not going to be able to
5 afford the increase in gas pricing.

6 We're in a unique position at this point, after
7 four years of leadership that would prefer that climate
8 change was a figment of his imagination. We now have one
9 who believes in the fact that it is something that needs to
10 be done. He is doing things to accelerate that. We need
11 to start raising these kinds of issues in leadership in
12 California, because this is a time we have when we can
13 actually move something forward.

14 We've also had some nasty explosions along the
15 way. Gas is not the most favorite of things. There was a
16 massive fire 10 or 11 years ago in San Bruno and a massive
17 set of leaks in Aliso Canyon. So there are some definite
18 safety issues beyond just health issues that we should be
19 concerned about.

20 I witnessed something that could have been a
21 really nasty explosion. Thank goodness, it wasn't.
22 Somebody ran into a pipe where I was working, and there was
23 gas leaking out of a pipe (indiscernible) --

24 MS. GALLARDO: Bruce, your time is up.

25 MR. NAEDEL: Okay, thank you.

1 MS. GALLARDO: Sorry, this is the Public Advisor.
2 Thank you, Bruce.

3 MR. NAEGEL: Thank you.

4 MS. GALLARDO: Thank you.

5 Next is Paul, after that will be Tom. Paul, a
6 reminder to spell your name and indicate your affiliation,
7 if any. Your line is open, please begin.

8 MR. WERMER: Yes, hello. My name is Paul, P-a-u-
9 l, Wermer, W-e-r-m-e-r. And I'm with the San Francisco
10 Climate Emergency Coalition. It's difficult
11 (indiscernible) in a comment section to offer some
12 different insights. But what I will say is I started
13 paying attention to climate change back about 1993 as I was
14 I was working in the semiconductor industry managing
15 projects in the supply chain.

16 As I've been following it closely since 1993 and
17 impacts has happened faster and toward greater extent, than
18 have been predicted. For every prediction that has been
19 made. We're seeing this now, when the 2050 or 2045 goals
20 that have been set clearly are inadequate.

21 California, the leadership of California in
22 energy efficiency goes back a long ways. And California is
23 to be commended. They even had the wisdom to prohibit
24 electric heating in the days when power plants were very,
25 very dirty. And it was actually more carbon efficient to

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1 use gas heat in the home. That has changed.

2 It is really a critical issue in terms of
3 conversion to recognize that the cost of ownership of the
4 house is more than just the price of the new house. It's
5 also the cost of any capital changes that will have to be
6 made. And by building a mixed-fuel house in 2023 or 2024,
7 people will be incurring significant costs for the
8 conversion to electricity in 2030 or 2035. So that needs
9 to be factored in.

10 It's important to send a clear message to the
11 supply chain, so they can be ready to support the need.
12 Yes, the supply chain might not quite be where it needs to
13 be today. But if it is clear that California will be
14 mandating all-electric in the code that means buildings
15 coming into place in late 2022 or 2023. That gives them
16 two years notice, which is ample time to figure out how to
17 ramp up production, provide training schedules, and build
18 up a skilled workforce, both with contractors
19 (indiscernible) --

20 MS. GALLARDO: Paul? Paul, I hate to interrupt,
21 but your time is up. Sorry, our timer froze, but we --

22 MR. WERMER: Okay, thank you.

23 MS. GALLARDO: Thank you. I just want to be fair
24 to everybody.

25 All right, next up is Tom and then after that

1 will be Wesley. Tom, a reminder to spell your name,
2 indicate your affiliation if any. Your line is open,
3 please begin.

4 MR. KABAT: Hello, my name is Tom Kabat, spelled
5 T-o-m K-a-b-a-t. I'm a retired gas and electric utility
6 resource planner, now rising to the challenge of
7 volunteering in various climate preservation efforts.

8 What I've noticed in my long career in energy is
9 that as California starts to make the important progress
10 towards climate preservation, we need to look carefully at
11 the difference between the climate crisis that we face now
12 and the energy crisis we faced in the 1970s through the
13 2000s. And that was the crisis that led to the formation
14 of the Energy Commission.

15 That earlier crisis was essentially just an
16 energy gap problem when we look at it from a large view.
17 It was a gap problem, because the US had about 15 percent
18 less domestic energy than its energy consumption. And that
19 led to the Charter of the CEC.

20 The US was importing about 15 percent of its
21 energy and this energy gap problem was solvable with
22 incremental improvements in efficiency. So we did small
23 and slowly phased in efficiency improvements, because we
24 saw it was the solution to the old problems back then.

25 We did not know about the climate problem back

1 then either. We were prevented from knowing. But also
2 there's a downside to going too slow. And, you know, if we
3 went a little too slow back then, the downside was just a
4 little more energy cost. Now we're up against the climate
5 crisis. And the downside of going too slow is losing and it
6 getting out of control and going around the bend.

7 So the climate crisis requires that we move fully
8 away from the netting (phonetic) technologies and that we
9 have little time to make mistakes that we have to undo
10 later. We need your bold leadership now to rise to this
11 different kind of challenge presented by the climate
12 crisis.

13 The idea of making incremental change for this
14 problem is similar to driving towards a 90-degree turn in
15 the road and deciding to compromise and turn your steering
16 wheel, as though it's only 45 degrees. We can see the
17 error of compromise when full action is what's really
18 required. So Californians are depending on your ability to
19 turn the wheel as far as needed to keep us on the road.

20 And that prudent navigation means adopting an
21 all-electric baseline for all building types in the 2022
22 code. Any lessons illustrate (indiscernible) --

23 MS. GALLARDO: Tom, your time is up. Apologies
24 for interrupting. Okay, thank you, Tom.

25 Next is Wesley, after that is Ellyn. Wesley,

1 reminder to spell your name, state your affiliation if you
2 have one. And then your line is open, you may begin.

3 MR. REUTIMANN: Hi, good afternoon Commissioners
4 and staff. My name is Wes Reutimann, W-e-s R-e-u-t-i-m-a-
5 n-n. And I'm calling to comment on behalf of Active San
6 Gabriel Valley. We're a play-based nonprofit organization
7 committed to promoting sustainability, equity and
8 livability in the San Gabriel Valley and East Los Angeles
9 County.

10 Our region of California includes over 2.3
11 million residents and it's one of the most diverse places
12 in the United States. It also includes some of the most
13 pollution burdened cities in California and lies within the
14 most polluted air basin in the U.S.

15 Our organization also recently worked with UCLA
16 to conduct an indoor air quality study in older homes and
17 apartments, in two of the most pollution burdened
18 communities in our region and state in the unincorporated
19 communities of Avocado Heights and Bassett.

20 That study found that homes with gas appliances
21 experienced indoor air quality that was worse than
22 outdoors, despite us living in one of the most polluted
23 outdoor air bases in the country. And this is especially
24 the case during the colder months of the year.

25 A number of speakers have already outlined the

1 many significant long-term health impacts of pollutants
2 from gas appliances, particularly gas stoves. And these
3 chronic illnesses are incredibly costly for our region and
4 our communities. In L.A. County alone its associated with
5 billions in health care costs and lost productivity
6 annually.

7 And, in particular, this is impacting lower-
8 income families who are older, are more likely to live in
9 older homes with smaller unit sizes, leaky gas appliances
10 and inadequate stovetop ventilation.

11 However, if we can move expeditiously to adopt an
12 all-electric code standard, we will benefit from immediate
13 long-term health improvement in so far as indoor air
14 quality is concerned. And there, of course, are all the
15 other associated benefits to climate and cost that would be
16 paired with the adoption of that type of a standard.

17 As a community-based organization that's
18 dedicated to improving the public health and well-being of
19 residents in the East Los Angeles County, we encourage the
20 Commission to prioritize the health of all California
21 residents and develop more affordable sustainable and
22 healthy housing.

23 We strongly urge the Commission to update the
24 2022 code and establish 100 percent electric baseline for
25 all homes and buildings. Thanks for your time and

1 consideration.

2 MS. GALLARDO: Thank you.

3 Next up is Ellyn, after that will be Alice.

4 Ellyn, a reminder to spell your name and state your
5 affiliation, if any. Your line is open and you may begin.

6 MS. DOOLEY: Thank you. Thank you to the
7 Commissioners. My name is Ellyn Dooley, spelled E-l-l-y-n,
8 Dooley is D-o-o-l-e-y. And I am appreciative of the
9 opportunity to speak on behalf of the Citizens Climate
10 Lobby San Mateo County Chapter. But, more importantly as
11 an individual, homeowner and grandmother of two small
12 children whom I dedicated my retirement years to working on
13 the climate, to ensure them a healthy future.

14 I have a real time example. I just came from a
15 local appliance store, because like others I'm starting to
16 transition out of my gas appliances. And this store did
17 not have one inductions range on the floor. It was loaded
18 with gas.

19 And when I mentioned the REACH codes that are
20 being passed and that the CEC is right now -- actually
21 while I was in the store talking about this issue and
22 planning to update the codes for 2022, he had no idea. And
23 he said, "Oh, I think people can get grandfathered in if
24 they have a gas range." And I told him that was about to
25 change and that they really might want to start considering

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1 at least displaying some ranges on the floor.

2 So I think the CEC has a responsibility also to
3 small business to prepare them for what's to come. Because
4 this transition is coming and rather than having them lag
5 behind and invest in outdated appliances for their stores,
6 this does them in a great disservice.

7 So I really encourage you, like everybody else
8 who said to now and for 2022 pass and all-electric single
9 baseline code. Because there is really no good reason why
10 we can't do that or shouldn't do that. We need to be ahead
11 of the game not lagging behind.

12 So that's my comment. I appreciate your taking
13 the time to hear me. Thank you.

14 MS. GALLARDO: Thank you. And next is Alice.
15 After that will be Carlos. Alice, a reminder to spell your
16 name, state your affiliation if any. Your line is open,
17 you may begin.

18 MS. SUNG: Yes, thank you for listening. My name
19 is Alice Sung, A-l-i-c-e S-u-n-g. I am a recovering
20 schools architect, and now principal of Greenbank
21 Associates. I'm speaking as a mother and a member of the
22 AIA East Bay Committee on the Environment. And I'm here to
23 speak again in support of the CEC adopting a single all-
24 electric baseline for all building types, in particular
25 public buildings and in specific public schools.

1 For all of the reasons that everyone here
2 speaking today has enumerated upon, for the savings both of
3 electricity and greenhouse gas, as well as importantly for
4 public health and for the social equity aspects.

5 I'm here to also say that opponents may say, how
6 can we afford to do this? And I say how can we afford not
7 to. Since I've last spoken to you, it's been a couple of
8 months, a new federal administration has actually moved
9 forward with a bold climate action plan. And I urge you to
10 align ourselves, align the CEC as well as with the state in
11 actually making this adoption to all- electric baseline
12 code.

13 The federal administration will be considering a
14 landmark infrastructure bill, I believe it's HR 2, that
15 could possibly send \$5 billion to the State of California
16 for the rebuilding of America's schools, including all of
17 our lower-income and disadvantaged communities' schools in
18 the State of California.

19 So on behalf of the 6.3 million public school
20 children in California I urge the CEC to prepare, to
21 prevent the \$5 billion of new investments over the next
22 five years to be invest in stranded gas assets, by adopting
23 an all-electric baseline code. In particular for public
24 school buildings and preventing further harm to our already
25 distressed public schools.

1 And lastly, I'd like to leave this by reminding
2 you of the words of Greta Thunberg, since school kids are
3 probably just now getting offline from their school
4 classes, and quote something from her "Our houses on fire,"
5 speech at the World Economic Forum almost well over two
6 years ago today.

7 MS. GALLARDO: Alice, your time is up. As long
8 as it's quick. Your time is up, Alice.

9 MS. SUNG: Yes. "I don't want your hope, I want
10 you to be hopeful. I want you to act as if you would in a
11 crisis. I want you to act as if our house is on fire,
12 because it is." Thank you.

13 MS. GALLARDO: Thank you.

14 Next is Carlos. After that will be Melissa.
15 She'll be the last commenter on the Verizon line. So
16 Carlos, a reminder to spell your name and state your
17 affiliation, if any. Your line is open, please begin.

18 MR. DAVIDSON: Thank you for taking public
19 comments today. My name is Carlos Davidson, C-a-r-l-o-s D-
20 a-v-i-d-s-o-n. And I'm with the Pacifica Climate
21 Committee, a citizens group working on climate change
22 issues in the City of Pacifica, San Mateo County. I'm also
23 a professor of environmental studies at San Francisco State
24 where I teach on climate change and sustainability. But
25 I'm speaking today is a private citizen for the Climate

1 Committee.

2 All-electric buildings will save homeowners money
3 on building costs, and then save residents on energy costs.
4 But even though there are savings that doesn't mean we can
5 just count on the market to bring about the changes that we
6 need. There are all kinds of market failures and public
7 benefits in housing construction, that mean we need
8 government regulation. Just as with earthquake and fire
9 safety we need you to act and we need strong government
10 regulation. So I urge the CEC to adopt an all-electric
11 baseline for all buildings for 2022. For the financial
12 savings, for improved public health. And most importantly,
13 at the moment for the critical need to reduce greenhouse
14 gas emissions, to address the climate crisis.

15 Thank you very much.

16 MS. GALLARDO: Thank you.

17 Last, we have Melissa. And Melissa, a reminder
18 to spell your name, state your affiliation if any. Your
19 line is open, you may begin.

20 MS. ELDER: Good afternoon, Commissioners. My
21 name is Melissa Elder, M-e-l-i-s-s-a E-l-d-e-r. And I'm a
22 volunteer with the Sunrise Movement San Diego and a part of
23 the San Diego Building Electrification Coalition. And we
24 know we have a very short window to act in order to protect
25 a livable future for the youth, and for the most vulnerable

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1 populations. We should be moving towards adopting a single
2 all-electric baseline for all building types. Because
3 they're cheaper to build, they're better for public health,
4 and critical to protect us from the climate crisis.

5 Growing up in rural Missouri, I'd always looked
6 up to California as being a leader for social and
7 environmental issues. This is an opportunity to take
8 appropriate steps to preserve our future for our children
9 and our youth.

10 As Governor Newsom mentioned last year that this
11 is a damn climate emergency and we need to treat it as
12 such. We don't have time to take an incremental approach
13 when mandating electric appliances. The people are
14 suffering right now with the immediate effects from gas
15 stoves, giving children like my little nephew asthma.

16 Researchers found that gas stoves without
17 properly vented exhaust hoods are common in inner-city
18 households. And they're already experiencing environmental
19 racism, increased rates of asthma, and other health
20 concerns. So we need to make sure that we're taking all
21 the necessary steps to protect our most vulnerable
22 populations, and the children who are born into situations,
23 they had no choice.

24 The youth have contributed the least to the
25 climate disaster. And the least we can do is make sure

1 that policies like the all-electric building closed
2 starting 2020 will start to slow this upcoming train wreck
3 to our futures. Thank you.

4 MS. GALLARDO: Thank you.

5 That was the last on the Verizon line. Again,
6 this Noemi Gallardo, Public Advisor. I will read one
7 comment that we received. I'll start now.

8 This is from Helena Birecki, H-e-l-e-n-a B-i-r-e-
9 c-k-i, a member of Climate Reality Project Bay Area.

10 "As a California resident, I am extremely
11 concerned by the staff proposal for 2022 building code
12 standards. The proposal incorporates into the standard
13 design for new construction only a single electric
14 appliance, either a heat pump water heater or heat pumps
15 space heater. And the incorporated appliance is the one
16 that is expected to use less energy in its climate zone.

17 "This proposal is insufficient and dangerous. It
18 sets us up for failure to protect our climate and failure
19 to protect public health and safety.

20 "Gas lines rupture, explode and kill people. An
21 ever-present danger, which is heightened by the wildfires
22 and earthquakes endemic to California.

23 "The use of natural gas appliances indoors
24 creates dangerous levels of indoor air pollution, which
25 harms people's health in an inequitable way due to the fact

1 that low-income people of color in particular tend to live
2 in smaller apartments, which leads to worse ventilation
3 than a large space, even in a new building natural gas
4 leaks. And because methane is 84 to 86 times more potent
5 greenhouse gas and carbon dioxide over a 20-year period.
6 even at the low estimate of 3 percent leakage between
7 construction site and home use, the global warming effect
8 of the leaked methane is an additional 250 percent on top
9 of the effects of the carbon dioxide produced by combusted
10 gas.

11 "We cannot afford this climate disaster. All-
12 electric construction has been shown to be more affordable
13 than gas for both builder and residents. All-electric
14 construction is safer than gas for both workers and
15 residents. All-electric construction is healthier for
16 present and future Californians.

17 "I strongly urge the CEC to substantially
18 strengthen the staff proposal prior to its adoption. The
19 standard design for new construction should be all-
20 electric. Thank you."

21 That ends the public comment, Chair, I'll turn
22 it back to you.

23 CHAIR HOCHSCHILD: Thank you.

24 Let's go to Chief Counsel's Report. Darcie, are
25 you there?

1 MS. HOUCK: Thank you, Chair. Yes, I'm here. It
2 looks like the video doesn't let me take it off, so I'll
3 just make my comments.

4 Given this is my last meeting in my role as Chief
5 Counsel, I want to thank you for bearing with me to make
6 some additional comments.

7 Oh, now there is it. There we go, thank you.

8 So again, I just want to state that it's been a
9 real honor to be able to serve as the Energy Commission's
10 Chief Counsel. This place really is very special to me.
11 And I want to thank each of you for all of your dedication
12 for California, and meeting California or pursuing
13 California clean energy goals.

14 And the support that you've not just shown me as
15 Chief Counsel, but all of the staff here at the Commission.
16 This is just such an amazing place to be.

17 I want to particularly also thank Drew Bohan. I
18 know he wasn't here earlier for the comments, but he has
19 just been a tremendous colleague, partner and friend to
20 work with. And, you know Commissioner Siva Gunda and
21 Assistant Chief Counsel Allan Ward, Assistant Chief Counsel
22 Linda Barrera and retired annuitant Caryn Holmes. Without
23 them, I don't think we could have transitioned so
24 seamlessly during all of the chaos we dealt with last year.
25 And there's just so many amazing people here that I am

1 really going to miss.

2 And I just want to also note that Noemi, Carousel
3 and I all came on board at the CEC at roughly the same
4 time. And I've had the pleasure of being able to work with
5 and through a number of things with both of them over the
6 last year. And I just have a tremendous amount of respect
7 for these women and consider them not just colleagues, but
8 friends.

9 I am really going to miss everybody here at the
10 Energy Commission, while at the same time I really look
11 forward to being able to work with you in my new role over
12 at the Public Utilities Commission. So thank you for
13 giving me this opportunity to serve the state as the Energy
14 Commission's Chief Counsel.

15 And I'm going to end with that, before I start
16 crying so thank you.

17 CHAIR HOCHSCHILD: Thank you, Darcie. That was
18 beautiful.

19 Okay, everybody we're adjourned, thank you.

20 (The Business Meeting adjourned at 3:22 p.m.)

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CERTIFICATE OF REPORTER

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

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of February, 2021.



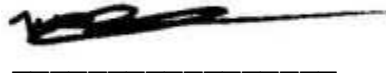
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TRANSCRIBER'S CERTIFICATE

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

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Myra Severtson
Certified Transcriber
AAERT No. CET**D-852