

**DOCKETED**

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BUSINESS MEETING  
BEFORE THE  
CALIFORNIA ENERGY COMMISSION

In the Matter of: )  
 ) 21-BUSMTG-01  
 *Business Meeting* )  
 \_\_\_\_\_ )

REMOTE ACCESS ONLY

*Public comment is accepted solely through the Zoom platform.*

*The California Energy Commission's (CEC) November 15, 2021 Business Meeting will be held remotely, consistent with Assembly Bill 361 (Rivas, Chapter 165, Statutes of 2021) to improve and enhance public access to state meetings during the COVID-19 pandemic and future emergencies by allowing broader access through teleconferencing options. The public can participate in the business meeting consistent with the direction provided below.*

*Please note that the CEC aims to begin promptly at the start time and the end time is an estimate based on the agenda proposed. The business meeting may end sooner or later than the time indicated depending on various factors.*

*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.*

MONDAY, NOVEMBER 15, 2021

10:00 A.M.

Reported by:  
Peter Petty

APPEARANCES

Commissioners (Via Remote)

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

Staff Present: (Via Remote)

Drew Bohan, Executive Director  
Linda Barrera, Chief Counsel  
Noemi Gallardo, Public Advisor  
Carousel Gore, Equal Employment  
Opportunity Officer

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Also Present: (Via Remote)

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	a. Pursuant to Government Code Section 11126(e), the CEC may adjourn to closed session with its legal counsel to discuss any of the following matters to which the CEC is a party:	

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ii. <i>State Energy Resources Conservation and Development Commission v. HyGen Industries, Inc. (Sacramento County Superior Court, Case No. 34-2019-00252543-CU-BC-GDS)</i>	
iii. <i>Interlink Products International, Inc. v. Xavier Becerra, Drew Bohan, Melissa Rae King (United States District Court for the Eastern District of California, Case No. 2:20-cv-02283)</i>	
b. Pursuant to Government Code, section 11126, subdivisions (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 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 NOVEMBER 15, 2021

10:02 a.m.

3 (Start of Introductory Video.)

4 MS. MURIMI: Welcome to the California Energy  
5 Commission's Business Meeting.

6 Zoom's closed captioning feature has been enabled  
7 to make Energy Commission business meetings more  
8 accessible. Attendees can use this feature by clicking on  
9 the "Live Transcript" icon and then selecting either "Show  
10 Subtitle" or "View Full Transcript." Closed captioning can  
11 be stopped by closing out of the live transcript or  
12 selecting "Hide Subtitle." Those participating solely by  
13 phone do not have the option for closed captioning.

14 The Energy Commission will continue to post the  
15 transcript of this Business Meeting rendered by a  
16 professional court reporter in the docket system and on the  
17 Business Meeting webpage.

18 Consistent with Assembly Bill 361, today's  
19 business meeting is being held remotely through Zoom to  
20 improve and enhance public access to state meetings during  
21 the COVID-19 pandemic. The public can participate in the  
22 Business Meeting consistent with the instruction for remote  
23 participation found in the notice of this meeting, and as  
24 set forth in the agenda posted to the Energy Commission's  
25 website.



1 Pursuant to California Code of Regulations Title  
2 20 section 1104(e) any person may make oral comments on any  
3 agenda item. Once the public comment period begins if  
4 you'd like to speak, please raise your hand by clicking on  
5 the "Raise Hand" icon at the bottom of your screen.

6 Please note that if Zoom were to shut down, we  
7 would switch to the Verizon phone line at (888)823-5065.  
8 The pass code is "Business meeting." Public comment would  
9 then be accepted through Verizon.

10 To ensure the orderly and fair conduct of  
11 business, public comments will be limited to three minutes  
12 or less per person for each agenda item voted on today.  
13 Any person wishing to comment on the information items or  
14 reports, which are non-voting items, shall reserve their  
15 comment for the general public comment portion of the  
16 meeting. And shall have a total of three minutes or less  
17 to state all remaining comments.

18 If you're joining by phone press \*9 to raise  
19 your hand and \*6 to unmute. After the Public Advisor calls  
20 on you to speak, spell your name, and state your  
21 affiliation if any.

22 Welcome to the California Energy Commission's  
23 Business Meeting. The meeting will now begin.

24 (End of Introductory Video.)

25 CHAIR HOCHSCHILD: Well, good morning friends and

1 welcome. I'm David Hochschild, and welcome to our November  
2 15 business Meeting.

3 Chief Counsel's Office has asked that I be  
4 explicit about the other Commissioners in attendance to  
5 ensure a quorum. So joining me today are Vice Chair Gunda,  
6 Commissioner Douglas, Commissioner McAllister and  
7 Commissioner Monahan. We have a quorum, so we'll proceed  
8 with this Business Meeting by having Commissioner Douglas  
9 lead us in the Pledge of Allegiance.

10 COMMISSIONER DOUGLAS: All right, well good  
11 morning.

12 (Whereupon the Pledge of Allegiance was recited.)

13 CHAIR HOCHSCHILD: Thank you, Commissioner.

14 I do want to highlight an exciting event that we  
15 have coming up, which is our second annual Clean Energy  
16 Hall of Fame Award ceremony. I want to thank Noemi and all  
17 the others who've been involved in making this happen, and  
18 our whole advisory committee and selection committee  
19 involved in that.

20 We're going to be honoring six winners, who are  
21 contributing to building clean energy future here in  
22 California. They include a Lifetime Achievement Award for  
23 Dr. Peter Lehman, the Founding Director of the Schatz  
24 Energy Center, which has been doing really path-breaking  
25 work for a number of years.

1           For our Youth Game Changer-Award, we're awarding  
2 it to Communities for a Better Environment's Youth for  
3 Environmental Justice.

4           And our Clean Energy Champion Award winners  
5 include Eddie Ahn, the Executive Director of Brightline  
6 Defense; Nicole Capretz, Founder and Executive Director of  
7 the Climate Action Campaign; Mutual Housing of California  
8 and Abigail Solis, Manager of Sustainable Energy Solutions  
9 at Self-Help Enterprises.

10           To register for the event, the link is in the  
11 Zoom chat.

12           And I'm also happy to announce that at today's  
13 Commission meeting we're going to be approving nearly 8  
14 million in investments during this business meeting as well  
15 over a billion dollars in our plan for the Clean  
16 Transportation Program.

17           So with that let's turn to Item 1, Consent  
18 Calendar. Do we have any public comments on this, Noemi?

19           MS. GALLARDO: This is Noemi Gallardo, the Public  
20 Advisor. If anyone is interested in making public comment,  
21 please use the raise hand feature on Zoom. If you're on  
22 the phone press \*9.

23           I do not see any hands, Chair. You may proceed.

24           CHAIR HOCHSCHILD: Okay, unless there's  
25 Commissioner discussion, Commissioner Douglas, would you be

1 willing to move the item? (Brief pause.)

2 COMMISSIONER DOUGLAS: Sorry, I move the Consent  
3 Calendar.

4 CHAIR HOCHSCHILD: Okay, Vice Chair Gunda, would  
5 you be willing to second that?

6 VICE CHAIR GUNDA: I second Item 1.

7 CHAIR HOCHSCHILD: All in favor, Commissioner  
8 Douglas?

9 COMMISSIONER DOUGLAS: Aye.

10 CHAIR HOCHSCHILD: Vice Chair Gunda?

11 VICE CHAIR GUNDA: Aye.

12 CHAIR HOCHSCHILD: Commissioner Monahan?

13 COMMISSIONER MONAHAN: Aye.

14 CHAIR HOCHSCHILD: And Commissioner McAllister?

15 COMMISSIONER MCALLISTER: Aye.

16 CHAIR HOCHSCHILD: And I vote aye as well. Item  
17 1 passes unanimously.

18 Let's turn to Item 2, Water Conservation and  
19 Efficiency Update.

20 MR. JOHNSON: Good morning Chair, Vice Chair, and  
21 Commissioners. My name is David Johnson, and I am a  
22 Mechanical Engineer in the Appliances Office in the  
23 Efficiency Division.

24 Today, I will provide an informational update on  
25 the Efficiency Division's efforts on water conservation and

1 efficiency. Next slide, please.

2           There are numerous state agencies with regulatory  
3 authority related to water, including but not limited to  
4 the Department of Water Resources, the State Water  
5 Resources Control Board, and the Department of Housing and  
6 Community Development.

7           The California Energy Commission has an  
8 exclusive authority to adopt appliance efficiency standards  
9 to promote the efficient use of both energy and water. The  
10 CEC adopted California's first appliance efficiency  
11 standard in 1977 and has adopted numerous standards since  
12 then.

13           These water appliance efficiency standards  
14 benefit California by conserving water by eliminating  
15 wasteful water use, and hence making more water available  
16 for uses Californians value. For example, enjoying our  
17 numerous beautiful reservoirs, creating a gorgeous garden  
18 with California native plants, or growing delicious fruits  
19 and vegetables.

20           There are also energy savings associated with the  
21 water savings. It takes a lot of energy to move water  
22 around the state, and the California State Water Project is  
23 in fact the largest single consumer of electricity in  
24 California. Additionally, in cases where we are reducing  
25 hot water use, we are also saving the electricity or

1 natural gas used to heat that water up.

2           Importantly, these water savings will be achieved  
3 while reducing the overall cost for consumers. Hence,  
4 water appliance efficiency standards provide multiple  
5 benefits to California with few or no downsides. This is a  
6 tool we should leverage, especially given the current  
7 drought situation. Next slide?

8           This has been an unprecedented drought year. On  
9 August 5th, the Edward Hyatt Power Plant at Lake Oroville  
10 was forced to shut down due to low water levels for the  
11 first time since it opened in 1967.

12           On August 16, a first-ever "Level 1" water  
13 shortage was declared for Lake Mead on the Colorado River.  
14 If the water levels continue dropping, which is predicted  
15 by the U.S. Bureau of Reclamation, Southern California's  
16 water allocations will be reduced.

17           As of October 19, more than 87 percent of  
18 California was either in extreme or exceptional drought.  
19 And on the same day, Governor Newsom declared a statewide  
20 drought emergency.

21           Water Year 2021 was the driest since 1924 based  
22 on statewide precipitation. And if we look ahead, there is  
23 no reason to believe that the situation will get better by  
24 itself. Next slide, please.

25           Forecasts from the National Oceanic and

1 Atmospheric Administration predict La Niña climate  
2 conditions for the second winter in a row, and that drought  
3 conditions will continue or worsen for most of California  
4 this winter. Long-term weather conditions are notoriously  
5 difficult to predict, but NOAA also states that it will  
6 take several seasons of above-average precipitation to  
7 replenish our reservoirs, rivers, and soil moisture. This  
8 current drought will hence very likely last well into 2022,  
9 and potentially beyond.

10           Regardless of the length of the current drought,  
11 recent research indicates that anthropogenic warming has  
12 increased drought risk in California. On the right, you  
13 see three graphs showing the variations of the Palmer  
14 Modified Drought Index, precipitation, and temperature in  
15 California from 1894 to 2014. As expected, low  
16 precipitation is a precondition for droughts.

17           The likelihood for drought conditions are  
18 significantly increased however, when dry and warm  
19 conditions are co-occurring. We have seen a dramatic  
20 increase in the average temperatures over the last few  
21 decades. With additional global warming, it is going to be  
22 virtually guaranteed that years of low precipitation is  
23 accompanied with historically warm conditions, making  
24 droughts more probable. Hence, we should both expect and  
25 prepare for more frequent and more severe droughts.

1 Water efficiency is a powerful tool for  
2 conserving California's precious water. And I will now  
3 give an overview of CEC's historical, ongoing, and future  
4 water efficiency efforts. Next slide.

5 This graphic shows the total water usage of  
6 showerheads, faucets, toilets, and urinals in California  
7 from 1970 to 2013. The blue line shows the estimated  
8 actual usage as a result of water efficiency regulations,  
9 whereas the red line shows the estimated usage without  
10 regulations.

11 In 2013, the savings from water efficiency  
12 regulations on these four products equaled 684 billion  
13 gallons per year. To put that number in perspective, the  
14 average human water use in California between 2011 and 2015  
15 was 13.6 trillion gallons per year. The average indoor  
16 residential water use over the same period was 854 billion  
17 gallons per year. Hence, while water efficiency standards  
18 by itself is not going to solve all of California's water  
19 issues, it is an important and significant tool in our  
20 toolbox.

21 As an example of the impact of water efficiency  
22 standards, and as seen in this graphic, it is remarkable  
23 that while the population of California has doubled from  
24 1970 to now, the total water usage of showerheads, faucets,  
25 toilets, and urinals has decreased.



1           The CEC is not done leveraging water efficiency,  
2 and the green arrow indicates the additional savings, which  
3 gradually will be achieved from regulations adopted in  
4 2015. Next slide.

5           At the height of the 2012-2016 drought, the CEC  
6 updated the Title 20 plumbing standards. First, the  
7 standards for toilets, faucets, and urinals were lowered,  
8 and at full stock turnover, this will provide 87 billion  
9 gallons a year (Bgal/yr) in water savings.

10           Later in 2015, the CEC adopted a tiered standard  
11 for showerheads, which ultimately set the standard for  
12 showerheads to 1.8 gallons per minute in 2018. At full  
13 stock turnover, this represents 38 Bgal/yr in water  
14 savings.

15           As was seen on the previous slide, urban  
16 residential water use is roughly split equally between  
17 indoor and outdoor applications. After having addressed  
18 the appliances with the largest water consumption indoors  
19 and acknowledging that the water use of clothes washers and  
20 dishwashers is federally regulated the Appliances Office  
21 turned its focus towards outdoor water use. Next slide.

22           Landscape irrigation systems are often quite  
23 wasteful.

24           As indicated in the schematic on the left, water  
25 is wasted through evaporation, runoff, and deep

1 percolation. Deep percolation happens when too much water  
2 is applied too fast, and the grass or plant is  
3 oversaturated with water. The CEC has addressed parts of  
4 this waste through two rulemakings.

5           In 2019, the CEC adopted standards for spray  
6 sprinkler bodies requiring spray sprinkler bodies to have  
7 pressure regulation and hence addressing the issue of  
8 excessive water pressure and resulting excessive flow rate.  
9 As shown in the schematic in the middle, addressing  
10 excessive application flow rates lead to significant  
11 savings, and at full stock turnover, this standard is  
12 estimated to save California 152 Bgal/yr.

13           Standards on landscape irrigation controllers  
14 address the issue of excessive application time. There is  
15 no need irrigate during rain, and one can irrigate less  
16 when the temperature is 80 degrees Fahrenheit compared to  
17 105 degrees Fahrenheit. The standard would require all  
18 landscape irrigation controllers used in residential or  
19 light-commercial applications to either be weather-based  
20 irrigation controllers or soil moisture-based irrigation  
21 controllers. In short, irrigation controllers will become  
22 a lot smarter, and as a result at full stock turnover,  
23 California is estimated to save 92 Bgal/yr. This is an  
24 ongoing rulemaking and we hope to have the regulations  
25 adopted in 2022. Next slide.

1 Combined these recent standards are estimated to  
2 save 369 Bgal/yr at full stock turnover. This is  
3 equivalent to conserving slightly more than a full Folsom  
4 Lake, filled to its maximum capacity, each year. This is  
5 praiseworthy, but we are now in a new drought emergency and  
6 we need to conserve all the water we can. Next slide.

7 In addition to the ongoing rulemaking on  
8 landscape irrigation controllers, the CEC approved the  
9 order instituting rulemaking on dipper wells at the October  
10 business meeting.

11 We hope to open multiple additional rulemakings  
12 on water efficiency standards in the months and years  
13 ahead. When looking for new opportunities for water  
14 efficiency standards, the CEC will consider water uses  
15 within the residential, commercial and industrial, and  
16 agriculture sectors. As seen in the table to the right,  
17 future water efficiency standards might potentially include  
18 updates to current Title 20 regulations, standards  
19 addressing behind-the-meter leaks, appliances used in the  
20 commercial sector, or water use in the agriculture sector.

21 In particular, water use in the agriculture  
22 sector is massive. The CEC can utilize its Title 20  
23 authority to reduce unnecessary water consumption without  
24 affecting what farmers can grow or how they can grow it.  
25 If the CEC can identify appliances used within the

1 agriculture sector suitable for water efficiency standards,  
2 it will be a good thing both for farmers and for California  
3 generally. In short, the CEC will target any water saving  
4 opportunity within our Title 20 authority, which provides  
5 significant water savings and are cost-effective and  
6 technically feasible.

7 And with that, I conclude my presentation and I  
8 am available to answer any questions you may have.

9 CHAIR HOCHSCHILD: Thank you for that terrific  
10 overview. I was just curious do we know -- you know, with  
11 energy use we're using about a third less energy than the  
12 rest United States. On water use per capita, do you know  
13 how we stack up against the rest of the country or the  
14 national average?

15 MR. JOHNSON: In terms of embedded energy  
16 (indiscernible)?

17 CHAIR HOCHSCHILD: No, just sorry, I was just  
18 asking like water use per capita in California versus the  
19 rest of the country.

20 MR. JOHNSON: Oh, I'm not quite sure. And  
21 obviously that depends also if we're splitting between  
22 indoor water use, outdoor water use, residential use in  
23 general and then urban and industrial. And I don't have  
24 quite those numbers, but I can get those to you compared to  
25 the other states.

1 CHAIR HOCHSCHILD: Okay, well a terrific  
2 overview, really encouraged see it.

3 Let me just open it up if there's other  
4 Commissioners wishing to ask a question or make a comment.  
5 Commissioner McAllister?

6 COMMISSIONER MCALLISTER: Just a quick comment, I  
7 just want to acknowledge David for your leadership. I  
8 mean, you haven't been at the Commission that long, but  
9 you're making a big impact on a lot of leadership and I  
10 just really appreciate that. And kind of bringing some  
11 fresh eyes and building some tools and helping us find the  
12 right priorities and identify the savings opportunities.  
13 And, you know, I think the fact that you're articulate came  
14 across just now on your presentation, but also on the  
15 background research and just kind of the overall narrative  
16 is just really relevant for where California is these days.  
17 And we can't let the foot off the accelerator. We've got  
18 to keep looking for savings.

19 The other thing I would say just by way of  
20 observation, you know that big pie chart does show that  
21 agriculture is kind of the big piece of it, right. But we  
22 also have to take into account the infrastructure costs for  
23 local water districts and kind of the impact that that  
24 growth in water consumption has for driving long-term  
25 investment for those districts. And so I think that there

20

1 are lots of reasons why sort of right-sizing water  
2 consumption and getting it as low as reasonably possible  
3 also helps the water districts right size their long-term  
4 investment plans.

5           And as we know, just like with energy the water  
6 not used is it makes all the rest of our problems smaller.  
7 So I want to just -- that's why we have this authority that  
8 applies to water as well. There's energy embedded there,  
9 but it's independently a great source of improving  
10 California as well.

11           So anyway that's I just want to make those  
12 comments and give -- also, you know, Jessica, she presented  
13 the dipper wells last -- well two business meetings ago.  
14 And I think we just have a great team, including David and  
15 the whole team on the water efficiency, also Sean as well.  
16 So I wanted to just highlight those the staff and their  
17 really wonderful work, so thanks.

18           CHAIR HOCHSCHILD: Thank you.

19           Commissioner Monahan?

20           COMMISSIONER MONAHAN: Well, I want to thank  
21 David as well. That was really fascinating and I think  
22 this drought is top of mind for all of us in California.  
23 And I think having regular briefings actually on this  
24 topic, it could be helpful for business meetings. It's  
25 just such a critical issue and learning about the

1 opportunities, I think will just be great for all the  
2 Commissioners.

3 I'm wondering, David, can you talk a bit about  
4 the ag sector, this 80 plus percent, and how it intersects  
5 with other agencies that are involved with ag?

6 MR. JOHNSON: Yeah, so the agriculture sector, it  
7 uses a lot of water. And the last drought initiated then  
8 Governor Brown to have some regulations. And the most  
9 significant change there is the sustainable groundwater  
10 Management Act, which is under DWR, our Department of Water  
11 Resources.

12 And so in drought in the agriculture sector when  
13 there is not enough water and they don't get enough water  
14 deliveries they typically resort to run water pumping and  
15 they compensate using that. But then over the last few  
16 decades our groundwater levels have decreased, and that  
17 Sustainable Groundwater Management Act is aiming to create  
18 sort of a sustainable management of our groundwater. So  
19 that's going to be a significant part in that agriculture  
20 sector.

21 COMMISSIONER MONAHAN: Yeah, I actually meant the  
22 CDFA and our partner agencies, and how we're all working  
23 collaboratively on this issue.

24 MR. JOHNSON: Yeah, no we're interacting with  
25 them. And obviously we have different ways of encouraging

1 water conservation. Some of them are carrots and there are  
2 a lot of very good programs to incentivize and help farmers  
3 to utilize the most effective technology and it's  
4 complicated, right? And it varies from farms to farms, a  
5 lot of this is local technical assistance. And we are  
6 trying to find the ways where we can help using our  
7 authority. So, for example with Title 20 it is maybe  
8 identifying products where there are a bit more efficient  
9 products on the market and also less efficient.

10 So one is, for example, emitters for drip  
11 systems. So ensuring that you're applying a uniform  
12 distribution of water to your field, because if it's not  
13 uniform, then you need to apply as much water, so that the  
14 section of your field that gets the least water gets enough  
15 water. But then you're applying too much water to other  
16 parts of the field, which might not help your crop yield.

17 So that's an example where the CEC can interact  
18 and work with other agencies and in sort of a combined  
19 effort plan.

20 COMMISSIONER MONAHAN: Thank you.

21 CHAIR HOCHSCHILD: Any other Commissioners  
22 wishing to make comments on this? Vice Chair Gunda,  
23 please.

24 VICE CHAIR GUNDA: Thank you, Chair. I just  
25 wanted to echo the other Commissioner and yours' comments.



1 I just wanted to say thank you to David. It's an important  
2 issue. And I also want to second Commissioner Monahan's  
3 recommendation on just tackling this on a regular basis. I  
4 think it will be really helpful.

5 Thank you, David, I think the question that the  
6 Chair raised about the per capita comparison between the  
7 United State at large and us, and then also we know like  
8 Australia has done a lot of work on drought. And I think  
9 any international lessons that we could continue to learn  
10 would be really helpful too.

11 So I just wanted to say thank you and yeah it  
12 would be great to continue to track this.

13 CHAIR HOCHSCHILD: Thank you.

14 Yeah, I would second that having visited both  
15 Israel and Australia over the last few years that we're  
16 way, way behind those two countries, which I think are the  
17 undisputed leaders in the world on this stuff.

18 And I just really wanted to urge us all to be  
19 really bold and ambitious here. And I think we should go  
20 into this next decade assuming the worst case scenario of  
21 an extended drought. Obviously, Australia had a 14-year  
22 drought and that's certainly something we should be  
23 expecting. If we end up getting lucky with a bunch of rain  
24 that's an upside, but I think the smart thing to do is to  
25 assume the worst case scenario. And to be really

1 aggressive on the standard.

2           So please keep us posted, David, and to you and  
3 your team on the next steps. And we want to be moving as  
4 expeditiously as we can with rolling out the next wave of  
5 these standards. The last set of standards, I think were a  
6 big success. And we did that I believe under Governor  
7 Brown's leadership and we had a whole suite of those water  
8 standards all at once a few years ago. And I think that  
9 was really well received. So thank you so much for that  
10 and unless there's other comments or questions we'll move  
11 on. Thank you, David.

12           So let's turn now to Item 3 Expansion,  
13 Reorganization and the Renaming of the Public Advisor's  
14 Office and the revision to the CEC Tribal Consultation  
15 Policy.

16           MS. GALLARDO: Good morning Chair, Vice Chair and  
17 Commissioners. For the record, I'm Noemi Gallardo, the  
18 Public Advisor. I'm before you today seeking your approval  
19 of a resolution to expand, reorganize and rename the Office  
20 of the Public Advisor and to revise the Commission's Tribal  
21 Consultation Policy. Next slide.

22           We are seeking to expand the role and  
23 responsibility of the office to formally handle two things.  
24 First, is to help advance energy equity through the  
25 Commission's programmatic efforts. This entails

25

1 implementing the Commission's Inclusion Diversity Equity  
2 and Access Initiative in partnership with Carousel Gore,  
3 the Equal Employment Opportunity Officer, who you see here.

4           The other role and responsibilities relate to  
5 tribal affairs. We seek to move the Tribal Liaison and  
6 Tribal Program from its current home in the Siting  
7 Transmission and Environmental Protection Division, also  
8 known as STEP, to the Public Advisor's Office.

9           The Tribal Program was originally established  
10 about 10 years ago and was placed in STEP, because that  
11 division had the most interactions with tribal governments  
12 at that time due to the high potential to encounter Native  
13 American cultural resources during the siting of projects.  
14 Over the years, however, as California Native American  
15 Tribes have become more familiar with the Commission and  
16 our dimensions, the tribes have sought access to other  
17 programs that provide funding and technical assistance.

18           Staff recommends responding to this broadening  
19 tribal engagement by placing the Tribal Program in the  
20 Public Advisor's Office, which is an office that  
21 specializes in outreach, engagement and has a wider scope  
22 to be able to connect the tribes to the Commission's  
23 various programs throughout the agency.

24           You see a photo here of Katrina Leni-Konig whom  
25 Governor Newsom recently appointed to serve as the Deputy

1 Public Advisor and will also serve as the Commission's  
2 Tribal Liaison. She brings tremendous leadership and  
3 project skills and experience, including her engineering  
4 and grants background that will help increase engagement  
5 with tribes. She's also an experienced coordinator and  
6 convener who will focus on strengthening the Commission's  
7 Assistant Tribal Liaison Program.

8 On the right, you see Tom Gates who has dutifully  
9 served as the Commission's Tribal Liaison for the past  
10 decade. He will now serve as a Tribal Advisor in the  
11 office. Tom is coaching Katrina and me, along with sharing  
12 the wealth of history and information he knows about  
13 California Native American tribes.

14 I'll end this section by stating that I am both  
15 honored and grateful to have the opportunity to work and  
16 serve with these three incredible leaders. Next slide.

17 The second change we are proposing is to revise  
18 the Commission's tribal consultation policy. This policy  
19 is utilized by the Governor's Tribal Advisor and tribes to  
20 understand the Commission's process and to know who to  
21 contact regarding tribal matters.

22 The Commission adopted its first tribal  
23 consultation policy in 2014, and later amended it in 2017,  
24 to reflect mandates requirements. And we'd amend it again  
25 now to reflect the changes we are discussing today. The

1 changes are purely ministerial and would clarify the Tribal  
2 Program is in a new office, identify the Deputy Public  
3 Advisor as the Tribal Liaison, update the contact  
4 information for the new tribal liaison and the public  
5 advisor and fix some typos.

6 Finally, we propose changing the name of the  
7 Public Advisor's Office that reflects the various changes  
8 I've outlined today. The name would change to the Office  
9 of the Public Advisor, Energy Equity and Tribal Affairs.  
10 This change would make the focus of our office more  
11 apparent to the public and demonstrate the Commission's  
12 commitment to both.

13 I'm excited about the name change, however, the  
14 new name does not lend itself to a fun or easy acronym.  
15 For now, we're calling it PAO+. Next slide.

16 I will conclude my presentation by humbly  
17 requesting your approval of the resolution to expand the  
18 role and responsibility of the Public Advisor's Office, to  
19 revise the Tribal Consultation Policy with ministerial  
20 changes. And to change the name of the office from the  
21 Office of the Public Advisor to the Office of the Public  
22 Advisor, Energy Equity and Tribal Affairs.

23 I'm available for questions. Katrina Leni-Konig  
24 and Tom Gates are here in case you have questions or  
25 comments for them. And I'd also like to thank Jimmy

1 Qaquadah and Renee Webster Hawkins for their support  
2 throughout this process from a legal perspective. They're  
3 also available for questions if needed.

4 Again, thank you Chair, Vice Chair and  
5 Commissioners, for your consideration.

6 CHAIR HOCHSCHILD: Thank you, Noemi. Do we have  
7 any public comment on Item 3?

8 MS. GALLARDO: So let me check on that. Anyone  
9 wishing to make a public comment, please use the raised  
10 hand feature or press \*9 if you are on by phone.

11 Chair, I do not see any hands raised. I believe  
12 there is no public comment.

13 CHAIR HOCHSCHILD: Okay. Well, obviously this is  
14 a great step forward and I think a really nice move to make  
15 now with the Governor's appointment of Katrina to be Deputy  
16 Public Advisor and Tribal Advisor. And let's just see if  
17 it's Commissioner discussion and Commissioner Douglas, go  
18 ahead.

19 COMMISSIONER DOUGLAS: Yes, thank you, Chair  
20 Hochschild. I wanted to express my support for this item  
21 and also thank Noemi for the presentation and congratulate  
22 Katrina on her appointment. She has a real breadth and  
23 depth of knowledge and experience and she has many ways in  
24 which she'll be able to complement the existing strengths  
25 of the Public Advisor's Office, as well as bringing in a

1 real commitment to equity and a real interest and desire  
2 and experience in working with tribes.

3           As the CEC's Tribal Lead Commissioner, I want to  
4 really welcome Katrina in her role as Tribal Liaison. And  
5 also express my gratitude to Tom Gates who has ably served  
6 in that role for years. And whose tireless commitment to  
7 the Tribal Program has enabled the Energy Commission to  
8 foster the kinds of relationships with tribes that has  
9 really informed and helped us understand the value of this  
10 partnership, going forward. And just the many ways that we  
11 can continue to build on the foundation that Tom has helped  
12 us set. I'm very pleased as well that Tom will continue to  
13 play a critical role in the Tribal Program as the Tribal  
14 Advisor.

15           Speaking more broadly about equity, I think it  
16 makes a lot of sense for the Public Advisor's Office to  
17 officially take on a title that reflects the years of hard  
18 work. And the many contributions that that office has been  
19 making in order to help ensure that the Energy Commission's  
20 work around equity and diversity, inclusion and the ability  
21 for interested persons to participate in the Energy  
22 Commission's proceedings, their work in advancing -- their  
23 efforts in advancing that work have been unceasing over  
24 years. And I'm really pleased to reflect that in their  
25 title.

1           And finally, I wanted to just briefly support the  
2 Energy Commission's Tribal Consultation Policy Updates,  
3 which have been developed to reflect these organizational  
4 changes while retaining the core components that reflect  
5 the Energy Commission's commitment in this area.

6           And so those are my comments, thank you.

7           CHAIR HOCHSCHILD: Thank you so much,  
8 Commissioner. Let me thank you for just tremendous tribal  
9 engagement over the years. You know, both on the energy  
10 planning side and with these consultations and offshore  
11 wind and others, Lithium Valley. As well as the incredible  
12 progress we've been able to make with these seven tribal  
13 solar microgrids.

14           And I was wondering if, Katrina, you could just  
15 share a few thoughts from your side, looking ahead at what  
16 you see the agenda being in terms of tribal engagement and  
17 the types of work you're hoping to engage you?

18           MS. LENI-KONIG: Sure. Thank you, Chair. And  
19 thank you, Commissioner Douglas as well. I just want to  
20 just recognize that I'm really honored to be stepping into  
21 this role. It means a lot to me to be doing this work and  
22 that all of you have entrusted me and invited me into this  
23 role; also acknowledging Noemi who has been a great mentor  
24 and partner for me. I'm really excited to be working with  
25 her and her tremendous team. And also thanking Tom Gates



1 for passing along the knowledge that he's been sharing with  
2 me throughout the time that I've been at the Commission.  
3 And then also working to serve as Tribal Advisor going  
4 forward, I'm really looking forward to working with him,  
5 with Commissioner Douglas's Office and to advance our  
6 Tribal Program.

7 I'm really excited that the Tribal Program is  
8 sitting within the Public Advisor's Office. The fact that  
9 we're sitting at that agency level we're really able to  
10 work and support the Tribal Program to work across all of  
11 our divisions and all of our programs.

12 So we have this distributed Tribal Program where  
13 all of the assistant tribal liaisons represent our small  
14 offices and our divisions. And we work with those tribal  
15 liaisons to make sure that -- those assistant tribal  
16 liaisons to make sure that they are embedding tribes into  
17 their programs. Making sure their perspectives are  
18 accounted for and that we're really proactively engaging  
19 with them. So that I'm really looking forward to  
20 strengthening that team, making sure that we're bringing  
21 those perspectives to our programs. And I think that  
22 there's a lot that we can do from the Public Advisor's  
23 Office from our support of the assistant tribal liaisons.

24 And then also just the growing engagement we have  
25 with tribes. We've had three conferences thus far. Our

1 California Tribal Energy Resiliency Conference, and just  
2 this past spring, was a great opportunity to learn about  
3 what tribes are needing for developing climate resilience.  
4 And we look forward to more conferences going forward. And  
5 just continue to bring that bring tribal issues to the  
6 table.

7 And also looking forward to the tribal gap  
8 analysis, so the results of that and how that can help and  
9 serve and develop better programs for tribes. So that  
10 that's where we're at.

11 We're also working to support our environmental  
12 justice communities. Noemi's been leading the DACAG work  
13 for the CEC. And so that's been a great opportunity for us  
14 to continue to uplift and advance energy equity throughout  
15 our programs. So that's what I'm excited about.

16 And I'm just again honored to be stepping into  
17 this role. Thank you.

18 CHAIR HOCHSCHILD: Great.

19 Yeah, go ahead, Vice Chair Gunda.

20 VICE CHAIR GUNDA: Thank you, Chair. I just  
21 wanted to echo your comments and Commissioner Douglas's  
22 comments.

23 Noemi, thank you so much for your leadership.  
24 Thank you so much for envisioning this and thanks for  
25 bringing all this under one umbrella. I think as Katrina

1 mentioned, I think it really serves the Commission as a  
2 whole to have all the elements working together seamlessly.

3 Katrina, with brief interactions that you have  
4 incredible commitment and passion for these issues, so I'm  
5 just really glad that you're in this role. And look  
6 forward to you know all the work that you're going to  
7 continue to do.

8 And Carousel, you've been a welcome change at the  
9 CEC in everything that you bring to the table. And Tom  
10 thanks for patiently helping me learn about the tribes and  
11 tribal issues. I just want to congratulate the team.

12 You know, Commissioner Hochschild and myself are  
13 going to work on IEPR next year and equity is going to be  
14 an important element for IEPR next year. And I'm really  
15 looking forward to working with the PAO+ and doing a really  
16 wonderful job. So I look forward to your continued  
17 guidance, Noemi, thank you.

18 CHAIR HOCHSCHILD: Now I want to also lift up  
19 that I saw in the paper this morning that President Biden  
20 is convening the first national gathering of all the tribes  
21 that the White House is going to host of over 500 tribes.  
22 So it's really great to see we have a partner in DC on  
23 that.

24 Yeah, Commissioner Monahan, go ahead?

25 COMMISSIONER MONAHAN: Well, I just want to heap

1 on, because I love PAO+. The fact that energy equity in  
2 tribal affairs are just being highlighted as like this is a  
3 critical part of what Energy Commission does. It's not  
4 just about siting, which is not to minimize that. But that  
5 there's a whole array of activities that we can be doing to  
6 support tribes, and then advanced energy equity across the  
7 state.

8 So I want to thank our Public Advisor, Noemi,  
9 congratulate our Deputy Katrina in her new role and also  
10 Tom. It's been amazing to have somebody so dedicated and  
11 thoughtful and willing to do anything, I think, to support  
12 tribes is really unique. And we've been very lucky to have  
13 Tom as a resource and to continue to have him as a resource  
14 in the Public Advisor plus office.

15 So really I think you'll get nothing but heaps of  
16 praise for this transition and name change, so thank you  
17 all.

18 CHAIR HOCHSCHILD: Thank you, Commissioner.

19 Well, two points I wanted to just lift up before  
20 I ask for a vote on this topic, which is number one  
21 actually when I was at the COP in Glasgow I had the  
22 opportunity to meet with some indigenous leaders from  
23 Canada. There's just some amazing rising young leaders in  
24 the indigenous community. And one thing I'd love for Noemi  
25 and Katrina to really think about with Tom and others, is

35

1 how we can create internship opportunities for young up-  
2 and-coming indigenous leaders in California to come in, to  
3 participate, and to be deliberate in the outreach and  
4 design of that.

5 I think internships can change people's lives.  
6 And I feel that myself, I was very fortunate to have some  
7 incredible internships, as a young man and really shaped  
8 the rest of my career and I think we're doing some really  
9 path-breaking work on clean energy. So I would sort of  
10 welcome some proposals from you guys for how to be  
11 deliberate in creating internship opportunities for young  
12 folks in the tribal community in California.

13 And then secondly, I really wanted to commend  
14 Noemi for raising this issue, along with Katrina, about  
15 technical support for grant writing. You know, we saw this  
16 on our tribal visit that Commissioner Douglas and I did  
17 some weeks ago to the North Coast where there were tribes  
18 that were just really well suited for the kind of  
19 microgrids and other things we're funding through the EPIC  
20 program. But they had never applied for a grant before and  
21 really just didn't have the background or experience for  
22 how to go through that process.

23 And I do think that was a great suggestion, so  
24 I'm going to be supporting that in this next budget  
25 process. And see if we can get funds to support

1 disadvantaged communities that don't have experience  
2 applying for grants to get them the support they need to be  
3 able to apply. And I just want to thank really Noemi for  
4 bringing that forward.

5 COMMISSIONER MCALLISTER: Hi, can I wrap up with  
6 a comment?

7 CHAIR HOCHSCHILD: Yes, please go ahead  
8 Commissioner McAllister, yeah.

9 COMMISSIONER MCALLISTER: Yeah, no we have to  
10 have the full compliment. And but I just strongly,  
11 strongly support this and I want to hold up Noemi as just  
12 an exemplary liaison for us across the board, but certainly  
13 with the tribes. And Carousel as well and congratulations  
14 to Katrina.

15 And also thanks to Tom. I just in working  
16 through the tribal challenge that Commissioner Douglas led,  
17 and kind of understanding how important the gap analysis  
18 actually was, and he was just super, super knowledgeable  
19 basically. He has just such a depth of knowledge.

20 I wanted to point out something -- well so  
21 obviously I support the name change. And I really think  
22 the more we can do to not only tell the world that we're  
23 listening, but actually listen. And incorporate what we  
24 hear into our various policies; that just kind of  
25 performance basis is what we want to achieve, right? We

1 want to really respond to our stakeholders in the most  
2 need. And I think as all of us understand now the  
3 response to climate, the climate emergency really demands  
4 no less. And it won't be accomplished without that. And  
5 that's actually kind of a tip of the spear. So anyway, I  
6 wanted to make that comment.

7           And then also you know I have traveled a little  
8 bit. Somewhat in Canada, but in Australia and New Zealand,  
9 they have a really interesting way of opening their  
10 meetings with an acknowledgement of the people who were on  
11 the land before. And it's really kind of powerful to make  
12 that announcement sort of at the beginning of an open  
13 meeting. You know, they'll say -- just acknowledge the  
14 people from who the land was essentially kind of taken.

15           You know, I don't want to get too political here,  
16 but I just think it is -- there is a deep rich history of  
17 the land that we are on in California that tribes are  
18 deeply in touch with. And so I think that some way to  
19 acknowledge that might be something that that the new  
20 Public Advisor's Office could work through and see if  
21 there's a way we could possibly do that, and sort of honor  
22 that history.

23           CHAIR HOCHSCHILD: You know, I really appreciate  
24 you making that point and it's okay to say "taken," it was  
25 taken.

1           COMMISSIONER MCALLISTER: And you know, one of  
2 the one of the things that made me feel really proud to  
3 California was Governor Newsom's apology to the tribes,  
4 which he did I think it was first few months in office.  
5 Really called it what it was, it was a genocide. And he  
6 used those words and made that apology, and I think that  
7 was really profound. And certainly in my meetings with  
8 tribal members I think it was very meaningful to be that  
9 explicit.

10           It might be a good thing, Katrina and Noemi, if  
11 you wanted to take up that suggestion that Commission  
12 McAllister made with Commissioner Houck at the PUC and get  
13 her input on it, as the first Commissioner of Native  
14 American heritage. And maybe we can work through some  
15 suggestions there, but thank you for raising that.

16           Are there further comments from Commissioners on  
17 this item? Okay, hearing none, I would request a motion on  
18 Item 3 from Commissioner Douglas if we could.

19           COMMISSIONER DOUGLAS: Move approval of this  
20 item.

21           CHAIR HOCHSCHILD: Okay, Vice Chair Gunda, would  
22 you be willing to second that?

23           VICE CHAIR GUNDA: I second Item 3.

24           CHAIR HOCHSCHILD: All right, all in favor say  
25 aye,



1 Commissioner Douglas?

2 COMMISSIONER DOUGLAS: Aye.

3 CHAIR HOCHSCHILD: Vice Chair Gunda?

4 VICE CHAIR GUNDA: Aye.

5 CHAIR HOCHSCHILD: Commissioner McAllister?

6 COMMISSIONER MCALLISTER: Aye.

7 CHAIR HOCHSCHILD: Commissioner Monahan?

8 COMMISSIONER MONAHAN: Aye.

9 CHAIR HOCHSCHILD: And I vote aye as well. That  
10 item passes unanimously, congratulations everyone. Thank  
11 you, Noemi and Katrina.

12 Let's turn now Item 4, Disadvantaged Community  
13 Advisory Group Annual Report.

14 MS. GALLARDO: All right, so this is Noemi  
15 Gallardo, the Public Advisor again. It is my honor to  
16 introduce you to the two presenters from the Disadvantaged  
17 Communities Advisory Group today. We also call that group  
18 DACAG, you might hear that. We have Angela Islas, the  
19 Chair of the DACAG and Adrian Martinez, a member of the  
20 DACAG. They're here to present Item 4, which is the DACAG  
21 Annual Report covering the time span of April 2020 through  
22 April 2021. And I do see Adrian's on, let me make sure  
23 that we have Angela. Right, I see Angela coming through as  
24 well.

25 Angela and Adrian, feel free to begin whenever

1 you're ready.

2 MS. ISLAS: Hi, everyone. Yes, so again this is  
3 Angela with the DACAG. I'm actually in a hotel in San  
4 Francisco, so I apologize if I'm off camera and just trying  
5 to get through this item for you all. But I really  
6 appreciate being here today with my colleague, Adrian, to  
7 present to you all our 2020-2021 Annual Report.

8 And I will say that we did a very honorable  
9 service this year to make this annual report very, very  
10 short for you all to review. And, you know, I think that  
11 it was really a great strategy from all of us to be able to  
12 put this together in a more concise and very thorough just  
13 explanation of what we had done this previous year. And  
14 this is a very different format from all of our previous  
15 reports, so that was definitely a very big change that we  
16 had with this report this year.

17 But I do want to just kind of give an  
18 introductory of how this report really came together. And  
19 it was a very, very long kind of you know journey to get  
20 this report together, because obviously last year we were  
21 all very impacted by the very unprecedented pandemic. And  
22 having to go switch into virtual settings and seeing that  
23 there was a lot of delays in just many of the tasks and  
24 different you know presentations that we've wanted to see  
25 throughout the 2020 year in the DACAG.

1           But we were just all, you know, as a collective  
2 body we had to really, really think about just how to adapt  
3 into this new area of being able to present. And being  
4 able to work with you all very collaboratively to still  
5 support you all, as much as possible throughout the  
6 programs that we've been in touch with, with the CEC and  
7 CPUC since 2018. So definitely it was a very, very  
8 adaptive year for all of us in the DACAG. And a lot of  
9 just kind of some priorities that we had to include in this  
10 year's list that we had for the 2020-2021 period.

11           I know that a few of those items that I can think  
12 from the top of my head we've included, some COVID-19  
13 response priority group. That we wanted to really ensure  
14 that any item that you know the agencies had in response to  
15 COVID-19. And in response to just kind of like what was  
16 happening, you know, throughout the state based on just  
17 like energy programs, etc. That was something that we  
18 wanted to establish for just that purpose. For that group  
19 to be able to work closely with the agency staffs on that.

20           And I know we also had included some items, which  
21 was the PSPS shut off kind of work. And we've also  
22 included some other small items that had to deal with  
23 telecommunications and broadband access. We included that  
24 just because that was a very, very hot topic during the  
25 2020 year and so on, so forth. We've seen that as well in

1 the 2021 period.

2 So definitely those items were very, very well  
3 thought out within the group. And we still were tackling  
4 transportation very heavily, as my colleague Adrian is  
5 going to explain here in a little bit. But we were  
6 definitely just very much so trying to stay focused as best  
7 as possible with all of our items and supporting your staff  
8 as best as possible. And providing comment letters and  
9 also just providing our feedback as best as possible.

10 So very much so, this report is going to give you  
11 all just that sense of how much we all worked very, very  
12 hard to really stay on track and really stay much so close  
13 to all of your staff in really getting our feedback to you  
14 all at our best.

15 So I'm going to kick it off to Adrian. He's  
16 going to actually give you guys a little bit more detail  
17 about our priority areas with updates on the priority  
18 groups. And I can go ahead and end the session once  
19 Adrian's done.

20 MS. MARTINEZ: Well, good afternoon or good  
21 morning sorry. I'm sorry, let me make sure I've got the  
22 right date. My name is Adrian Martinez and I work for  
23 Earthjustice and I've been on the Disadvantaged Communities  
24 Advisory Group for since 2018 since its inception. And I'm  
25 going to provide a little bit of a review, just a little

1 bit of background.

2           We've identified several priority areas and  
3 oftentimes we'll have presentations from staff of the  
4 Public Utilities Commission and the Energy Commission talk  
5 to us about issues. And every member is in one or more  
6 subgroups. And so from the beginning, one thing I just  
7 want to say I'm not in all the subgroups, but I'm in  
8 several. And just to kind of really appreciate all the  
9 staff and Commissioners that have engaged with us. The  
10 presentations are often very detailed, thoughtful, provide  
11 a lot of background to the whole Committee on how to  
12 provide meaningful feedback or kind of our mission and then  
13 from the statute and other legislative kind of direction.  
14 And it's been really kind of I think an important  
15 discussion point on several issues.

16           But some of the topic areas that we addressed,  
17 and have ongoing kind of priorities, one is energy storage.  
18 We have a subgroup on the Electric Program Investment  
19 Charge or EPIC program, solar access, we have  
20 transportation electrification, biomethane, building  
21 electrification, workforce development. We have an AB 617  
22 subcommittee, Senate Bill 100, a public safety power shut  
23 off now committee, telecommunications broadband, digital  
24 divide, COVID-19 response. We have a subgroup that's  
25 working on the CPUC's environmental and social justice

1 action plan. And we have a group that's more broadly on  
2 community engagement.

3 We had several highlights from last year that are  
4 in the program. I just want to highlight a couple. In  
5 one, the Committee had significant engagement on the EPIC  
6 program providing feedback on how to provide more benefit  
7 to disadvantaged communities.

8 I'm going to talk a little bit more about  
9 transportation later in the agenda when the investment plan  
10 comes up, because that's an area where our committee has  
11 engaged extensively. We've had significant engagement  
12 around broadband digital divide. Some of the issues that  
13 often come up is to use some of the exciting and new  
14 products in the clean energy. space you need broadband to  
15 do that. And certain communities are kind of cut off from  
16 those technologies. So we are developing programs where  
17 there are communities that can't take the benefit, and how  
18 do we kind of overcome those challenges moving forward.

19 The report also includes a significant number of  
20 letters that our Committee has sent to the relevant  
21 agencies, to the Energy Commission and PUC. And so you can  
22 read a little bit more detail, but we've been pretty busy.  
23 I think a lot of these same priorities will likely be  
24 priorities for the upcoming year. So, you know, I think  
25 we'll be working and there may be some additional

1 priorities that pop up from time to time, but that's a  
2 quick summary.

3 And obviously Committee members are listed on the  
4 website, so you can reach out to Angela or any of the  
5 Committee if there's more questions, but it's just quick  
6 overview. And thanks for inviting us to the Business  
7 Meeting to present this report. Thanks.

8 CHAIR HOCHSCHILD: Well, thanks to you both,  
9 Adrian. I appreciate that very much.

10 This is an informational item, so we're not going  
11 to take public comment on this, because there's no vote.  
12 But I will turn to Commissioner discussion to be starting  
13 with Commissioner Gunda.

14 VICE CHAIR GUNDA: Yeah, Chair, thank you so  
15 much. Thank you, Chair Islas and Member Martinez, thank  
16 you so much for your support on the DACAG. I had the  
17 privilege of joining a bunch of meetings this year and just  
18 this is a voluntary role. And for you all to take time  
19 from your busy schedules to help support our programs, but  
20 also the statewide transparent transition towards a clean  
21 and equitable future, I just wanted to thank you both. And  
22 the entire membership for your continued support and  
23 guidance. And then thank you for the update and look  
24 forward to another wonderful year of working together.

25 CHAIR HOCHSCHILD: Thank you, other Commissioners

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1 or Commissioner Douglas?

2 COMMISSIONER DOUGLAS: I wanted to add just add  
3 my thanks to Commissioner Gunda's. As he noted the DACAG  
4 Members are volunteers and they're offering a really  
5 valuable support to the Energy Commission in the work they  
6 do, and by being a sounding board for us. And by making  
7 recommendations and asking questions and really engaging in  
8 dialogue with us. And in producing the report that they do  
9 for us to look at and so on. So I want to again express my  
10 appreciation.

11 As the Lead or Co-Lead Commissioner on a number  
12 of areas renewable energy, some of our equity work, our  
13 tribal program, siting of course, and more I was  
14 particularly interested in areas of the report talking  
15 about the equity lens. And ensuring its present as we look  
16 at areas around RPS implementation of SB 100, land use, and  
17 broadly public participation and community engagement. And  
18 so I thought that was really helpful.

19 And in terms of takeaways from the report, just  
20 to highlight a few thoughts. First of all, I'm just happy  
21 with the way the relationship between the Energy  
22 Commission, the CPUC, and the DACAG has been working. And  
23 I want to thank the staff team of both agencies as well;  
24 CEC and CPUC, for helping us make it work along with the  
25 Commissioners as well from the CPUC. And it's been a

47



1 really great opportunity, as I said, for us to have this  
2 dialogue. And I know that all the Commissioners really  
3 from the Energy Commission and the CPUC have taken  
4 advantage of it.

5 So I'm looking forward to working with CEC staff  
6 and others to look more closely at the report and  
7 recommendations. And think about how we incorporate this  
8 into our work and continue the dialogue with the DACAG and  
9 again appreciate the work on the report.

10 CHAIR HOCHSCHILD: Thank you.

11 Other Commissioners wishing to make a comment,  
12 Commission Monahan?

13 COMMISSIONER MONAHAN: Well, just really briefly.  
14 I know we'll talk about this a little of the Clean  
15 Transportation Program Investment Plan, but the DACAG has  
16 really helped us. So I just want to give my personal  
17 thanks to Adrian and Angela, Roman and the all the folks  
18 that engaged on clean transportation. We're listening and  
19 we are striving to be more attentive to equity and to do a  
20 better job explaining what a benefit is to a priority  
21 community. And so there's going to be a whole body of work  
22 around that and just you know, so appreciate it, I'm  
23 thinking before you've even started to engage in this work,  
24 but just look forward to having a dialogue around that.  
25 And making sure that as we move forward with our

1 investments that we're really attentive to ensuring that  
2 these provide benefits that are tangible to people who need  
3 them.

4 So yeah, I look forward to the next agenda item  
5 and we'll get into this more deeply, thank you.

6 CHAIR HOCHSCHILD: Yeah, Commission McAllister.

7 COMMISSIONER MCALLISTER: Yeah, just I want to  
8 thank both you, Angela and Adrian, for your leadership on  
9 this, and your colleagues as well. You know, overseeing  
10 the efficiency work that we're doing that's with programs  
11 and buildings. And I think it's very clear that we need to  
12 scale up our investment across the state in our existing  
13 buildings and particularly focusing on under-invested  
14 communities and families and households.

15 And I think again, I think there's a wave of work  
16 ahead of us on that. And bringing resources to that is  
17 critical, but actually understanding how we engage with  
18 communities as a state agency in figuring out what that  
19 chain of kind of communication and action needs to look  
20 like to get to those benefits that Commissioner Monahan  
21 just referred to. And they are all very tangible benefits  
22 that that can accrue. Some are harder to quantify than  
23 others and we've begun that conversation both with DACAG as  
24 a group, and also with the most interested members.

25 And I want to just encourage individuals and

1 smaller groups of members of DACAG that are interested in  
2 buildings and energy efficiency. But really any topic that  
3 we work on at the Commission to reach out to the respective  
4 Commissioner and staff to have a more interactive back and  
5 forth, because I think that can be extremely helpful. It  
6 already has been and will continue to be, so really looking  
7 forward to getting a critical eye on the things that we do.

8           And I think there's an openness that we have, and  
9 must have, to do better. And please, help us continue to  
10 figure out those pathways. I think that's the pathway to  
11 overall success here in the state, so I really want to  
12 thank you all for your commitment to this, and your  
13 dedication and your investment in what we're trying to do.

14           CHAIR HOCHSCHILD: Thank you, Commissioner  
15 McAllister.

16           Let's go back to Vice Chair Gunda.

17           VICE CHAIR GUNDA: Yeah, I'm here. Sorry, I kind  
18 of wrote some notes and I kind of rushed through mine and  
19 shouldn't have.

20           I just wanted to also thank you Chair,  
21 Commissioner Douglas specifically. You know, both of you  
22 have -- I mean, it all starts at with kind of a sustained  
23 leadership on making sure equity is a focus. And I think  
24 Chair Hochschild, through the working groups and the round  
25 tables that you've been putting -- and Commissioner

1 Douglas, the SB 100 round table that you put together has  
2 been extremely useful for the SB 100 work. So I just  
3 wanted to thank you both for your leadership, and  
4 Commissioner McAllister and Commissioner Monahan.

5           You know, it's just a really good group to be a  
6 part of who really values equity and who really wants to  
7 push that forward. I think I just want to acknowledge it's  
8 not every day we can acknowledge everybody on the  
9 Commission who was also really working hard to put their  
10 heart into equity.

11           And I think too the DACAG leadership, keep us  
12 accountable as Commissioner McAllister said. Keep pushing  
13 us, but also I just want to acknowledge that it's been a  
14 lot of effort done to work really hard to make this a  
15 centerpiece of our work, and we'll continue to do so.

16           I just wanted to say that, Chair.

17           CHAIR HOCHSCHILD: Thank you so much.

18           Unless there's further comments, let's thank our  
19 presenters. And we'll turn now to Item 5, the 2021-2023  
20 Investment Plan Update for the Clean Transportation  
21 Program.

22           MR. BRECHT: Good morning Chair, Vice Chair, and  
23 Commissioners. My name is Patrick Brecht and I'm the  
24 Project Manager for the 2021-2023 Investment Plan Update  
25 for the Clean Transportation Program.

1 Today, we are seeking your approval of this  
2 Investment Plan Update. If approved, the current Lead  
3 Commissioner Report version originally published on  
4 November 1, will be reissued as the Final Commission  
5 Report. This will also approve the plan's proposed funding  
6 allocations for fiscal year 2021-2022, and signal the  
7 planned funding allocations for the subsequent fiscal  
8 years. Next slide.

9 The Clean Transportation Program provides funding  
10 support for projects that reduce greenhouse gas emissions  
11 within the transportation sector, which accounts for  
12 roughly 50 percent of state greenhouse gas emissions.  
13 Furthermore, the Program plays an important role in  
14 petroleum reduction, adoption of zero-emission vehicles,  
15 improved air quality, economic development and recovery,  
16 investments in low-income and disadvantaged communities and  
17 job growth and workforce development. Next slide.

18 Now reducing air pollution from transportation is  
19 especially important to achieving a more environmentally  
20 just society, given that our air quality burdens fall  
21 disproportionately on the vulnerable and disadvantaged  
22 communities. As this slide indicates, in the top bar  
23 chart, Black, Asian-American, and Latinos have twice the  
24 exposure to harmful toxins than white residents. And as  
25 you can see, the exposure is even more disproportionate by

1 Household Income as the lower bar chart indicates.

2           These disparities underscore the importance of  
3 the Clean Transportation Program, which provide investments  
4 that will lead to a cleaner, more healthy transportation  
5 sector. Next slide.

6           Now the Clean Transportation Program was  
7 established by California Assembly Bill 118 in 2007. The  
8 Program is funded through a small surcharge on California  
9 vehicle registrations and provides up to \$100 million per  
10 year. California Assembly Bill 8 extended the program to  
11 January 1, 2024. Next slide.

12           Now in its 13th year, the Clean Transportation  
13 Program has provided over \$1 billion to alternative fuel  
14 and vehicle technology projects in communities that can  
15 immediately accrue health, environmental, and economic  
16 benefits from these investments.

17           This chart captures the total amount of funding  
18 previously expended across to various fuel types. Next  
19 slide.

20           This slide shows key outcomes from the Clean  
21 Transportation Program to date, including percentage of  
22 funding in low-income or disadvantaged communities, as well  
23 as the amount of match funding committed by project  
24 partners. The program has funded over 15,000 installed or  
25 planned chargers for plug-in electric vehicles. We've also

1 supported the largest network of hydrogen fueling stations  
2 in the nation with 83 funded hydrogen-fueling stations,  
3 plus approval to fund an official 73 stations based on  
4 deployment progress, funding availability, and Clean  
5 Transportation Program Investment Plan funding allocations.  
6 Next slide.

7           Now for the purpose of the Investment Plan. It  
8 guides the Program's investments toward meeting the state's  
9 clean transportation goals, takes into consideration state  
10 regulations and other funding programs to promote  
11 coordination across agencies, allocates funding for  
12 multiple fuel and vehicle technologies, transportation  
13 sectors, and supporting activities such as workforce  
14 development and integrates feedback from the Advisory  
15 Committee, Disadvantaged Communities Advisory Group, and  
16 the public.

17           For this investment plan, we had two Advisory  
18 Committee meetings, consultations with the Disadvantaged  
19 Communities Advisory Group, and 50 comments to the CEC  
20 docket. Next slide.

21           The Advisory Committee was established to provide  
22 advice and guidance to the California Energy Commission,  
23 and to serve as a forum to consult on matters relative to  
24 developing the Clean Transportation Program Investment  
25 Plan. It's composed of members representing a wide range

1 of interests in clean transportation and clean energy  
2 issues.

3           The Committee was reconstituted in February 2020  
4 with membership expanded to better reflect California  
5 communities. Membership was increased for environmental  
6 justice communities, public health organizations, rural and  
7 tribal communities and labor and workforce training groups.  
8 Next slide.

9           The CEC seeks to increase the participation of  
10 disadvantaged and underrepresented communities from a  
11 diverse range of geographical regions. The CEC also seeks  
12 to effectively engage communities disproportionately  
13 burdened by pollution and improve economic resiliency,  
14 including rural and tribal communities.

15           And this effort includes, as mentioned earlier,  
16 consulting with the Disadvantaged Communities Advisory  
17 Group for guidance and recommendations on program  
18 effectiveness as it relates to disadvantaged communities  
19 and other vulnerable and underrepresented groups.

20           Prioritizing and investing in proper community  
21 outreach and engagement, and partner with local community-  
22 based organizations.

23           Providing a scoring preference for projects  
24 located in or benefitting disadvantaged communities, as  
25 defined by CalEnviroScreen 3.0 and the 4.0 that's



1 forthcoming.

2           And developing an open process to identify  
3 metrics of community benefits that go beyond funding  
4 allocations as Commissioner Monahan had just mentioned.  
5 Next slide.

6           This chart shows that 51 percent of program funds  
7 were awarded to projects located within disadvantaged and  
8 low-income communities. Now, CEC remains committed to the  
9 goal of providing at least 50 percent of program funds that  
10 benefit priority populations including low-income and  
11 disadvantaged communities. Next slide.

12           Now, let me shift to provide context for  
13 developing the Clean Transportation Program Investment  
14 Plan.

15           The allocations and implementation of the Program  
16 reflects the effect of numerous policies and goals, by  
17 legislation, regulation and executive order. The net  
18 result of these policies has been to steer our program  
19 toward zero emission fuels and technologies and ultimately  
20 achieve a carbon-neutral economy by 2025. Next slide.

21           Executive Order B-16-12 set a target of 1.5  
22 million zero-emission vehicles, or ZEVs, on the road by  
23 2025 and tasked various state agencies with specific  
24 actions needed to support this goal. Subsequently, in  
25 January 2018, Executive Order B-48-18 set an expanded

1 target of 5 million ZEVs on the road by 2030, as well as a  
2 network of 200 hydrogen-fueling stations and 250,000  
3 electric vehicle-charging stations, including 10,000 DC  
4 fast chargers, installed or constructed by 2025.

5 Most recently, Executive Order N-79-20 requires  
6 100 percent of in-state sales of passenger cars and trucks  
7 being ZEVs by 2035; 100 percent of operating medium- and  
8 heavy-duty vehicles being ZEVs by 2045, where feasible; and  
9 100 percent of drayage trucks and off-road vehicles and  
10 equipment being ZEVs by 2035. Next slide.

11 Now speaking of charging infrastructure, this  
12 graphic shows some of the progress California has made  
13 toward our 2025 goals. At the bottom, you can see we have  
14 approximately 66,770 existing Level 2 chargers, plus over  
15 118,000 expected from allocated funds from our program,  
16 utilities, and other sources. A gap of approximately  
17 54,280 level two chargers remain, as does a gap of  
18 approximately 385 DC fast chargers. Next slide.

19 In addition to the charging infrastructure gap,  
20 there is a need to address the hydrogen infrastructure gap.  
21 This slides shows the number of hydrogen fueling stations  
22 from existing and allocated funds, indicating a gap of 21  
23 hydrogen stations from the state's goal of 200. Next  
24 slide.

25 Now what informs the Investment Plan?

1                   We have the AB 2127 Report or the Electric  
2 Vehicle Charging Infrastructure Assessment-Analyzing  
3 Charging Needs to Support Zero-Emission Vehicles in 2030.  
4 The Commission Report published in July 2021, which finds  
5 for passenger vehicle charging in 2030, this report  
6 projects that more than 700,000 public and shared private  
7 chargers will be needed to support 5 million ZEVs. And  
8 nearly 1.2 million to support the roughly 8 million ZEVs  
9 anticipated under Executive Order N-79-20 as mentioned  
10 earlier. And an additional 157,000 chargers are needed to  
11 support 180,000 medium- and heavy-duty vehicles anticipated  
12 by 2030.

13                   Now second, we have the SB 1000 Report or the  
14 Electric Vehicle Charging Infrastructure Deployment  
15 Assessment. This first report was published in December  
16 2020 and focused on the number of chargers by geography,  
17 income, and population. The next version of the report is  
18 expected in January 2022, and will address drive time to  
19 fast charging opportunities by geography, income, urban and  
20 rural areas, and CaliEnviroScreen scores

21                   We also consult with the Disadvantaged  
22 Communities Advisory Group as mentioned earlier. And most  
23 recently, adjusting to General Fund augmentations from  
24 Budget Act of 2021, which brings me to my next slide.

25                   On July 12, 2021, Governor Gavin Newsom

1 strengthened California's commitment to a clean energy  
2 future by approving the 2021-2022 budget or the Senate Bill  
3 129-Skinner Budget Act of 2021, which includes a three-  
4 year, \$3.9 billion budget for ZEV-related investments by  
5 CARB, the Governor's Office of Business and Economic  
6 Development or Go-Biz and the CEC.

7           The budget prioritizes diesel emission reductions  
8 by earmarking funding to replace 1,125 drayage trucks,  
9 1,000 school buses, and 1,000 transit buses with zero  
10 emission alternatives and refueling infrastructure. Of  
11 that package amount, the CEC will administer \$1.165 billion  
12 towards infrastructure deployment to accelerate charging  
13 and hydrogen fueling station deployment and grants to  
14 promote instate ZEV and ZEV-related manufacturing.

15           The investments will help the markets for ZEVs  
16 and infrastructure grow to scale and, more importantly,  
17 serve as a foundation for an equitable and sustainable  
18 economic recovery by drawing private investments to  
19 California and creating jobs in manufacturing,  
20 construction, and engineering. Next slide.

21           This slide shows how we are proposing to  
22 translate the aforementioned funding priorities into real  
23 funding allocations over the next two-and-half fiscal  
24 years.

25           You can see the total funding for medium- and

1 heavy-duty ZEV infrastructure in recognition of the need to  
2 swiftly transition the most polluting vehicles toward zero-  
3 emission technologies in the most sensitive regions of the  
4 state. This includes both battery electric and hydrogen  
5 fuel cell. Now let me move to the next slide, which is a  
6 little more descriptive I suppose.

7 This slide provides a table, which breaks down  
8 the funding by fiscal year.

9 The proposed allocations for the 2021-2023  
10 Investment Plan Update combine both Clean Transportation  
11 Program funding and the general fund ZEV Package  
12 investments. The table shows the proposed funding  
13 allocations for FY 2021-2022, as well as the funding  
14 projections for the remainder of the Clean Transportation  
15 Program as well as the \$1.165 billion, actually \$785  
16 million in the current budget, over three years made  
17 available through the general fund ZEV Package.

18 The funding allocations are focused on ZEV (both  
19 battery-electric and hydrogen fuel cells) infrastructure  
20 and ZEV manufacturing. The proposed allocations reflect  
21 state goals for ZEVs, as well as near- and long-term carbon  
22 reduction, improved air quality, and equity, with a focus  
23 on providing benefits for disadvantaged communities.

24 In the current fiscal year, combining the light-  
25 duty charging and hydrogen refueling allocations suggests

1 about \$317 million aimed primarily at passenger vehicles .  
2 And about \$391 million for medium- and heavy-duty vehicle  
3 ZEV infrastructure.

4 Now, over the full three-year period the funding  
5 would total over \$382 million to support passenger  
6 vehicles' ZEV infrastructure. And about \$695 million to  
7 support medium- and heavy-duty vehicles' infrastructure  
8 needs.

9 The CEC proposes to front-load investments to  
10 ensure public adoption of ZEVs is not stymied by lack of  
11 infrastructure. And for light-duty charging  
12 infrastructure, the CEC proposes \$270.1 million in the  
13 current fiscal year. And an additional \$43.9 in the  
14 remaining two years of the program, which brings us close  
15 to the goal of having 250,000 chargers by 2025 and put the  
16 state on course to reach 2030 goals.

17 For light-duty hydrogen infrastructure, the CEC  
18 proposes \$47 million for the current fiscal year and an  
19 additional \$30 million in future years, which will make  
20 progress toward reaching the state goal of having 200  
21 stations open by 2025. These stations should have the  
22 capacity to refuel about 280,000 fuel cell electric  
23 vehicles (FCEVs)s. The auto industry estimates that the  
24 population of fuel cell vehicles will grow from 7,129 in  
25 2021 to over 61,100 by the end of 2027, so station capacity

1 will no longer be a barrier to near-term deployment.

2           Now on the medium- and heavy-duty front, General  
3 Fund investments will prioritize diesel emission reduction  
4 by earmarking funding to replace, as mentioned earlier,  
5 1,125 drayage trucks, 1,000 school buses and 1,000 transit  
6 buses with zero-emission alternatives and refueling  
7 infrastructure.

8           Now, funding for ZEV and ZEV-related  
9 manufacturing comes entirely from the General Fund. With  
10 this funding, we will be able to "increase in-state  
11 manufacturing of zero-emission vehicles, zero-emission  
12 vehicle components, and zero-emission vehicle charging or  
13 refueling equipment."

14           Allocations for zero- and near-zero fuel  
15 production and supply would remain steady over the next  
16 two-and-a-half fiscal years.

17           Funding priorities for this allocation may  
18 include increasing the in-state production of low-carbon  
19 fuels from waste-based feedstocks such as woody biomass  
20 from forest or agricultural sources, supporting upstream  
21 blending infrastructure, and improving the state's supply  
22 of renewable hydrogen from renewable electricity over  
23 generation or biomethane. Let all that sink in and we'll  
24 move to the staff recommendation.

25           Staff recommends approval of the 2021-2023

1 Investment Plan Update. This will approve the plan's  
2 proposed funding allocations for fiscal year 2021-2022, and  
3 signal the planned funding allocations for the subsequent  
4 fiscal years. Staff also recommends a determination that  
5 this plan is exempt from CEQA.

6 Thank you and I am happy to answer any questions  
7 you have. And I should mention we have I think 12 or so  
8 commenters, which will speak about the plan in a bit.

9 Thank you.  
10

11 CHAIR HOCHSCHILD: Thank you, Patrick. Let's  
12 turn now to public comment on Item 5.

13 MS. GALLARDO: This is Noemi, the Public Advisor.  
14 We do have a list of speakers who have indicated to us that  
15 were going to be on, and I do have a list to call them in a  
16 particular order. But all of those, of you speakers who  
17 have been invited, if you could raise your hand using the  
18 raised hand feature that would be helpful to me.

19 We'll start out here with Tyson Eckerle. Tyson,  
20 you can turn on your video box -- I see you now -- and then  
21 feel free to unmute to speak when you're ready.

22 MR. ECKERLE: All right, well thank you very much  
23 for the opportunity. This really is a big deal we're  
24 talking about transformational investments. And I think  
25 this plan does a great job of capturing the lay of the



1 land, anchoring to our shared goals, establishing a clear  
2 roadmap to get there.

3           And I think a lot of my work, we're working on  
4 the collective zero-emission vehicle market development  
5 strategy. And it's really about the four pillars of the  
6 ZEV market. You know, we have infrastructure, vehicles,  
7 end-users, and workforce. You need all those four pillars  
8 to be in balance to successfully develop the market.

9           And this year as a collective, we identified  
10 infrastructure really as a key market enabler. We have a  
11 lot of vehicles coming, but infrastructure is a big gap.  
12 And so this plan really takes that challenge head-on.

13           We're also really looking forward to building the  
14 industry in California, continue to build industry in  
15 California. We're very excited about the investments in  
16 manufacturing. It's a critical tool in the toolbox. At  
17 GO-Biz, we work with a lot of businesses who are very  
18 interested in coming here and developing their supply  
19 chains here, and so we're very excited about it.

20           Both of those, the infrastructure and the  
21 manufacturing and the workforce development, all have  
22 really the opportunity to impact people's lives.  
23 Especially people in priority communities and so we're very  
24 excited about the focus that you have there.

25           And then just as a final point I wanted to point

1 out and commend the Commission and Commission staff on  
2 collaboration. There's been great ongoing collaboration  
3 across agencies, especially working with the Air Resources  
4 Board on the marrying the vehicle incentives with the  
5 infrastructure incentives. And I think that's really  
6 important, critical going forward, and that it's critical  
7 for that last pillar in the ZEV strategies, the end user.  
8 The easier we can make this stuff for end users the more  
9 likely we are going to be to succeed.

10 And so I just wanted to thank you for your  
11 ongoing leadership, your great work in this space, and it's  
12 a beautiful plan and we are very excited about it. And  
13 sticking with that I can hand it back, but thanks for the  
14 opportunity to comment.

15 MS. GALLARDO: Thank you, Tyson.

16 This is Noemi, the Public Advisor again. Next up  
17 will be Sydney Vergis. Sydney, when you're ready feel free  
18 to unmute and begin.

19 MS. VERGIS: Chair and Commissioners, thank you  
20 for your time. My name is Sydney Vergis and I'm the  
21 California Air Resources Board Division Chief overseeing  
22 medium- and heavy-duty vehicle regulations and many of  
23 CARB's off-road, light-duty, medium- and heavy-duty vehicle  
24 and equipment incentive programs.

25 I'd like to start with appreciation for your

1 staff who have worked with us to ensure that CARB's and  
2 CEC's investments are aligned and complimentary.

3 In addition to offering general support for this  
4 investment plan there are two themes that I would like to  
5 lift up: equity and medium- and heavy-duty infrastructure  
6 investment.

7 On equity, we know that over 75 percent of  
8 Californians still breathe unhealthy air and every year  
9 thousands die prematurely due to air pollution, which is  
10 unacceptable. And the need to transition to accelerating  
11 the use of zero-emission technologies in the air quality  
12 and health benefits they provide is of an unprecedented  
13 scope and scale. So we're going to need every tool in the  
14 tool shed to get there. And targeting equity investments  
15 that will benefit from public investment, as well as  
16 prioritizing outreach efforts and investment commitments to  
17 funding projects in and benefiting disadvantaged  
18 communities are really critical components contained in  
19 this plan.

20 On medium- and heavy-duty zero-emission  
21 infrastructure we are all embarking together on a zero-  
22 emission transformation of our goods movement system in  
23 California. And of course we're doing this because this is  
24 absolutely necessary for community health and climate.

25 The investment plan recognizes the state's

1 contribution to the zero-emission transformation, in  
2 particular through the commitment to zero-emission  
3 infrastructure where support is particularly important in  
4 early years to help get this market started in addition to  
5 the private sector action.

6 I'd like to underscore that medium- and heavy-  
7 duty zero-emission trucks are here and more are coming. On  
8 the regulatory side, starting in 2024 per CARB regulations  
9 Class 2b to Class 8 tractor trucks, so everything from work  
10 trucks to long-haul heavy-duty trucks, will be required to  
11 be sold in California.

12 Based on the Advanced Clean Truck Regulation  
13 alone we expect over 300,000 zero-emission trucks to be  
14 coming to California by 2035. And CARB staff are currently  
15 working on developing a second regulation that will go to  
16 the Board in late summer of 2022 that will signal the end  
17 of zero-emission truck --- that will signal the end of the  
18 combustion truck sales in California, specifically through  
19 a 100 percent OEM zero-emission medium- and heavy-duty  
20 sales requirement by 2040.

21 Just a few last things on the state of the zero-  
22 emission truck market, they are commercially available and  
23 many already have an excellent business case.  
24 Specifically, commercially over 100 models of medium- and  
25 heavy-duty zero-emission trucks are already commercially

1 available. And on the Class 8 side at least six OEMs have  
2 announced that they are in production or will be in  
3 production by 2022 for those zero-emission models.

4 On total costs of ownership zero-emission trucks  
5 already pencil out against combustion in a number of  
6 different use cases. Entities like Lawrence Berkeley  
7 National laboratory or finding that, for example, Class 8  
8 battery-electric trucks offer a 13 percent lower cost of  
9 ownership per miles compared to diesel, which translates  
10 into a three-year payback period. That equation only gets  
11 better as CARB's ACT regulation comes into play and really  
12 underscores the need to explore every zero-emission option  
13 and avoid locking in additional fossil fuel and consumption  
14 assets.

15 On the incentive side, as staff noted the  
16 Legislature appropriated dollars to get over 1,125 zero-  
17 emission drayage trucks, 1,000 zero-emission school buses,  
18 and 1,000 zero-emission transit buses on the road. With  
19 the vehicle incentives run out of CARB, and the  
20 infrastructure incentives run out of CEC, we have a long  
21 history of collaboration and so we will continue to do so  
22 on these investments.

23 Again appreciate all the collaborative work that  
24 your staff has put into developing this plan and for our  
25 continued partnership. Thank you.

1 MS. GALLARDO: This is Noemi, the Public Advisor  
2 again. Thank you, Sydney.

3 So now we have Adrian Martinez from the  
4 Disadvantaged Communities Advisory Group. Adrian, feel  
5 free to unmute when you're ready.

6 MR. MARTINEZ: Great. Thanks for having me on  
7 this agenda item. Again, I'm Adrian Martinez. I'm a  
8 Senior Attorney with Earthjustice in our Right To Zero  
9 campaign, but I'm also a member of the Disadvantaged  
10 Communities Advisory Group. We've been engaged on the  
11 Transportation Investment Plan for a little while now, for  
12 the last couple cycles, and it's been a really meaningful  
13 engagement.

14 First, I just want to thank Patrick and the rest  
15 of the team for working with us and providing us lots of  
16 information on the plan and also Commissioner Monahan for  
17 her engagement.

18 I have a few pieces of input that the DACAG has  
19 wanted to convey. So first there's a lot of support for  
20 the continued focus on zero emissions, this is a critical  
21 issue for disadvantaged communities. And a lot of the  
22 health and other benefits will hopefully accrue to those  
23 communities by a focus on zero emissions across all  
24 sectors, from passenger vehicles but also up to larger  
25 equipment like trucks and buses.

1           Second point, is there's a desire to ensure  
2 equitable distribution of charging. I think the plan does a  
3 lot in that respect, but I also want to continue focus on  
4 hard areas to get zero-emission equipment and charging.  
5 So, for example, apartment buildings and also continue to  
6 focus on providing charging in disadvantaged communities.

7           A third issue the Committee wanted to highlight  
8 for the Commission through the implementation is providing  
9 resources to cities, counties, and agencies. We are  
10 finding that there are a lot of bottlenecks across the  
11 chain to get this equipment and these zero-emission  
12 vehicles out. And we hope these funds can go to providing  
13 resources to agencies and cities and counties, large and  
14 small, to take advantage of these programs and provide the  
15 benefits.

16           The Committee wanted to promote providing  
17 significant investments to public agencies. The hope is  
18 that entities like transit agencies, school districts get a  
19 lot of funding for zero emissions. These are agencies that  
20 are inherently operating in the public interest and so  
21 there's a desire to make sure that these entities get  
22 funding and support through these programs.

23           The fifth issue that was identified was, to the  
24 extent allowed by law, focusing on off-road equipment or  
25 areas that attract significant amount of off-road and on-

1 road equipment. The genesis of this is that a lot of toxic  
2 hotspots have been formed around our freight centers like  
3 ports, railyards, warehouses, and how can we work to clean  
4 up communities that have been overburdened by this industry  
5 for a long time.

6 And then, as Commissioner Monahan alluded to  
7 earlier in the meeting, kind of a real focus on defining  
8 benefits. Some of the programs there's concern about how  
9 benefits are designed, particularly around the fueling  
10 infrastructure and fuel programs and so really kind of  
11 looking at that issue.

12 But overall, the DACAG is very excited about this  
13 historic investment in zero emissions and excited to kind  
14 of continue to partner with the California Energy  
15 Commission to make the programming as it continues to be a  
16 success. And thank you.

17 MS. GALLARDO: Thank you, Adrian.

18 This is Noemi, the Public Advisor. So next up is  
19 Lucas Zucker from CAUSE. Oh sorry, is it Lucia?

20 MS. MARQUEZ: Yes. Good morning, my name is  
21 Lucia Marquez. Apologies for not having access to video  
22 this morning, but I'm the Senior Policy Advocate with The  
23 Central Coast Alliance United for a Sustainable Economy in  
24 CAUSE. And I will be giving joint comments on behalf of  
25 advisory committee members Mr. Zucker from CAUSE and also



1 Neena Mohan from the California Environmental Justice  
2 Alliance.

3 CAUSE is a social, economic and environmental  
4 justice organization working the central coast region of  
5 California, which is a member organization that have an  
6 alliance of ten different grassroots environmental and  
7 social justice organizations across the state, which was  
8 created to uplift local experiences and solutions at the  
9 statewide level through policy and its implementation.

10 As the staff report shows, the lowest income  
11 neighborhoods in the state have double to triple levels of  
12 exposure to high levels of diesel particulate matter. It's  
13 Black, Asian and Latino residents who are twice as likely  
14 as white Californians to live in a neighborhood with high  
15 diesel exhaust.

16 So transitioning to heavy-duty freight  
17 transportation infrastructure to zero-emissions is  
18 particularly important, because it has the largest impact  
19 of air quality in public health and disadvantaged  
20 communities. Not only are heavy-duty trucks the most  
21 polluting vehicles, but also concentrated in the most  
22 impacted parts of the state where low-income communities of  
23 color live in diesel-backed zones near ports and warehouses  
24 and trucking routes.

25 Particularly with the current congestion at ports

1 due to COVID-19 it's our communities who are dealing with  
2 more diesel exhaust than ever. It's these investments in  
3 heavy-duty zero-emissions are extremely urgent. As  
4 environmental justice advocates we are pleased to see this  
5 investment from the state, but would encourage the  
6 Commission to devote as much resources to heavy-duty  
7 infrastructure as possible.

8           With that being said, we're a little disappointed  
9 that the final version has still not addressed concerns  
10 raised through the process by environmental justice  
11 advocates about negative impacts of polluting biofuel  
12 production on nearby communities. Close consideration and  
13 analysis of impacts to environmental justice communities  
14 from -- on various fuel types, including their full life  
15 cycle, is critical to ensuring equity in creating a more  
16 sustainable transportation system.

17           Additionally, concerns regarding potential  
18 displacement risks of personal EV charging infrastructure  
19 in neighborhoods experiencing identification pressures have  
20 not been addressed.

21           Mitigation measures to prevent undue harm to our  
22 overburdened communities from clean transportation policies  
23 must be actively included in any implementation. At  
24 minimum we encourage the Commissioners to at least devote  
25 resources to tracking potential unintended consequences of

1 these investments related to equity to assess their impact  
2 on disadvantaged communities and guide future investment  
3 decisions.

4 We just want to say thank you to all the staff  
5 for their hard work and developing support. And we hope  
6 that you can take our additional recommendations into  
7 consideration. Thank you so much.

8 MS. GALLARDO: Thank you.

9 This is Noemi, the Public Advisor. Next is  
10 Ugonne. And Ugonne I apologize. I'm sure I'm  
11 mispronouncing your name so forgive me, but please restate  
12 your name so that folks can hear it pronounced correctly.  
13 Whenever you're ready, go ahead.

14 MS. OKUGO: Thank you for the introduction, my  
15 name is Ugonne Okugo. I am with the California Electric  
16 Transportation Coalition, and I will be representing  
17 Advisory Committee Member and CalETC Executive Director  
18 Eileen Tutt.

19 Thank you to Lead Commissioner Monahan, CEC  
20 staff, and advisory committee members for the work on the  
21 Clean Transportation Program Investment Plan Update.  
22 CalETC fully supports the adoption of this investment plan  
23 today. CalETC supports the general fund investments in  
24 truck and charging infrastructure outlined in the proposed  
25 2021, 2022 state budget and the EV targets supported by

1 these investments, including over 1,000 drayage trucks,  
2 1,000 school buses, and 1,000 transit buses.

3 We support the investments in ZEVs at CARB and  
4 ZEV infrastructure at CEC. These investments will continue  
5 to attract manufacturing to California and ensure that cars  
6 and trucks on the road have access to the fueling  
7 infrastructure they need to maximize zero-emission miles  
8 driven.

9 CalETC also supports the investment in light-duty  
10 charging infrastructure, particularly those focused on  
11 shared access multi-unit dwellings, e-mobility, and other  
12 equity-related investments that act to expand EV access to  
13 all Californians. Light-duty investments facilitate the  
14 need for investments in medium- and heavy-duty vehicles  
15 infrastructures through technology transfer.

16 We want to be very clear there is not enough  
17 infrastructure to support the cars and trucks on the road  
18 today and we need to build out fast to support the  
19 transition to 100 percent ZEV fleet of cars and trucks.  
20 There is no inherent conflict between infrastructure  
21 support for light-duty infrastructure and medium and heavy-  
22 duty, we need both. And until every California can drive  
23 and fuel an electric vehicle, including those renting or  
24 living in multi-unit dwellings we need to support light-  
25 duty infrastructure.

1           We are also pleased to see CEC's commitment and  
2 investment in the implementation of ZEV infrastructure  
3 build- out. CalETC shares common goals with the plan's  
4 mission to equitably invest funds into low-income and  
5 disadvantaged communities, ZEV infrastructure planning and  
6 build-out, and ZEV manufacturing. We hope to continue our  
7 private and public partnership to achieve these common  
8 goals. And on behalf of CalETC I would like to thank you  
9 and reiterate our enthusiasm and support for the CTP  
10 Investment Plan Update. Thank you.

11           MS. GALLARDO: Thank you.

12           This is Noemi, the Public Advisor. I will invite  
13 Leslie Aguayo to speak next.

14           MS. AGUAYO: Hello. Hi can you hear me?

15           MS. GALLARDO: Yes, we can.

16           MS. AGUAYO: Hi, thank you so much. Good morning  
17 Commissioners and staff, thank you for the opportunity to  
18 speak today and provide comments on the Updated Clean  
19 Transportation Plan. My name is Leslie Aguayo. I'm the  
20 Climate Equity Program Manager for the Greenlining  
21 Institute and also a member of the Clean Transportation  
22 Advisory Committee.

23           I would like to start by first acknowledging CEC  
24 Commissioners and staff for their hard work on the updated  
25 plan and continuing to push for a clean transportation

1 future for Californians, and as well as Commissioner  
2 Monahan for her leadership. I'd also like to highlight  
3 some important equity inclusions in the plan along with  
4 some recommendations.

5 First I'd like to thank the inclusion of the  
6 distinction between benefits to place versus benefits to  
7 people included in the updated plan. It's really important  
8 and often very easy to complete deployment of investments  
9 as access to infrastructure and opportunities for upward  
10 mobility, so thank you for that distinction.

11 I also wanted to echo and appreciate CEC's  
12 commitment to produce a definition of benefits along with  
13 metrics to measure how these benefits are going to be  
14 created. And I'd like to also encourage the CEC to  
15 diversify the perspectives that would be part of the table  
16 to produce a definition and make sure that benefit is  
17 measurable, acceptable, and shared to all low-income and  
18 disadvantaged communities.

19 Additionally, I'd also like to reiterate and echo  
20 Noemi Gallardo's earlier point regarding the critical need  
21 for technical assistance and capacity building,  
22 particularly for lower resourced community-based  
23 organizations, as oftentimes participating grant  
24 applications are limited by their abilities to apply for  
25 such larger grants. We are seeing an influx in funding

1 from state and federal courses, but we also have to ensure  
2 that we're supporting these organizations with management  
3 for funding and distribution of the financial resources.

4 I'd also like to encourage the CEC to consider a  
5 few additional equity recommendations, including the  
6 diversification of data in looking at housing,  
7 unemployment, land use, and changes as a result of COVID-  
8 19. And catalyzing climate change consequences, so it's  
9 the sea-level rise, heat waves and wildfires to inform  
10 their clean transportation; not only deployment, but also  
11 program implementation as we're seeing changes in  
12 population and demographics.

13 I'd also like to thank Tiffany Hoang and your  
14 team for their work on the SB 1000 data, which has really  
15 informed equity and ZEV infrastructure.

16 And the first iteration of the SB 1000 electric  
17 vehicle charging infrastructure deployment assessment  
18 published results that electric vehicles and public  
19 chargers are allocated within populations of low-income  
20 communities and have the low-income communities have the  
21 fewest public chargers per capita. Given this information  
22 I'd like to point out that while the CEC has invested 50  
23 percent of funding in DACs and in low-income communities  
24 only 10 percent, which is 1,339 stations total have  
25 actually gone to disadvantaged communities and low-income

1 communities. And although while deployment is not the only  
2 measure of equity I'd like to encourage the CEC to fill  
3 this discrepancy.

4 And lastly, I'd also like to encourage the CEC to  
5 consider the recent passage of the Biden Infrastructure  
6 Plan, which includes equity considerations in itself,  
7 including equitable and proportional representation as well  
8 as equity as a metric and support to retain and retrain  
9 deployed and unemployed workers. And given the national  
10 commitments to equity -

11 excuse me --- to equitable distribution of that and  
12 charging infrastructure investments, the CEC should  
13 consider how it plans to align our state goals with  
14 national priorities while continuing to not only comply,  
15 but lead on equity standards, given its position as a  
16 flagship for clean energy transportation and equity.

17 Thank you for your time.

18 MS. GALLARDO: Thank you.

19 This is Noemi, the Public Advisor. Next is Bill  
20 Magavern. Bill, when you're ready feel free to turn on  
21 your video and unmute.

22 MR. MAGAVERN: Good morning, I'm Bill Magavern.  
23 I'm the Policy Director with the Coalition for Clean Air  
24 and also a member of the Advisory Committee on Clean  
25 Transportation. And we support the plan that's in front of



1 you today. I think that we're very fortunate that this has  
2 been a banner year for clean transportation funding in  
3 California thanks largely to the budget surplus and also  
4 what I think were, in general, very wise decisions made by  
5 the Legislature and the Governor during the budget process.  
6 And we think that this plan will spend that money well.  
7 We're particularly in favor of the commitments on  
8 investments in disadvantaged communities and particularly  
9 benefiting the people who live in those disadvantaged and  
10 low-income communities.

11           And I'll note that we and our partners in the  
12 Charge Ahead California campaign, I have worked with  
13 Senator Gonzales and Assemblymember Reyes on policy bills  
14 that would codify similar language into law. And those are  
15 two-year bills, so we very much hope that at least one of  
16 them will be passed next year and will have these  
17 requirements in statute.

18           One of the major benefits of this investment plan  
19 is the prioritization of infrastructure for medium- and  
20 heavy-duty vehicles. As you heard from CAUSE our  
21 communities, particularly low-income communities of color,  
22 are plagued by toxic diesel exhaust that is coming  
23 primarily from engines in medium- and heavy-duty vehicles,  
24 as well as off-road equipment. And it's really urgent that  
25 we reduce and eventually eliminate those toxic diesel

1 emissions from our community and that's going to require  
2 the transition to clean equipment. And we really urgently  
3 need the infrastructure to support that clean equipment and  
4 this plan is a major step towards that.

5           Along similar lines, we think that when the state  
6 is subsidizing hydrogen fueling stations, that those  
7 stations should be capable of serving the buses and trucks  
8 that will run on clean hydrogen fuel-cell electric engines.  
9 That's an important option to keep for our trucks and  
10 buses. And fueling is one of the biggest needs that we  
11 have in that sector, so we want to make sure that those  
12 investments go as far as they can and can support medium-  
13 and heavy-duty, as well as light-duty engines.

14           And finally, we're glad to see that the  
15 Commission has been supporting clean mobility options. We  
16 need to make zero-emission clean mobility available to all  
17 Californians, especially those in disadvantaged and low-  
18 income communities who have tended to be the last in line  
19 to have access to those programs. And we know that in  
20 order to fully clean up transportation in California, we  
21 need to clean up not only the engines and fuels, but also  
22 to reduce the miles traveled by our vehicles. And that  
23 means expanding mobility options to include better access  
24 to cycling and pedestrian infrastructure as well as, of  
25 course, public transit.

1           So thank you very much for hearing my comments  
2 and we look forward to the implementation of this plan.

3           MS. GALLARDO: Thank you.

4           This is Noemi, the Public Advisor. Next is  
5 William Barrett. William, when you're ready feel free to  
6 turn on your video and unmute.

7           MR. BARRETT: Thank you very much. My name is  
8 Will Barrett, I'm the Senior Director for Clean Air  
9 Advocacy with the American Lung Association and also a  
10 member of the advisory committee for the program. And I  
11 really wanted to echo what many have said, really thank you  
12 for allowing us to speak today. But also really thank  
13 Commissioner Monahan and Mr. Brecht for all your work on  
14 this important program and the whole team behind it. I  
15 really appreciate the work. Ultimately we support the plan  
16 and really do view the proposed investments in zero-  
17 emissions as both significant and strategic investments in  
18 protecting public health.

19           Our recent State of the Air Report published by  
20 the American Lung Association each year finds again that  
21 almost every Californian lives in a county that is impacted  
22 by unhealthy levels of ozone of particle pollution. We  
23 also know, as noted in the plan that the many communities  
24 face disproportionate burdens, especially in our lower  
25 income communities and communities of color.

1           And we know that the transportation sector is the  
2 leading source by far of unhealthy air and climate  
3 pollution in California. So it's really important to note,  
4 as others have said, the role of the heavy-duty truck  
5 population on the air quality challenges we face. Over  
6 half of our smog and particle pollution in California is  
7 caused by the heavy-duty truck sector, which is basically  
8 less than 5 percent of all the vehicles on the road. And  
9 then on the climate side the light-duty passenger vehicle  
10 sector contributes about half of our carbon pollution  
11 impact.

12           So we know that this plan is really getting to  
13 the heart of our air and climate challenges and that the  
14 investment and heavy-duty ZEV infrastructure is especially  
15 important. Not only for meeting California's air quality  
16 goals, but also for protecting the health in our most  
17 impacted communities from diesel and the combustion of  
18 other harmful transportation fuels. And we know that the  
19 ongoing reliance on fossil fuel combustion impacts our  
20 lungs, our hearts, creates a cancer risk for too many  
21 communities and contributes thousands of premature deaths  
22 annually in California.

23           As noted in the presentation earlier the plan  
24 really does intend to invest heavily in our most impacted  
25 communities. And we appreciate really the discussion of

1 moving the metrics with tracking program success beyond  
2 location to those other metrics, including public health,  
3 so that we know that the benefits are really accruing in  
4 the communities that desperately need clean air today.

5           We also note that as you move forward in adopting  
6 this plan with our strong support, we really want to make  
7 sure that you move forward and maintain that focus on  
8 getting the infrastructure in the ground for the heavy-duty  
9 sector as quickly as possible, to go to zero emission  
10 closing the charging gap on the light-duty side as well.  
11 And really front-loading to the extent possible as much of  
12 the investment as we can to really front-load the public  
13 health benefits of all the great work that's outlined in  
14 the report.

15           The last couple things just really to highlight,  
16 the importance of continuing the consultation and  
17 meaningful involvement of the DACAG in this process. I  
18 really appreciated the comments that folks made today on  
19 the equitable distribution of benefits. I think that needs  
20 to remain at the top of the line for moving this program  
21 forward successfully. And then really, as Mr. Magavern  
22 noted looking at the 50 percent metric for investment in  
23 our disadvantaged communities, low-income communities,  
24 really treating that as a floor for the program and really  
25 wanting to see that built in as the baseline going forward.

1           And then finally really just moving as quickly as  
2 possible to get these benefits out in the real world,  
3 making sure that the funds are moving as quickly as  
4 feasibly possible. And I know your staff is committed to  
5 that.

6           So with that, again I just wanted to say thank  
7 you. Really wonderful and thoughtful work went into this  
8 plan, and we support it. And we look forward to continuing  
9 to work with you to implement it and make sure that the  
10 benefits accrue in real time in communities that need it  
11 most. So thank you and I hope everyone has a happy and  
12 healthy holidays ahead, thanks.

13           MS. GALLARDO: Thank you.

14           This is Noemi, the Public Advisor. Next up is  
15 Michael Pimentel. Michael, when you're ready you can turn  
16 on your video, unmute and begin.

17           MR. PIMENTEL: All right. Well, good morning,  
18 Mr. Chair and Commissioners. I'm Michael Pimentel,  
19 Executive Director of the California Transit Association.  
20 By way of background, the association represents 85 transit  
21 agencies in the State of California and more than 220  
22 organizations nationwide including all manufacturers of  
23 zero-emission transit buses, as well as a few international  
24 consultancies that have been supporting transit agencies in  
25 the transition to zero-emission vehicles.

1           As the representatives of the industry that has  
2 led the heavy-duty sector and deployment of zero-emission  
3 vehicles we're so pleased to hold a seat on the Clean  
4 Transportation Advisory Committee and to have had the  
5 opportunity to continue to share our advanced learnings  
6 with the state and other sectors. I join you today to  
7 voice the association's strong support for the 2021-2023  
8 Investment Plan Update for the Clean Transportation Program  
9 and to urge your adoption of the plan today.

10           This year's plan, which as other speakers have  
11 noted, is supported by historic investments from the  
12 state's General Fund represents a true evolution in the  
13 state's investment strategy for facilitating the transition  
14 to zero-emission vehicle technologies. The plan proposes  
15 multi-year funding for various industry sectors and  
16 importantly helps fund them while also providing set-asides  
17 for critical industries like mine.

18 In doing so, this plan will give transit agencies among  
19 other industries, the funding certainty that is critical  
20 for conducting large-scale transition planning and making  
21 large purchase orders with zero-emission vehicles with the  
22 knowledge that funding will be available to provide support  
23 for the supporting infrastructure.

24           The plan's proposed investment of \$88.5 million  
25 in public transit will concretely help deploy 1,000 transit

1 buses. And we are hugely encouraged this plan also  
2 proposes \$282 million for the medium- and heavy-duty sector  
3 generally, which may be directed to transit agencies  
4 through various programs and projects that were seen by the  
5 CEC.

6 This funding level is an increase from the draft  
7 plan we initially engaged on and we appreciate CEC staff's  
8 willingness to help meet a request and further prioritize  
9 investments in the medium- and heavy-duty sector.

10 As this plan is implemented, we would encourage  
11 the CEC to ensure that transit agencies receive a  
12 significant portion of the funds available to the medium-  
13 and heavy-duty sector, further augmenting the \$88.5 million  
14 already guaranteed to transit agencies.

15 I would note for you that all transit agencies in  
16 California are required to transition to 100 percent zero-  
17 emission bus fleets by 2040 and several of them are taking  
18 aggressive steps to transition even sooner; some by 2030,  
19 others by 2035. And despite this progress, funding is a  
20 dominant impediment to the transition that we, as an  
21 industry, fully support.

22 And so in closing, I do want to thank you all for  
23 the consideration. And I want to send a special thanks to  
24 Commissioner Monahan and CEC staff for advancing a truly  
25 thoughtful and collaborative plan here today, thank you.



1 MS. GALLARDO: Thank you.

2 This is Noemi, the Public Advisor. Bill Elrick  
3 is next. Bill, feel free to begin when you're ready.

4 MR. ELRICK: Great, thank you. This is Bill  
5 Elrick of the Hydrogen Fuel Cell Partnership and also an  
6 Advisory Member for the Committee, so thank you for the  
7 opportunity to speak today. We really applaud the Clean  
8 Transportation Program and specifically this investment  
9 plan for continuing to effectively stimulate and accelerate  
10 a broad portfolio of clean fuel technologies into the  
11 market. This has been one of the most impactful co-funding  
12 and stimulus mechanisms in California, which really is  
13 saying something so kudos to Commissioner Monahan and the  
14 rest of the CEC staff and management for putting this  
15 forward.

16 I want to really recognize and applaud CEC in  
17 this plan for continuing to listen, learn and adapt the  
18 focus and activities within each subsequent investment  
19 plan. Following comments others have made in the last  
20 agenda topic, increasing the awareness and attention of the  
21 priority communities and their needs is greatly  
22 appreciated, and making sure the program and this  
23 investment plan really redirect some of the attention  
24 towards these greatest needs and opportunities.

25 I also want to highlight the program's

1 advancements as far as the latest hydrogen infrastructure  
2 GFO for its shift toward a more market-based approach.  
3 This solicitation directly increased the number of hydrogen  
4 stations funded by a factor of ten. It increased the  
5 private investment co-funding. And it overall lowered  
6 hydrogen infrastructure costs. These market-building  
7 approaches from CEC are critical to the program's long-term  
8 success and its objectives in market transformation and  
9 that transition to 100 percent ZEVs. Similar to the  
10 response by CalETC a few minutes ago, we need more ZEV  
11 infrastructure. And we need to support both light-duty and  
12 heavy-duty applications to reach our goals.

13 My sole disappointment in this investment plan is  
14 that it still fails to include the latest hydrogen light-  
15 duty market self-sufficiency report by CARB. This is  
16 another government directive related to AB 8. And it  
17 outlines how the California light-duty hydrogen fuel cell  
18 vehicle market could be self-sufficient within this decade.  
19 That's the first identified ZEV pathway worldwide and it's  
20 directly related to the CTP's core mission of market  
21 transformation. This report really needs to be integrated  
22 into this investment plan immediately.

23 The remaining elements within the investment plan  
24 related to hydrogen and fuel cell vehicles looks really  
25 good. It's starting to better recognize the need to get as

1 many ZEVs as possible on the road as quick as possible in  
2 more people's hands. And our organization is very eager to  
3 continue to work and even expand our support and  
4 involvement with CEC in this area.

5 CEC and these investment plans have shown the  
6 urgency in working to transition California's  
7 transportation market and provide a diversity of technology  
8 options that will enable more of Californian citizens to  
9 participate in this transformation. That urgency and even  
10 California's leadership were highlighted in these recent  
11 COP meetings.

12 As the existing AB 8 program begins to wind down  
13 and reauthorization builds momentum, CEC and the CTP should  
14 lean in and focus even more aggressively on market  
15 transformation mechanisms, so we can accelerate the common  
16 overall objectives of the program as well as our society  
17 and achieve the clean energy and transportation systems we  
18 all need. Thank you.

19 MS. GALLARDO: Thank you.

20 This is Noemi, the Public Advisor. And next is  
21 Andres Ramirez. Andres, when you're ready unmute and you  
22 may begin.

23 MR. RAMIREZ: Good morning my name is Andres  
24 Ramirez. I'm speaking on behalf of my organization, People  
25 for Mobility Justice and I'm also a member of the DACAG.

1 My organization is speaking in support of the Clean  
2 Transportation Program Investment Plan. We feel it's an  
3 important step towards reaching the climate goals that our  
4 state has set for ourselves.

5           And in particular we would like to commend the  
6 commitment to equity. I really would like to applaud the  
7 Commission and staff for not just providing lip service to  
8 equity, but having a true commitment to creating metrics  
9 that will help us reach our equity goals in this state.  
10 Just particularly in terms of investment and disadvantaged  
11 communities my organization represents the disadvantaged  
12 communities of Los Angeles County and we definitely feel  
13 and echo a lot of the comments that have been made today in  
14 terms of the impact locally.

15           I also would like to highlight particularly the  
16 commitment in terms of the opportunity we have recovering  
17 from COVID and this investment really providing a platform  
18 for the state to recover economically, particularly in in  
19 disadvantaged communities where the pandemic has hit the  
20 hardest, both economically and health wise. This  
21 investment into this clean energy or clean mobility  
22 technology is really an opportunity for operations,  
23 maintenance, for our communities to have a ready workforce  
24 that's willing and able to do so.

25           I'd also like to highlight the importance and

1 really, really commend both staff and the Commission for  
2 being open to hearing the voices in the community and  
3 continue to engage community as these programs are funded  
4 and doled out.

5 We also recommend that there be strong evaluation  
6 for the agencies implementing these programs to ensure that  
7 the goals that are the heart of the plan are being met.  
8 And that are not simply being a checkbox that people are  
9 making in terms of putting infrastructure in random places  
10 in the SoCal disadvantaged communities, with not real  
11 intention of making it work and support the needs of those  
12 communities.

13 I thank you for your time and that and I commend  
14 you for voting for this. Thank you.

15 MS. GALLARDO: Thank you.

16 This is Noemi, the Public Advisor. I am going to  
17 read a comment from one other of our speakers. This is  
18 from Stan Greschner, Chief Policy Officer at GRID  
19 Alternatives, also former Chair of the CEC's Disadvantaged  
20 Communities Advisory Group.

21 "I want to offer my strong support for the  
22 proposed Clean Transportation Program Investment Plan. I  
23 commend the Commission for your proactive efforts to bring  
24 more community perspectives into the planning process over  
25 the past year and for thoughtfully centering equity in

1 these discussions.

2 "The plan calls for at least 50 percent of the  
3 funding to support projects that benefit low income,  
4 disadvantaged and tribal communities. Along with a  
5 recognition that siting projects in these target  
6 communities does not necessarily equate to benefiting those  
7 communities.

8 "I encourage the CEC to continue working directly  
9 with community members and community organizations to  
10 support the design of specific funding programs that will  
11 allow for more accessible EV charging options benefiting  
12 target community members, more training and upscaling of  
13 workers for clean transportation related careers, and  
14 geographically targeted investments that reduce air  
15 pollution, especially in the medium- and heavy-duty  
16 sectors.

17 "These proposed investments, coupled with  
18 upcoming investments from the Federal Infrastructure Bill  
19 position California to meet our ambitious ZEV goals over  
20 the next 10 to 15 years.

21 "I support this investment plan. Thank you."

22 All right, so that ends the invited speakers.

23 And now we will open it to the general public  
24 comment. I do see one hand raised. So a reminder to  
25 please restate your name, spell it for the record and

1 indicate your affiliation, if any. Clint Koble, your line  
2 is open and you may begin.

3 MR. KOBLE: Okay, I don't see my video button, so  
4 I can't punch that. But anyways, my name is Clint Koble,  
5 K-o-b-l-e. I am a small business advisor for the Sierra  
6 Small Business Development Center. And I engage regularly  
7 with banks, businesses, Chambers of Commerce, tourism  
8 agencies and communities that depend upon tourism for a  
9 great part of their livelihood in the Shasta-Cascade  
10 region. And I'm here this morning to speak in support of  
11 the draft investment plan, and in particular regarding  
12 charging infrastructure in rural communities.

13 As you know, much of the industry is shifting  
14 towards the production of electric vehicles. I think there  
15 were 40 new models out this year. The federal government  
16 is going to be changing over to electric vehicles produced  
17 in the United States. And we know that by the year 2024,  
18 just several years from now that half of our tourism market  
19 in the Shasta-Cascade region, is going to be millennials.  
20 And we know they tend to visit us with electric cars, e-  
21 bikes, mountain bikes, cell phones, all that. But they're  
22 coming into our area for adventure and thinking recreation.  
23 And we need to prepare for them. And one of the obstacles  
24 we have is this perception and also the reality that we  
25 don't have as many charging stations as we need to

1 accommodate that emerging market.

2           And as you know the Dixie fire this year  
3 destroyed many of our county economies in the Shasta-  
4 Cascade region, entire communities and economies who will  
5 need to be rebuilt. Greenville California, for example,  
6 where 75 percent of the town was destroyed.

7           As a parallel to Greenville, California, there  
8 was a town in 2007, Greensburg Kansas, that was 95 percent  
9 destroyed by an EF5 tornado. And they made the conscious  
10 decision to use public investments and to build back  
11 stronger, better, and greener. And now they are one of the  
12 leading towns per capita for LEED buildings in the world,  
13 so they have done great things. We want and we need to do  
14 that in Greenville California, so we're going to need  
15 public investments. And your public investments in the  
16 electric vehicle-charging infrastructure can be the  
17 catalyst that will pedal our struggling rural economies to  
18 be better, stronger, more resilient, and greener.

19           In addition to overcoming perceptions that we  
20 don't have enough charging stations, we know that we've got  
21 to convince people that there are still things left to see,  
22 so we're spending money. And with your investments I think  
23 we can team together and do that, so we're really looking  
24 forward to your help.

25           In summary I just want to repeat your words that



1 the investment plan will establish funding allocations  
2 based on identified needs and opportunities, including a  
3 focus on zero- emission vehicles and infrastructure. It'll  
4 help us prioritize jobs, economic stimulus and equity in  
5 the life of these challenges, so much of what Patrick said.  
6 So thank you for your time and I really support the  
7 investment plan.

8 MS. GALLARDO: Thank you.

9 This is Noemi, the Public Advisor, just checking  
10 to see if anyone else would like to make a public comment.  
11 If so, please raise your hand using the raised hand icon on  
12 the screen or pressing \*9 on your phone.

13 Chair, I see no more hands, then we can proceed.

14 (No audible response.) Chair, you're muted.

15 CHAIR HOCHSCHILD: Sorry about that, here we go.  
16 Thank you for that, Noemi.

17 Let's turn now to Commissioner discussion on Item  
18 5, starting with Commissioner Monahan.

19 COMMISSIONER MONAHAN: Well, I just want to start  
20 by saying today is really a historic day when it comes to  
21 zero- emission vehicle infrastructure. So this investment  
22 plan represents the single largest investment in zero-  
23 emission vehicle infrastructure by any state. So we're  
24 talking \$1.1 billion out of the \$1.4 billion plan that's  
25 allocated to charging stations and hydrogen refilling

1 stations for passenger cars, trucks, off-road equipment,  
2 school buses.

3           And it's also a historic day when it comes to  
4 U.S. investments. So today President Biden is signing the  
5 Infrastructure Bill, which includes up to \$7.5 billion for  
6 ZEV infrastructure across the country. So really this is  
7 like ZEV infrastructure day for the country I would argue,  
8 not just in California, but across the United States.

9           So our \$1.4 billion plan runs through 2023.  
10 That's when, as you heard the Clean Transportation Program  
11 plan expires. And we want to make sure that we're setting  
12 a plan for the next several years so our grantee network,  
13 it can reliably count on this funding going forward.

14           And we're working hand-in-glove with our sister  
15 agency the Air Resources Board. We want to make sure that  
16 vehicle incentives and charging infrastructure is aligned.  
17 Interestingly, the Air Resources Board is also voting on  
18 their clean transportation plan this week, so it's big week  
19 for clean transportation in California.

20           I want to thank Tyson for his leadership on the  
21 ZEV market development plan. It just shows how all of the  
22 relevant agencies in California are working together to  
23 make sure that we can meet our zero-emission vehicle goals.

24           And as you've heard equity is a core principle.  
25 And I've been really like opposed to these "Check the box

1 if it's in a disadvantaged or low-income community, that  
2 means we're done." Like really no, no, we are not done. We  
3 need to be really clear on what a benefit is. And that's a  
4 goal of ours over the next year is to get a clear  
5 definition with input from all the stakeholder community to  
6 ensure that we're tracking the right metrics and holding  
7 ourselves accountable to that.

8           We heard, I think, from just about everybody who  
9 spoke about the importance of equity. And I want to  
10 emphasize for some of the criticisms or concerns that were  
11 raised there's a whole approval plan is one step, but then  
12 actually distributing the money and putting together grant  
13 programs that's the next step. And we have a lot of power  
14 in the implementation phase to ensure that we're paying  
15 attention to full lifecycle implications. And so I would  
16 encourage all the stakeholders to help us make sure that we  
17 spend that money wisely.

18           So the budget is going to allow us to meet the  
19 state goals for 2025 in terms of ZEV infrastructure:  
20 250,000 chargers, 200 hydrogen stations, also to get  
21 infrastructure out there for over 1,000 school buses,  
22 transit buses, drayage trucks. And so this, the plan is  
23 really attentive to the public health impacts. And I'm  
24 really excited that we're going to be having these concrete  
25 goals that we have to hold ourselves accountable to. And

1 as you guys have all heard me talk about the ZEV dashboard  
2 over and over again I want that to be the place where we  
3 highlight our progress and are transparent about where our  
4 investments are going.

5           So the plan includes attendant attention to  
6 vehicle grid integration, so we want to ensure that  
7 electric vehicles, in particular are good citizens of the  
8 grid. And from our 2030 analysis of charging needs, the  
9 charging for passenger cars as well as medium- and heavy-  
10 duty electrification could increase total energy about 21  
11 percent on a typical weekday and that's based on today's  
12 energy use. But that's a flexible load that we could use  
13 to help clean the grid and we need to make sure that we're  
14 capitalizing on that very flexible load.

15           And the team has conducted a significant amount  
16 of research, I mean I'm sorry -- of outreach in developing  
17 this plan. And you say you've heard from all these folks,  
18 the stakeholders. I just appreciate all the stakeholders  
19 who have helped us. Being an advisory committee member to  
20 the Clean Transportation Program takes a lot of work, it  
21 takes a lot of work. Those are hundreds of pages of  
22 reports you've got to go through, so I want to thank the  
23 advisory committee members. And it was really nice  
24 actually to be able to see them on the screen. Usually we  
25 can't see the commenters, but thank you Noemi for helping

99

1 make that happen.

2           So there are lots of people involved in the  
3 development of this plan. And I wonder, Noemi, could we  
4 show the list of folks again? Because there were so many I  
5 can't -- I'm not going to go through all their names, but  
6 I think it'd be helpful just to see that list of people  
7 involved in the plan.

8           MS. GALLARDO: This is Noemi. I don't know if we  
9 have a list available.

10           COMMISSIONER MONAHAN: It was one of the -- the  
11 last slide, I think, that Patrick showed, but --

12           MS. GALLARDO: Yeah.

13           (Overlapping colloquy.)

14           COMMISSIONER MONAHAN: We don't have to do it,  
15 but let's just say a lot of people have been involved.  
16 Patrick, in particular, thank you for your leadership.  
17 Patrick has been -- he's shepherding all aspects of this  
18 plan. Tami Haas and Charles Smith, who supervised the plan  
19 development have been great. And finally Noemi, you as our  
20 Public Advisor, really I want to say thank you to all you  
21 have done to help us be better in terms of outreach and  
22 making sure that equity is a core, a cornerstone of all  
23 that we do.

24           So I'm excited to support this plan. I hope you  
25 are too, and I look forward to your comments.

1 CHAIR HOCHSCHILD: Thank you, Commissioner  
2 Monahan.

3 Let's go to -- I can't actually see other  
4 Commissioners in my window, but are there other  
5 Commissioners wishing to make a comment on this?

6 COMMISSIONER MCALLISTER: This is Commissioner  
7 McAllister, I'd love to.

8 CHAIR HOCHSCHILD: Yeah, great.

9 COMMISSIONER MCALLISTER: Just very briefly, I  
10 want to just thank first off the staff, just pile on the  
11 staff, great work on this. And also Commissioner Monahan  
12 for your leadership, I mean you've really provided I think  
13 a guiding light to this effort.

14 And I want to just reiterate my top-level point  
15 is the load flexibility piece of this. I couldn't agree  
16 more with you on being smart about where and when and how  
17 we are charging our electric vehicles, in particular, as a  
18 grid resource and as a reliability resource and as  
19 decarbonization resource. And having a positive influence  
20 actually on both reliability and costs. If we can take  
21 advantage of those green electrons when they are available  
22 and use them for good to get around that's going to help us  
23 reach our world goals more effectively and efficiently and  
24 cost-effectively.

25 So it's great to be sort of aligning the building

1 work and vehicle work around this and looking forward to  
2 keeping those sectors coordinated as they are increasingly  
3 interconnected and linked in just real time now. So thanks  
4 again to staff for this, very happy to support it.

5 CHAIR HOCHSCHILD: Thank you, Commissioner.  
6 Vice Chair Gunda.

7 VICE CHAIR GUNDA: Yeah. Thank you, Chair. I  
8 also just wanted to congratulate the team. Patrick, thank  
9 you so much for going through that presentation. It's  
10 really helpful. And also thank you for providing different  
11 responses to our office on some of the questions we had. I  
12 really appreciate FTD as a whole and all the team to kind  
13 of help navigate this extremely important investment.

14 I really love Commissioner Monahan coining this  
15 as the investment in a day, that hopefully we can have a  
16 resolution somewhere. But Commissioner Monahan, kidding  
17 aside, thank you so much for your leadership, thank you for  
18 bringing your empathy, your ability to bring people  
19 together, and years and years of experience in  
20 transportation to help shape this important investment for  
21 the State of California and for all Californians, so thank  
22 you.

23 And I also want to extend thanks to all the  
24 advisory committee, without whom we cannot do work like  
25 this. And shepherding an investment of this size, with so

1 many people feeling good about it is the real success, so  
2 thank you to you.

3           And just I think in closing Commissioner  
4 McAllister already articulated the more electrification we  
5 have the more hydrogen vehicles we might have that might  
6 depend on electrolysis. The kind of having the data that  
7 as we do the investments, gathering the data and working  
8 together to ensure we have the necessary data points to  
9 model the future and help develop a resilient and reliable  
10 system with the grid is essential, so I'm looking forward  
11 to working with you.

12           And, again, congratulations to you and your  
13 entire team for an absolutely wonderful effort here.

14           CHAIR HOCHSCHILD: Well said.

15           Commissioner Douglas, did you want to make a  
16 point?

17           COMMISSIONER DOUGLAS: You know, just very  
18 briefly. Obviously, a tremendous amount of work has gone  
19 into this and that's just very clear from the comments and  
20 from the scope and scale of the plan. And I'm very pleased  
21 to support it, and I want to thank Commissioner Monahan and  
22 the staff and the advisory committee members and others who  
23 worked hard to get to this place.

24           CHAIR HOCHSCHILD: Thank you, well said.

25           Well, my only point here would be that



1 alternative energy in the energy space is the wrong word to  
2 use for renewables at this point. Fossils are a minority  
3 on our grid today, we're bringing renewables mainstream.

4 And the same is true for clean transportation.  
5 Eventually the vehicles that we're talking about supporting  
6 with this infrastructure are going to be the dominant form  
7 of transportation. And that begins with big investments  
8 like this. Really, infrastructure is the key barrier right  
9 now. And so this is a big step, a big milestone, but it's  
10 just a down payment; more to come. We've got the team,  
11 we've got the focus, we have an incredible advisory  
12 committee and coalition working on this and really  
13 California is leading the way.

14 So I just want to thank Commissioner Monahan for  
15 her incredible work and dedication and heart that she has  
16 put into this work since she got here. And to Hannon  
17 Rasool and the whole team, Patrick and everyone else who  
18 worked on this, happy to support.

19 And so with that I would ask Commissioner Monahan  
20 if you'd be willing to move this item?

21 COMMISSIONER MONAHAN: I move this item.

22 CHAIR HOCHSCHILD: Okay. Vice Chair Gunda, would  
23 you be willing to second?

24 VICE CHAIR GUNDA: Second Item 5.

25 CHAIR HOCHSCHILD: All right all in favor say

1 aye.

2 Commission Monahan?

3 COMMISSIONER MONAHAN: Aye.

4 CHAIR HOCHSCHILD: Vice Chair Gunda?

5 VICE CHAIR GUNDA: Aye.

6 CHAIR HOCHSCHILD: Commissioner Douglas?

7 COMMISSIONER DOUGLAS: Aye.

8 CHAIR HOCHSCHILD: Commissioner McAllister?

9 COMMISSIONER MCALLISTER: Aye.

10 CHAIR HOCHSCHILD: And I vote aye as well. Item

11 5 passes unanimously, congratulations to the whole team.

12 With that what we'll do is recess for lunch for  
13 an hour. Why don't we reconvene at 1:15? And we'll take  
14 up Item 6 at that time, thank you.

15 (Off the record at 12:18 p.m.)

16 (On the record at 1:15 p.m.)

17 CHAIR HOCHSCHILD: Great. Okay, welcome back  
18 everybody. Thank you for all the public comment and  
19 support. I don't want to ever take it for granted, these  
20 landmark votes and what we just did. Approving over a  
21 billion dollars for clean transportation is really a  
22 wonderful, and exciting and important milestone in our  
23 momentum and movement towards a clean transportation  
24 future, so that's a really big one to get done. So  
25 congrats to all the stakeholders and staff who worked on

1 that.

2 So with that let's turn now to Item 6, the 2021  
3 through 2025 Electric Program Investment Charge Proposed  
4 Investment Plan. Jonah Steinbuck.

5 MR. STEINBUCK: Thank you, Chair. Hello everyone  
6 I'm Jonah Steinbuck, Deputy Director for the Research and  
7 Development Division. And today the R&D Division is  
8 seeking Commission approval for the 2021-2025 Electric  
9 Program Investment Charge Proposed Investment Plan,  
10 referred to as "EPIC 4," the fourth investment plan under  
11 the EPIC program. The R&D Division managers and I will be  
12 presenting our proposed plan for years two through five of  
13 the proposed investment plan. And this builds on the Year  
14 One EPIC Interim Plan that was approved by the CPUC earlier  
15 this year.

16 Today we will be presenting a high-level  
17 overview, and the full details are in the investment plan  
18 report, which was posted in advance of this meeting and  
19 also updated to show some non-substantive clarifying edits.  
20 Next slide, please.

21 So EPIC 4 spans five years of R&D investment  
22 through 2025.

23 The funding for the CEC is nearly \$150 million  
24 per year, and almost \$750 million over the five years.

25 The EPIC 4 investment plan was developed through

1 an extensive stakeholder engagement process. And in  
2 consultation with the Chair and Commissioner McAllister who  
3 served together on the CEC R&D Committee.

4 The plan is organized according to six strategic  
5 objectives that we'll be discussing, and supports  
6 achievement of our state clean energy policies and goals,  
7 including 100 percent renewable and zero-carbon electricity  
8 by 2045, 100 percent zero-emission vehicle sales by 2035,  
9 among others. Next slide, please.

10 So EPIC 4 investments will deliver a range of  
11 benefits for Californians.

12 The program supports California's entrepreneurs  
13 and researchers who are advancing technology innovation and  
14 commercializing new clean energy technologies.

15 This innovation then delivers ratepayer benefits  
16 in a wide variety of forms, including environmental  
17 sustainability, energy equity, affordability, grid  
18 reliability, and electricity system safety. Next slide,  
19 please.

20 So as some context and background, this is a look  
21 at an illustrative subset of the investment areas for EPIC  
22 over the past decade, since the CPUC established the EPIC  
23 program.

24 As an example, we funded ChargePoint to develop  
25 cloud-based vehicle charging algorithms that allow EV

1 charging to be responsive to grid signals. Participating  
2 customers realized annual energy savings of about \$500 per  
3 year per EV. And that lowers the total cost of ownership  
4 and supports accelerated EV adoption.

5           As another example, with EPIC funding, Sunfolding  
6 developed a tracking system driven by compressed air. This  
7 greatly reduces the number of mechanical parts and  
8 maintenance requirements for trackers and delivers an  
9 estimated 20 percent reduction in the levelized cost of  
10 energy when compared to a setup with traditional mechanical  
11 trackers. And this technology is now commercially  
12 available.

13           Additionally, over the past decade, there has  
14 been a continuous process of strengthening the  
15 administration of the EPIC program, building from the  
16 foundational principles from the CPUC, including ratepayer  
17 benefit and policy relevance.

18           So for example, we've built up our support for  
19 entrepreneurial ecosystems across the state, added programs  
20 to support early manufacturing and technology scale-up  
21 activities, and continue to build our stakeholder  
22 engagement, including with under-resourced communities and  
23 their representatives. Next slide please.

24           This is a high-level look at our overall  
25 investment and impacts from the past decade. So we've

1 invested \$846 million and that has catalyzed more than \$3.5  
2 billion raised in private capital after firms received an  
3 EPIC award, more than four times our initial investment.

4 Our investments have spanned the 385 projects  
5 across the state, with 68 percent of the demonstration  
6 projects in under-resourced communities.

7 As a result of these investments we have  
8 generated thousands of jobs, more than \$18 billion in  
9 energy savings, \$86 to \$191 billion in estimated health  
10 savings over the next couple decades, as well as  
11 significant contributions to the knowledge base for clean  
12 energy innovation, with more than 2,900 citations to EPIC  
13 research. Next slide, please.

14 But now returning to our EPIC 4 plan, in looking  
15 ahead to the next 5 years we conducted 12 workshops and  
16 events over the past half year. This enabled us to hear  
17 from state, national, and international experts on topics  
18 like industrial decarbonization, energy storage, and  
19 offshore wind, among others.

20 We benefitted from and are thankful for the very  
21 strong engagement with over 1,900 participants across these  
22 events with very helpful comments and questions that  
23 improved the focus and impact potential of the EPIC 4 plan.

24 We also coordinated with our colleagues at the  
25 CPUC, other agencies, and across the CEC to ensure proposed

1 R&D is complementary with other activities and leverages  
2 synergies.

3           And we coordinated with the Disadvantaged  
4 Communities Advisory Group. As Adrian Martinez noted  
5 earlier in the meeting, that included briefings, public  
6 meetings, and newsletter communications to gather input and  
7 feedback. Over the past year we've had five meetings with  
8 members of the Disadvantaged Communities Advisory Group to  
9 discuss EPIC 4 investment planning. And we also  
10 incorporated written comments from its members. Next  
11 slide, please.

12           So the EPIC 4 investment plan includes six  
13 overarching, strategic objectives shown here. These span  
14 R&D for renewables, for grid reliability, distributed  
15 energy resources, efficiency and electrification, support  
16 for entrepreneurs, and equity and the environment.

17           And for each of these strategic objective the R&D  
18 managers and I will give a high-level overview and  
19 highlight one or two specific R&D topics under each. Next  
20 slide.

21           The first strategic objective focuses on  
22 renewable generation technologies that will be important  
23 for achieving a 100 percent renewable and zero-carbon  
24 electricity by 2045.

25           The SB 100 joint agency analysis showed that grid

1 capacity will potentially triple by 2045 relative to today.  
2 So the buildout is very substantial and will need a  
3 portfolio of technologies to meet that capacity and ensure  
4 reliability.

5 Proposed EPIC 4 research would invest in  
6 technologies to help meet that buildout, driving cost  
7 reductions and supporting improvements in technology  
8 performance and durability.

9 To stay brief, I'll just say a bit more about one  
10 of the topics, offshore wind. Next slide, please.

11 So the purpose of this research topic is to  
12 advance offshore wind as a key resource for SB 100  
13 buildout. Earlier this year, California and our federal  
14 partners announced an agreement that opens the West Coast  
15 to offshore wind development for the first time.

16 Proposed EPIC 4 R&D would support implementation  
17 of this agreement and would focus on floating technologies  
18 given the water depths off our coast.

19 So we're proposing four R&D focus areas:

20 The first is optimizing component designs for  
21 cost, operational efficiency, and durability. So examples  
22 include long and efficient blades, tall towers for  
23 accessing higher wind speeds, and support structures to  
24 handle the water depths and waves.

25 Second, developing standardized processes for



1 installation and O&M for floating offshore wind components.

2           Additionally, grid integration innovations and  
3 port infrastructure readiness strategies. So this could  
4 include studies on needs for grid expansion or port  
5 infrastructure and research on durable cabling for  
6 conveying power onshore.

7           And last, environmental impact assessment and  
8 minimization. This could include studies and tools to  
9 understand the implications for marine life, habitat, and  
10 upwelling, and develop mitigation strategies.

11           The goals include lowering cost; reducing the  
12 technical and financial risks; informing environmental  
13 planning; and supporting reliability.

14           I'll now pass to my colleague, Mike Petouhoff,  
15 for the next strategic objective.

16           MR. PETOUHOFF: Thank you, Jonah.

17           This next strategic objective is to create a  
18 more-nimble grid to maintain reliability as California  
19 transitions to 100 percent clean energy.

20           This initiative assumes success of the previous  
21 initiative, which Jonah outlined, as well as that we'll  
22 have a 3x increase in the growth, annual growth rate of  
23 clean generation with much of that coming from intermittent  
24 wind and solar. And that we'll electrify transportation  
25 and buildings to create more load in new use profiles. So

1 we'll need to have a grid that can respond to and firm in  
2 shape the intermittent renewable energy that comes from the  
3 forces of nature. In short, we're going to need to deal  
4 with the "when", the "where", and the "how much" of power  
5 flow.

6           The first group of technologies across the top of  
7 this slide address the "when" of energy flow: the short and  
8 long duration storage and the zero-carbon firm dispatchable  
9 resources. These will make up for the peaks and valley of  
10 energy supply, so that supply meets demand at any given  
11 time.

12           The second group of technologies across the  
13 bottom of this slide are related to grid modernization.

14           These technologies will address congestion at  
15 certain locations resulting from increased and more  
16 intermittent generation. The focus on grid congestion will  
17 be on technologies such as power flow control that can  
18 address "where" energy flows to avoid points of congestion.  
19 And such as advanced conductors that can increase the "how  
20 much" energy flows on a potentially congested line by  
21 increasing ampacity without extra weight. And together  
22 this supports the Garamendi Principles to minimize the  
23 impacts of new construction or rights of way as we increase  
24 transmission and distribution capacity.

25           We'll also need to address power quality issues

1 that will arise in the grid of the future. As our natural  
2 gas fleet phases out it will no longer provide the  
3 stabilization from rotational inertia and will involve  
4 demonstrations of technologies to maintain synchronization.  
5 And also to control power factor and to control harmonics  
6 And lastly we will need to focus on cybersecurity  
7 issues that will need to be addressed in the grid of the  
8 future, which is going to have more access points and  
9 higher degrees of modulation. Next slide, please.

10 This slide focuses in on the supply side  
11 technologies to support grid reliability to compensate for  
12 intermittent renewables

13 For short duration storage we're working both on  
14 improving lithium-ion as well as developing alternate  
15 battery technologies. Some of those alternates include  
16 zinc magnesium, zinc air, sodium metal, vanadium redox flow  
17 batteries, lithium sulfur, zinc bromide flow batteries,  
18 iron chromium flow, and slow speed fly wheels.

19 Our objectives will be on improving performance  
20 factors like degradation over time, the capacity for depth  
21 of discharge, and improving safety issues like thermal  
22 runaway as well as cost-effectiveness for the overall  
23 technologies. So we will work both to improve lithium-ion  
24 and also to develop alternative technologies to provide  
25 supply chain diversity.

1           In addition to focusing on development of energy  
2 storage technologies we'll also be demonstrating additional  
3 energy storage use cases that supports grid reliability.  
4 These use cases might well include the use of onsite energy  
5 storage to improve vehicle to grid integration and many  
6 other use cases or applications, which support grid  
7 reliability.

8           For long-duration energy storage we're going to  
9 be developing storage such as flow batteries, flywheels,  
10 compressed air, liquid air, molten sulfur, molten salt, and  
11 even green methane and green hydrogen that may be used for  
12 storage.

13           We'll focus here on minimizing cost and  
14 environmental impact as compared with pump hydro.

15           And we are also developing a protocol to compare  
16 emerging types of long duration storage as they evolve in  
17 terms of their overall cost to ratepayers, the reliability  
18 services they provide to the grid, and importantly impact  
19 on the environment and local communities especially.

20           The protocol will include recyclability and  
21 materials lifecycle sourcing analysis, so that as we look  
22 at the materials that will compose the batteries of the  
23 future we'll think about the resource constraints no that  
24 come with it.

25           And now I'll turn it back over to Jonah for the

1 next chapter.

2 MR. STEINBUCK: Thanks, Mike. And if you could  
3 just progress -- yeah, thank you.

4 So this next strategic objective covers a wide  
5 range of technology innovation topics related to  
6 distributed energy resources, or DERs, and seeks to  
7 maximize the benefits that they can deliver for both  
8 customers and the grid.

9 The benefits of DERs come in many forms: load  
10 flexibility, peak demand reductions, reducing or deferring  
11 grid upgrades, and supporting climate resilience and  
12 reliability.

13 The proposed R&D will help enhance the cost and  
14 performance attributes of DERs, support integration of DERs  
15 with the grid, and maximize their value.

16 Specific R&D areas include improving DER  
17 forecasting, developing low-cost renewable backup power  
18 systems, advancing grid-supportive EV charging and high-  
19 performance building design, among other areas.

20 I'm going to pass next to my colleague Erik  
21 Stokes to cover the design-build competition under the  
22 strategic objective.

23 MR. STOKES: Great. So thanks, Jonah.

24 So one of the topics we wanted to highlight in  
25 our strategic objective is our design-build competitions.

1 So we've found our design-build competitions to be an  
2 effective tool, to really help facilitate the deployment of  
3 new energy technologies into the built environment.

4           And the way we've kind of structured our design-  
5 build competitions is we just fund so many teams in the  
6 design phase, up to 12 teams broken across 4 geographical  
7 groups. And the design phase is really important to help  
8 start to align a lot of the business models and some of  
9 these other downstream activities, such as local permitting  
10 as well as design construction practices in the building  
11 sector. And align those with some of the emerging  
12 technologies that we're supporting through the broader EPIC  
13 program.

14           The first design-build competition we held what's  
15 called the EPIC Challenge. And it focused on an advanced  
16 energy community.

17           We are currently in the process of our second  
18 design build-competition. And for the second one we  
19 focused on the mixed-use building sector and how do we make  
20 this building sector resilient, more affordable as well as  
21 all-electric and able to support both the broader grid and  
22 be a strategic deployment of the broader grid.

23           Several kind of benefits we see from this topic,  
24 one is to be able to demonstrate some technical pathways.  
25 In some of the harder building sectors it's going to take

1 the decarbonized and make sure that these building stops  
2 can support the broader energy goals.

3           Second, this really provides an opportunity for  
4 building stakeholders to kind of reach beyond conventional  
5 technologies and conventional practices. And it  
6 incentivizes them to try to adopt some of these emerging  
7 technologies and emerging practices with the hope that some  
8 of these, after they've been able to test them, take the  
9 wheel, that they'll become standard practices in their  
10 traditional, normal operations.

11           And third, helps facilitate the adoption of  
12 advanced technologies and practices. And as I mentioned  
13 earlier being able to align some of these design  
14 construction practices around some of the key features and  
15 benefits with energy technologies. Just as an example,  
16 it's we've seen a lot of advancements in solid-state  
17 lighting. That can bring benefits just beyond the energy  
18 benefits of the technology.

19           And being able to kind of align design practices  
20 around some of these newer technologies can help pave an  
21 early way for them to be commercially available by taking  
22 full advantage of some of their other characteristics.

23           So with that I'll turn it back to Jonah who will  
24 talk about the other topic we're highlighting in the  
25 strategic objective.

1 MR. STEINBUCK: Thanks, Erik.

2 If you could just progress to the next slide,  
3 thank you.

4 So this topic focuses on enabling and  
5 demonstrating the benefits of using EVs as distributed  
6 energy resources. So we expect in the range of 8 million  
7 EVs in California by 2030. And those can serve as  
8 important assets for providing power to the grid or to a  
9 site as the Commissioners were highlighting in an earlier  
10 discussion on the Clean Transportation Program.

11 So the technology advancements here may include  
12 Developing grid-interactive inverters in bi-directional  
13 charging equipment that support power flows from EV  
14 batteries to the grid or a site when the vehicles aren't in  
15 use or when the charging need is flexible.

16 Second, advancing software for integrating EV  
17 charging with site or building management systems and  
18 demonstrating high-accuracy, low-cost sub-meters for EV  
19 chargers. This could facilitate tailored rates for EVs -  
20 as appropriate and help avoid costly separate service  
21 requirements.

22 The goals here are lowering costs at the site,  
23 enabling EV operator benefits, and delivering ratepayer  
24 savings through more efficient use of the existing  
25 electricity infrastructure.



1           And I'll pass next to my colleague, Virginia Lew,  
2 for the next section.

3           MS. LEW: Hello. This strategic objective  
4 focuses on technology advancements to improve the value  
5 proposition of energy efficiency and electrification  
6 technologies in the industrial and building sectors.

7           California's industrial sector accounts for over  
8 20 percent of the state's greenhouse gas emissions. And a  
9 large portion is due to high temperature process heating,  
10 which accounts for 85 percent natural gas use in industry.

11           Research topics focus on decarbonizing industrial  
12 high temperature process heating and separation processes.

13           One topic advances energy efficiency in the  
14 cement industry, an industry that produces over 8 million  
15 metric tons of CO2 annually in California.

16           The building sector accounts for 25 percent of  
17 the greenhouse gas emissions.

18           To meet the state's decarbonization goals  
19 replacement of fossil fuel appliances with high efficiency  
20 electric systems will be needed.

21           Research topics here focus on reducing barriers  
22 to decarbonization such as through advancing building end-  
23 use electrification, increasing energy efficiency of  
24 existing buildings and end uses, and enabling electric load  
25 flexibility. Next slide, please.

1           This slide highlights one of our building  
2 efficiency research topics focused on high efficiency heat  
3 pumps that use low global warming potential refrigerants.

4           Heat pumps will continue to use high global  
5 warming potential refrigerants. And these refrigerants are  
6 more potent greenhouse gases and can be hundreds to  
7 thousands of times more damaging than carbon dioxide.  
8 Recent analysis by the Energy Commission's Efficiency  
9 Division indicates that use of these high global warming  
10 potential refrigerants can reduce the amount of greenhouse  
11 gas emissions' benefit from heat pumps by up to one-third.

12           This research topic focuses on designing, testing  
13 and demonstrating high efficiency 120 volt and 240-volt  
14 heat pump water heaters what and HVAC heat pumps that use  
15 low global warming potential refrigerants and reduce  
16 refrigerant leakage during the equipment's life and also at  
17 the end of life. These units must be comparable or better  
18 than existing electric heat pumps with respect to  
19 efficiency, life, maintenance and capital costs.

20           The 120-volt heat pump water heaters and HVAC  
21 heat pumps are aimed to avoid electric panel upgrade costs.  
22 So the residential portion of this objective is targeted  
23 for installations in under-resourced communities. Next  
24 slide, please.

25           I'd like to pass it now to my colleague Erik

1 Stokes who will discuss the next strategic objective

2 MR. STOKES: Yeah, thanks, Virginia.

3 So our next strategic objective we'll continue  
4 our efforts under EPIC's user support clean energy  
5 entrepreneurship across California.

6 Since around 2016-2017 under EPIC we've kind of  
7 stood up several programs, specifically geared towards  
8 startup companies and helping kind of pull these early-  
9 stage companies, these early stage technologies through the  
10 initial stages of the innovation pipeline. These efforts  
11 have helped support over 200 startup companies who have  
12 gone on to raise over approximately \$2 billion in private  
13 sector investment after their initial support through the  
14 entrepreneurial ecosystem.

15 Looking ahead to EPIC 4 we have kind of three  
16 goals we want to accomplish with this strategic objective.  
17 One, we want to continue these programs that have been so  
18 important to startup companies, especially helping them  
19 move through the earlier stages of the innovation pipeline.

20 Second, as we kind of pull a lot of these startup  
21 companies through the earlier stages we are seeing gaps in  
22 the later stages that they are running into in their  
23 pathway towards commercialization. We want to help address  
24 some of those gaps in the later stages.

25 And finally, we want to expand and broaden some

1 of the entrepreneurial talent pool and start to kind of lay  
2 in some of your non-traditional, potential clean energy  
3 entrepreneurs into kind of our pipeline. And really help  
4 them scale their innovations and their ideas towards  
5 commercialization. Next slide, please.

6           So the topic I am going to talk about under this  
7 strategic objective would be a new entrant into our  
8 entrepreneurial ecosystem. And it's really aimed at  
9 helping bring in new entrepreneurial talent into  
10 California's clean energy startup sector.

11           In kind of our conversations with Greenlining  
12 over the years through the CalSEED program they kind of  
13 talk about their equity-in/equity-out framework. And then  
14 most of our efforts on equity and then kind of support the  
15 equity-out, this one is really aimed at the equity-in. And  
16 we see a really big opportunity. There is a tremendous  
17 amount of intellectual property that's being developed that  
18 research institutions such as the National Lab's University  
19 of California system. But it hasn't left the labs.

20           And on the flip side we believe there's kind of  
21 this untapped entrepreneurial talent pool that if we can  
22 kind of match the two, we think we can go to really help  
23 accelerate a lot of these technologies towards the  
24 marketplace. So this topic would establish kind of a new  
25 type of incubator program, with the specific goals of

1 really trying to recruit diverse entrepreneurial talent and  
2 help match that talent with a lot of the intellectual  
3 property being developed at the research institution.

4           And the big focus of this new incubator program  
5 would be to provide a lot of that support services a lot of  
6 these new potential entrepreneurial energy entrepreneurs  
7 and really help try to lower some of the entry barriers  
8 into energy entrepreneurship. One, by helping them finding  
9 the right type of intellectual property at the research  
10 institution. Helping them negotiate some of the licensing  
11 deals that you need to start your clean energy venture.  
12 And then providing other types of support to help get them  
13 started, such as helping them find access to the funding  
14 and loans, helping them finding access to mentors, and  
15 other types of support services that can help them under  
16 initial guaranteed scale of their technology and their  
17 potential business.

18           So with that I'll turn it over to Jonah who will  
19 talk about the last strategic objective in the plan.

20           MR. STEINBUCK: Thanks, Erik.

21           All right, this last strategic objective contains  
22 R&D concepts supporting public health and equity, climate  
23 resilience, and environmental sustainability as we make  
24 progress towards our decarbonization goals.

25           For this objective, we are proposing research to

1 inform technological solutions for issues such as the  
2 disproportionate impact on under-resourced communities from  
3 climate-related stressors, like extreme heat and the  
4 impacts of climate change on the grid for example, from  
5 heat waves, drought, and wildfire. Next slide, please.

6           So this is one specific R&D topic. The aim of  
7 this topic is to support a climate-resilient transition to  
8 a zero-carbon electricity system. So research will focus  
9 on evaluating climate impacts on electricity demand,  
10 supply, and distribution to inform electricity system  
11 planning and operations. For example analysis could  
12 examine the effects of future extreme heat on air  
13 conditioning demand, and the impacts of drought on the  
14 availability of hydropower.

15           Additionally, this research will quantify the  
16 benefits of energy technology portfolios and strategies to  
17 address climate change impacts. So this could be at the  
18 grid-level or community-level and could examine  
19 technologies like distributed generation, microgrids,  
20 storage, as well as operational strategies like demand  
21 response and demand flexibility. And this research will  
22 then inform resilience and reliability investments. Next  
23 slide, please.

24           So in conclusion I would like to recognize the  
25 whole R&D Division team for their very significant effort

1 to develop the initiatives in this investment plan. I'd  
2 also like to recognize in particular Misa Werner, who  
3 served in a lead role and whose contributions were just  
4 critical to get us to this point. And I would like to  
5 recognize Laurie ten Hope for her leadership and guidance  
6 throughout the investment plan process.

7 And with that we ask for you to adopt the EPIC 4  
8 Investment Plan and our staff determination that this  
9 action is exempt from CEQA. And we request that you ask  
10 the Executive Director to finalize the plan and submit it  
11 to the CPUC by December 1st for their consideration.

12 Thank you. That concludes our presentation, and  
13 we are available if you have any questions

14 CHAIR HOCHSCHILD: Great work, Jonah and team,  
15 thank you so much.

16 Do we have public comments on Item 6?

17 MS. GALLARDO: This is Noemi, the Public Advisor.  
18 If anyone would like to make a public comment please raise  
19 your hand using the icon on Zoom. If you are on by phone  
20 press \*9. I do see a hand raised, so a reminder to please  
21 spell your name and indicate your affiliation, if any. The  
22 first speaker is Jim Hawley. Jim, your line is open and  
23 you may begin.

24 MR. HAWLEY: Thank you, Noemi. Jim Hawley, H-a-  
25 w-l-e-y. Lawrence Berkeley National Laboratory is the

1 affiliation. I just want to say good afternoon  
2 Commissioners and staff. And as you know Berkeley Lab is a  
3 multipurpose national laboratory managed by UC, funded by  
4 the U.S. Department of Energy, to advance public science  
5 and solutions to some of our most pressing challenges in  
6 energy.

7           And I'll say Berkeley Lab and our 4,000  
8 researchers and staff deeply appreciate the opportunity to  
9 support the work of the Commission. And I want to start  
10 with a public thank you, particularly to staff who created  
11 an EPIC renewal process that clearly identified your policy  
12 priorities to the research community and listened to our  
13 feedback that was inclusive. And that ultimately, I think,  
14 creates a strong roadmap for future investment.

15           Through EPIC, California has and continues to  
16 lead the development of clean energy technologies. But  
17 given the enormity of the problems we face we will  
18 unquestionably need new and improved technologies to meet  
19 the state's climate goals. Berkeley Lab agrees that the  
20 draft plans objectives that were just described are  
21 necessary. Importantly, we're excited that the plan not  
22 only identifies key technology development areas, but also  
23 supports the entrepreneurial ecosystem that Erik mentioned  
24 is needed to bring new markets' ideas to market. And it  
25 directs importance to support to addressing specific



1 problems of consumers who need affordable and accessible  
2 solutions.

3           While the draft plan has the focus needed to  
4 support the achievement of goals and publications like the  
5 SB 100 report, we also appreciate its flexibility to  
6 capitalize on new opportunities. For example, the Federal  
7 Infrastructure Bill that the President will sign today  
8 includes over \$20 billion to accelerate development of new  
9 low- and zero-carbon energy technologies, the EPIC  
10 program's inclusion of a federal cost-share program will be  
11 extremely important to ensuring that California can compete  
12 successfully for federal funding.

13           In summary, Berkeley Lab appreciates the  
14 Commission's work here to develop a strong roadmap for the  
15 future. Thank you for your leadership.

16           MS. GALLARDO: Thank you.

17           Let's see, I do not see any other hands, Chair,  
18 for public comment.

19           CHAIR HOCHSCHILD: Okay. Thank you, Noemi.

20           Well listen, I sometimes feel like a broken  
21 record, but I'm just going to say again this is phenomenal.  
22 And the work of the whole EPIC team and the R&D team, just  
23 tremendous. I mean, just looking at this list I just feel  
24 each and every item of the topics that were lined up  
25 address all the key challenges. It feels comprehensive,

1 it feels detailed, it feels on point and timely. Just  
2 incredibly proud of the team, and I want to first of all  
3 thank Jonah and everyone else who worked so hard to prepare  
4 this. So I'm thrilled to support this.

5 Let me just open it up to any others, maybe  
6 starting with Commissioner McAllister. Any comments on  
7 this?

8 COMMISSIONER MCALLISTER: Yeah, so I just want to  
9 thank you Jonah and the whole team, Virginia and Erik  
10 Stokes, Mike Petouhoff and Misa as well, and just the whole  
11 team. I mean this was a massive team effort, including  
12 with our colleagues across at the PUC.

13 And these ideas have gotten -- I think were put  
14 together in a really compelling way. Many, many research  
15 ideas that are all critical in one way or another for our  
16 state. And then getting them vetted both here and  
17 through the PUC's process, I think, really gives them a  
18 legitimacy that is unrivaled in terms of research agenda.

19 And so I really want to thank you and  
20 congratulate you for sort of your first big deliverable as  
21 the deputy of the Division. And of course Laurie's  
22 fingerprints are on it in a big way and we owe a lot of  
23 gratitude to her for this and many other things. But I  
24 just want to give kudos.

25 And in particular, the pivot that we're making,

1 it's many things that I oversee and all of us oversee in  
2 our own ways. And it's shifting attention or really  
3 expanding our attention beyond traditional considerations  
4 with reliability and really focusing on the distribution  
5 grid, a lot of the action is down at the distribution grid.

6 In addition to that, it's really a top to bottom,  
7 reliability is a top to bottom enterprise. And so the  
8 focus on making sure DERs get incorporated well and can  
9 contribute to reliability from sort of bottom up and, as  
10 well, as our buildings in the same way and our vehicles in  
11 the same way.

12 And kind of building the ecosystems necessary to  
13 optimize our path forward and make sure we have reliability  
14 and just take care of those electrons, because that's what  
15 it's about.

16 Anyway, so I wanted to just say again  
17 congratulations. And the focus on equity, I think, is it's  
18 highlighted at the end there but I think it's kind of woven  
19 throughout. And that's what we're trying to do across the  
20 whole Commission. So I want to just appreciate that aspect  
21 of this as well, so much care and thought and knowledge has  
22 really gone into this portfolio. So really looking forward  
23 to working with you all as a team and the Chair going  
24 forward. And really delivering benefits for all  
25 Californians.

1 CHAIR HOCHSCHILD: Thank you, Commissioner.

2 Other Commissioners wishing to chime in on this,  
3 Vice Chair Gunda, yes please.

4 VICE CHAIR GUNDA: Yeah Chair, thank you. And  
5 Commissioner McAllister thank you for your words as well.  
6 I just want to extend my thanks to Jonah, Mike, Erik and  
7 Misa and Virginia, it's just a great, great kind of work.

8 I think R&D as a Division has a very unique  
9 opportunity to look at the enterprise-wide work we do. And  
10 has an ability and opportunity to really integrate all the  
11 work and needs, not just at CEC, but then working with CPUC  
12 and then bringing their perspectives. For me, I think a  
13 successful R&D Division at the CEC is kind of the  
14 cornerstone for kind of how we're going to feature climate  
15 goals. So just really grateful for all of your work and  
16 thoughtfulness and getting this moving. And just hearing  
17 the comments from Jim Hawley and data appreciation for a  
18 robust process, and just very, very nice to hear.

19 And as the Chair kind of mentioned, to me, I  
20 think it's extremely timely. All the topics that you  
21 raised are things that we are hearing every day, so it all  
22 feels like we're doing the right things. And the focus on  
23 equity, the focus on DERs, broadly resiliency and  
24 reliability just kudos to the team for bringing all those  
25 pieces into a cohesive framework. So more than anything, I

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1 just wish you all the best. And hopefully we can put out  
2 some stations that are adaptable. As we go forward over  
3 the next five years, it's going to be an incredibly  
4 important transitional period for the state.

5 Look forward to working with all of you. I mean,  
6 there's so many intersections with SB 100, the gas  
7 transition, you all talked about the dispatchable and firm  
8 zero-carbon resources, which are all important pieces. So  
9 just looking forward to working with you all.

10 And just in closing thanks to Laurie. I think  
11 it's a good parting gift from Laurie to all of us just kind  
12 of completing this and seeing this through, so yeah good  
13 luck to the team. I'm looking forward to working with all  
14 of you. And yeah, congratulations.

15 CHAIR HOCHSCHILD: Thank you.

16 Commissioner Douglas.

17 COMMISSIONER DOUGLAS: I just wanted to  
18 congratulate the team as well. The amount of work and the  
19 depth and the breadth of the strategic objectives and the  
20 ground that's covered here is impressive. Of course, I'm  
21 very pleased to see offshore wind and a lot of the  
22 environmental topics and work as well that support our  
23 renewable energy work as well as so much more. And I want  
24 to thank the team for their hard work on this and I look  
25 forward to seeing this rollout and implementation.

1 CHAIR HOCHSCHILD: Commissioner Monahan?

2 COMMISSIONER MONAHAN: I'll be very fast, because  
3 there's been so much said already, but I just think the two  
4 investment plans that we are -- it sounds like moving  
5 forward with approving today like together they really --  
6 EPIC focusing on R&D, the clean transportation focusing on  
7 deployment. And how the two are working together, because  
8 there are a lot of intersection points, so I just really  
9 appreciate the depth of work that went into this EPIC  
10 investment plan.

11 We are going to miss Laurie, and I'm glad that  
12 she does have this parting gift. But Jonah, nice job  
13 pulling this together. And I really look forward to  
14 implementing the plan, together with the Clean  
15 Transportation Program's investment plan.

16 CHAIR HOCHSCHILD: Well, thank you.

17 All right, with that I would entertain a motion  
18 on this item. Commissioner McAllister, would you be  
19 willing to move Item 6?

20 COMMISSIONER MCALLISTER: Absolutely, I move Item  
21 6.

22 CHAIR HOCHSCHILD: Okay, Commissioner Monahan  
23 would you be willing to second?

24 COMMISSIONER MONAHAN: I second.

25 CHAIR HOCHSCHILD: All right, all in favor say

1 aye.

2 Commissioner McAllister?

3 COMMISSIONER MCALLISTER: Aye.

4 CHAIR HOCHSCHILD: Commissioner Monahan?

5 COMMISSIONER MONAHAN: Aye.

6 CHAIR HOCHSCHILD: Vice Chair Gunda?

7 VICE CHAIR GUNDA: Aye.

8 CHAIR HOCHSCHILD: Commissioner Douglas?

9 COMMISSIONER DOUGLAS: Aye.

10 CHAIR HOCHSCHILD: And I vote aye as well. That  
11 item passes unanimously.

12 Let's turn now to Item 7, Blueprints for a Medium  
13 and Heavy-Duty Zero-Emission Vehicle Infrastructure.

14 MS. REID: Good morning, Chair and Commissioners.

15 I'm name is Kate Reid, Air Resources Engineer with the  
16 Fuels and Transportation Division's Freight and Transit  
17 Unit. We're seeking approval today for two agreements  
18 resulting from the "Blueprints for Medium and Heavy-Duty  
19 Zero-Emission Vehicle Infrastructure Solicitation".

20 This solicitation was released in July 2020. \$3  
21 million was available to fund planning "blueprints" to  
22 identify actions and milestones needed for implementation  
23 of medium- and heavy-duty zero-emission vehicles and the  
24 related electric charging and/or hydrogen-refueling  
25 infrastructure.

1           A minimum of \$1 million of total funds was set-  
2   aside for public entities. Subsequently, the Energy  
3   Commission increased the total funding to approximately \$8  
4   million, which allowed all applicants with a passing score  
5   to be funded.

6           Under this solicitation, 40 projects were  
7   proposed for award. The majority of those projects were  
8   presented and awarded at previous business meetings. Today  
9   I will present two more, and the remaining projects will be  
10  presented at later business meetings. Next Slide, please.

11           The proposed projects will create roadmaps for  
12  large-scale infrastructure projects, plan for resiliency,  
13  and provide best practices and key lessons learned for  
14  future replicability at other private and public agencies.

15           These blueprints will also help other agencies  
16  and fleets understand, which technologies may work best for  
17  their applications, routes, and driving environments, which  
18  will ultimately accelerate meeting California's goal of  
19  transitioning medium- and heavy-duty trucks and buses to  
20  zero-emission by 2045.

21           Finally, the majority of these projects, once  
22  implemented, will benefit low-income communities,  
23  disadvantaged communities, and/or tribal lands. Next  
24  slide, please.

25           Forty agreements were selected for approval and



1 award. The breakdown of vehicle sector is shown on this  
2 slide. Most of these projects will address fleets, goods  
3 movement, and transit. The remainder will seek to address  
4 smaller sectors such as school buses, port equipment, and  
5 the "other" category shown here, which is comprised of  
6 airport ground support, ferries, and refuse collection.  
7 Next slide, please.

8           The first proposed agreement is with Central  
9 Coast Community Energy. The Central Coast Medium-Duty and  
10 Heavy-Duty Zero Emission Blueprint is sponsored by Central  
11 Coast Community Energy or 3CE, which is the Community  
12 Choice Energy provider for Santa Barbara, Monterey, Santa  
13 Cruz, San Benito, and San Luis Obispo Counties. 3CE was  
14 established by local communities to source carbon-free  
15 electricity. Sponsorship by 3CE enables this project to  
16 address the needs of all communities in the five-county  
17 region, to integrate with existing electrification  
18 initiatives of 3CE, and to comprehensively address vehicle-  
19 grid integration issues from a utility perspective.

20           The key goal of this Blueprint is to accelerate  
21 the deployment of ZEVs and related infrastructure to help  
22 decarbonize medium- and heavy-duty vehicle usage throughout  
23 the central coast region. Next slide, please.

24           The next proposed agreement is with the MHX, LLC.  
25 As a multi-modal epicenter of heavy goods movement, the

1 Ports, the I-710 Heavy-Duty Corridor, and associated  
2 intermodal transfer facilities will require an integrated  
3 zero-emission vehicle blueprint planning and engagement  
4 process to facilitate an accelerated, forward-thinking, and  
5 cost-effective ZEV transition.

6           MHX links directly with each of these key  
7 intermodal system operators and is a uniquely positioned  
8 hub entity to identify solutions for MD/HD zero-emission  
9 vehicle recharging or refueling across these key nodes of  
10 California's intermodal logistics ecosystem. MHX owns and  
11 operates seven of its own depots and transshipment  
12 facilities in Compton, Fontana, Carson, Vernon, Helendale,  
13 Rancho Cucamonga, and Stockton, as denoted in the graphic  
14 on this slide. All of these facilities are served by rail,  
15 all offer multi-commodity trans load capabilities, and five  
16 include substantial indoor storage facilities.

17           The proposed project will enable MHX to fully  
18 equip its fleet with heavy-duty ZEVs and resilient charging  
19 or refueling infrastructure and articulate a holistic and  
20 futuristic view of freight planning - with a special focus  
21 on heavy goods movement at intermodal terminals in  
22 California's leading ports and railyards. Next slide,  
23 please.

24           Staff recommends approval of these two grant  
25 awards and adoption of staff's determination that the

1 projects are exempt from CEQA. That concludes my  
2 presentation. Thank you all for your time and consideration  
3 of these items.

4 CHAIR HOCHSCHILD: Thank you, do we have public  
5 comment on Item 7?

6 MS. GALLARDO: This is Noemi, the Public Advisor.  
7 Attendees if you would like to make a public comment please  
8 use the raise-hand feature, if you are on by phone press  
9 \*9.

10 Chair, I do not see any hands raised for public  
11 comment.

12 CHAIR HOCHSCHILD: Okay. Let's turn to  
13 Commissioner discussion, starting with Commissioner  
14 Monahan.

15 COMMISSIONER MONAHAN: Well, you've seen these  
16 blueprints before and you'll see a few of them in the  
17 future. And as I said before these types of blueprints are  
18 just really critical for being able to plan out all the  
19 different actions that need to occur in order to zero out  
20 emissions, especially from the goods movement sector. So I  
21 think these are really valuable and they're an important  
22 sort of base level before we start the investments in the  
23 actual build-out of the infrastructure.

24 CHAIR HOCHSCHILD: Terrific.

25 Any other Commissioners wishing to make a comment

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1 on this? Seeing none, I'm in full support and would  
2 welcome a motion for Item 7. Commissioner Monahan, would  
3 you be willing to do that?

4 COMMISSIONER MONAHAN: I move to approve Item 7.

5 CHAIR HOCHSCHILD: Okay, Vice Chair Gunda, would  
6 you be willing to second?

7 VICE CHAIR GUNDA: I second Item 7.

8 CHAIR HOCHSCHILD: All in favor say aye.  
9 Commissioner Monahan?

10 COMMISSIONER MONAHAN: Aye.

11 CHAIR HOCHSCHILD: Vice Chair Gunda?

12 VICE CHAIR GUNDA: Aye.

13 CHAIR HOCHSCHILD: Commissioner McAllister?

14 COMMISSIONER MCALLISTER: Aye.

15 CHAIR HOCHSCHILD: Commissioner Douglas?

16 COMMISSIONER DOUGLAS: Aye.

17 CHAIR HOCHSCHILD: And I vote aye as well. That  
18 item passes unanimously.

19 Let's turn now to Item 8, BESTFIT Innovative  
20 Charging Solutions.

21 MR. CORRIGAN: All right, do we have the  
22 slideshow up and ready to go? Okay, cool.

23 All right, good morning, Commissioners. I'm Kyle  
24 Corrigan and I am an Associate Energy Specialist in the  
25 Fuels and Transportation Division and I work in the Light-

1 Duty EV Infrastructure and Analysis office. Today, I'll be  
2 presenting several proposed agreements from our BESTFIT  
3 Innovative Charging Solutions solicitation. Next slide.

4 This solicitation focused on charging solutions  
5 for electric vehicles, and the headline for this item is  
6 "Innovation." California is so diverse that there is no  
7 silver bullet, one-size-fits-all charging solution for EVs.  
8 California's aggressive transportation electrification  
9 goals will encompass a diverse selection of EVs and use  
10 cases, such as innovative fast-charging models, modernized  
11 automatic charging systems, and the capability to  
12 manufacture new tools for these developing technologies.  
13 These will all require tailored solutions.

14 The BESTFIT Innovative Charging Solutions  
15 solicitation sought projects that would develop and  
16 accelerate the commercialization of truly innovative  
17 technologies and business models to add to the state's  
18 portfolio of charging solutions. The proposed agreements I  
19 will present contain numerous benefits, including boosting  
20 driver confidence in transitioning to an EV, lowering the  
21 cost of charging and installation, minimizing grid impacts,  
22 and improving equitable access to charging. Next slide.

23 Funding for this solicitation was split between  
24 light-duty projects and medium- and heavy-duty projects.  
25 Today I will only be presenting on four proposed light-duty

1 projects and one proposed medium- and heavy-duty project.  
2 Next slide.

3 Our first proposed agreement is with Eneridge,  
4 who will install six Ultrafast chargers with integrated  
5 battery packs. Eneridge will use Free Wire's Boost Charger  
6 DC fast chargers. These chargers utilize integrated  
7 battery packs to charge from existing infrastructure and  
8 can replace two to four 7.2-kilowatt Level 2 chargers to  
9 provide a much higher charge rate via the 120-kilowatt DC  
10 fast charger. The charge rate provided by the DC fast  
11 charger is over 10x that of a single Level 2. The  
12 integrated battery packs make it possible to utilize the  
13 same infrastructure as the L2 chargers. This provides a  
14 solution to costly infrastructure modifications to  
15 accommodate high-speed DC fast chargers. Eneridge will  
16 monitor the status of the six chargers and record  
17 utilization data. Next slide.

18 Our next proposed agreement is with ConnectMyEV,  
19 who will develop and deploy an automatic charging solution.  
20 Some key project benefits are streamlined charging through  
21 automation; high throughput, compact charging; and space  
22 efficiency for fleets and apartments in dense cities.

23 The system will utilize charging stalls to queue  
24 EVs for charging. It will accommodate up to three EVs at  
25 one time allowing for a simple automatic system. This

1 would maximize charging output by automatically rotating  
2 EVs as they are charged. This will help prevent wasted  
3 time when an EV is fully charged at a charging station,  
4 which is especially helpful for high-demand charging  
5 situations. Next slide.

6 Our next proposed agreement is with Andromeda  
7 Power, who will develop and manufacture a new adapter that  
8 will provide networks demand response capabilities in non-  
9 network chargers. These adapters provide a new solution to  
10 integrating non-network chargers. And this can be a lower-  
11 cost solution to managing peak demand when several EVs are  
12 simultaneously charging. The simplicity of the adapter  
13 would provide a cheaper option for networking chargers  
14 without needing to fully replace the non-networked devices.  
15 Next slide.

16 Our next agreement is with ChargePoint. This  
17 project solved a key issue for space-constrained light-duty  
18 EV fleet operators by providing a charging solution that is  
19 flexible and can be installed into a variety of parking  
20 configurations and depot spaces. This flexibility can  
21 further remove barriers to fleet operators adopting EVs by  
22 making it possible to utilize a variety of charging models.  
23 This system can easily accommodate different vehicle types,  
24 such as vehicles with different port locations depending on  
25 the model. And this can also help with many different

1 parking or queuing configurations. Next slide.

2           And then our final agreement and the only  
3 medium/heavy duty agreement is with Electriphi,  
4 Incorporated. The proposed agreement will demonstrate the  
5 potential for accelerated commercial deployment of advanced  
6 utility and grid-integrated smart-charging management in  
7 the context of a large and diverse electric school bus  
8 fleet.

9           The primary focus will be on minimizing  
10 operating, purchase, and installation costs with a  
11 secondary focus on demonstrating advancements in charging  
12 interface including demand response and load management  
13 programs. This project will be based in Sacramento,  
14 specifically the Twin Rivers Unified School District, and  
15 demonstrate Electriphi's advanced Smart Charging  
16 Management, SCM, system. It will demonstrate related  
17 utility grid service program innovations developed by SMUD.  
18 Next slide.

19           The market potential is great for these five  
20 agreements. Each of these agreements has its own niche  
21 use-case scenario that has potential to upgrade the modern  
22 EV infrastructure marketplace. Innovative ideas such as  
23 using existing infrastructure to accommodate newer  
24 technologies are always welcome as cost-effective solutions  
25 in a rapidly changing marketplace. These new ideas



1 utilizing automation each provide their own unique value to  
2 the EV infrastructure marketplace of today.

3           The benefits of innovation and automation are  
4 clear, whether it's a robot pulling your car into a  
5 charging stall or a program running to manage grid strain  
6 from several simultaneously charging fleet vehicles. It  
7 goes without saying that each of these new ideas provides  
8 its own unique value to the EV infrastructure marketplace  
9 of today. Next slide.

10           Staff recommends approving the proposed  
11 agreements with Eneridge, ConnectMyEV, Andromeda Power,  
12 ChargePoint, and Electriphi, Inc. In addition, staff  
13 recommend adopting staff's determination that this action  
14 is exempt from CEQA.

15           This concludes my presentation, thank you. We  
16 have a few representatives who are available for public  
17 comment. Thank you.

18           CHAIR HOCHSCHILD: Thank you.

19           Do we have public comment on this item Noemi?

20           MS. GALLARDO: This is Noemi Gallardo, the Public  
21 Advisor. Let me remind folks if anyone would like to make  
22 a public comment please use the raise-hand feature to  
23 indicate you would like to do so. If you are on by phone  
24 please press \*9.

25           Chair, I'm not seeing any hands raised. Oh

1 actually yes, I just saw one. All right, Damon Kim, a  
2 reminder to please spell your name, indicate your  
3 affiliation if any. Your line is open and you may begin.

4 MR. KIM: Good afternoon, I'm Damon Kim from  
5 Eneridge. It is my pleasure to join the Business Meeting  
6 and give a short appreciation to California Energy  
7 Commission as one of the orders of BESTFIT grant program.

8 First of all, I would like to thank CEC for  
9 giving us the opportunity to demonstrate and deploy our  
10 charging stations with 120-kW Ultrafast charger with  
11 integrated battery pack developed by FreeWire Technologies.  
12 As a charging-station service provider and small and  
13 minority-owned business, this grant will be very helpful to  
14 successfully finish our project in Southern and Northern  
15 California and to help us to support California's EV  
16 adoption goals. Thank you.

17 MS. GALLARDO: Thank you.

18 All right, that is the only hand I saw raised,  
19 Chair, no more hands.

20 CHAIR HOCHSCHILD: Okay. Thank you.

21 Let's turn to Commissioner discussion.  
22 Commissioner Monahan.

23 COMMISSIONER MONAHAN: Well, I mentioned before  
24 there's this intersection point between the Clean  
25 Transportation Program and the R&D from EPIC, and this is

1 one of those places where there's a little bit of overlap.  
2 I would say these are forward-looking. We realize that we  
3 don't have all the charge management strategies that we  
4 need for every use-case and so to me, these are really an  
5 exciting -- I'm going to keep asking the team for more of  
6 these types of investments, because we really need to make  
7 sure that we are future-proofing our investments in  
8 charging infrastructure.

9           And I would say there's two major themes from the  
10 series of investments that Kyle has outlined. One is for  
11 innovation on the charge management, so vehicle integration  
12 side. The other is innovation on the actual architecture  
13 of the charging infrastructure. And so this package of  
14 investments does both.

15           And I'm excited to give my wholehearted support  
16 for them. I think hopefully we'll see more of those in the  
17 future as well. And we'll have some lessons learned from  
18 these investments.

19           CHAIR HOCHSCHILD: Thank you.

20           Unless there's other Commissioner comments I'd  
21 welcome a motion from you, Commissioner Monahan, on Item 8.

22           COMMISSIONER MONAHAN: I move to approve Item 8.

23           CHAIR HOCHSCHILD: All right. Commissioner  
24 Douglas, would you be willing to second that?

25           COMMISSIONER DOUGLAS: I second Item 8.

1 CHAIR HOCHSCHILD: All in favor say aye.

2 Commissioner Monahan?

3 COMMISSIONER MONAHAN: Aye.

4 CHAIR HOCHSCHILD: Commissioner Douglas?

5 COMMISSIONER DOUGLAS: Aye.

6 CHAIR HOCHSCHILD: Commissioner McAllister?

7 COMMISSIONER MCALLISTER: Aye.

8 CHAIR HOCHSCHILD: Vice Chair Gunda?

9 VICE CHAIR GUNDA: Aye.

10 CHAIR HOCHSCHILD: And I vote aye as well. That  
11 item passes unanimously.

12 Let's turn now to Item 9, Approval of the  
13 Minutes. Any public comments on Item 9?

14 COMMISSIONER MCALLISTER: I'm going to abstain.  
15 Just FYI, I'm going to abstain since I missed that meeting.

16 CHAIR HOCHSCHILD: Okay, thank you. Any public  
17 comments on Item 9?

18 MS. GALLARDO: Attendees, this Noemi Gallardo,  
19 the Public Advisor. If you would like to make a public  
20 comment on this item, please raise your hand using the icon  
21 on Zoom. If you are on by phone please press \*9 to  
22 indicate you would like to make a comment.

23 Chair, I do not see any hands raised on this  
24 item.

25 CHAIR HOCHSCHILD: Okay, we'll have Commissioner

1 McAllister abstain. Commissioner Douglas, would you be  
2 willing to move Item 9?

3 COMMISSIONER DOUGLAS: I move Item 9.

4 CHAIR HOCHSCHILD: And Commissioner Monahan would  
5 you kindly second?

6 COMMISSIONER MONAHAN: I think it's Item 8, but  
7 yes I second Item 8.

8 CHAIR HOCHSCHILD: No, we're on Item 9. This is  
9 Approval of the Minutes.

10 COMMISSIONER MONAHAN: Oh sorry, I must have  
11 (indiscernible) --

12 CHAIR HOCHSCHILD: No, it's Item 9.

13 COMMISSIONER MONAHAN: Oh yes, I second.

14 CHAIR HOCHSCHILD: All in favor say aye.  
15 Commissioner Douglas?

16 COMMISSIONER DOUGLAS: Aye.

17 CHAIR HOCHSCHILD: Commissioner Monahan?

18 COMMISSIONER MONAHAN: Aye.

19 CHAIR HOCHSCHILD: Vice Chair Gunda?

20 VICE CHAIR GUNDA: Aye.

21 CHAIR HOCHSCHILD: And I vote aye as well, with  
22 Commissioner McAllister abstaining. That item passes 4-0.

23 Let's turn now to Item 10, Lead Commissioner  
24 Presiding Member Reports. Why don't we begin with how  
25 about Vice Chair Gunda to start us off?

1                   VICE CHAIR GUNDA: And thank you, Chair. It  
2 looks like both Commissioner Monahan and I had an affinity  
3 to a second Item 8 that we both voted on. (Laughs)

4                   But anyways, since the last business meeting  
5 there's a few things that happened that I wanted to just  
6 share with all of you and the broader stakeholders that are  
7 in attendance today. So we kind of went through a few  
8 different analyses that were kind of important for this  
9 winter.

10                  So staff has completed some preliminary work to  
11 help inform winter reliability as we're going into the  
12 winter on the natural gas side, given global gas prices  
13 have been a little higher. And so at CEC, our gas team and  
14 the CPUC gas team worked closely together, to kind of have  
15 an informed understanding of how we are looking this  
16 winter.

17                  Just for all of you the Northern California  
18 system looks pretty good. And there is a little bit of an  
19 elevated risk of reliability, more so on the prices in the  
20 south zone of SoCal system. So still nothing to really  
21 worry at this point but staff are closely monitoring that,  
22 keeping an eye to keep us all informed. So that's on the  
23 assessment side just going into the winter on the gas side.

24                  I'm really glad that we got through the summer  
25 this year, so I'm betting we can now put behind the

1 electricity reliability for the summer now that we're in  
2 mid-November. So we're looking good. But there are a few  
3 things that happened since we met last time.

4 As we move into the 2022 there has been a  
5 decision on Redondo Beach at the Water Board, so there's  
6 going to be an extension of those 800 megawatts going into  
7 next summer. So our staff are looking into updating our  
8 stack analysis for 2022 with Redondo Beach with some of the  
9 new resources that are coming online. And also I know CPUC  
10 has put out a proposed petition on the emergency  
11 procurement for next year. So once we have some numbers  
12 and all that staff are going to look into updating the  
13 stack and then bringing it back to all of us to get a sense  
14 of summer 2022 as we go into that.

15 I also had a few opportunities to speak and talk  
16 about our clean energy journey. There's a number of cool  
17 meetings I was a part of, a couple of things that I wanted  
18 to note. Staff put together a peer-to-peer exchange on the  
19 natural gas discussion more broadly, the natural gas  
20 transition nationwide. And it has been an interesting  
21 discussion just to think about the similar issues that so  
22 many states are grappling with on the gas transition and  
23 different states thinking about hydrogen, RNG, CCS  
24 (phonetic), but also looking at ways to make the transition  
25 equitable by thinking about accelerated depreciation of

1 such. So I mean Colorado is doing some good work, very  
2 interesting work, Minnesota is looking at some cool ideas.  
3 So it was great to kind of be a part of that, part of the  
4 discussion.

5 I also had a chance to speak at Lesley  
6 McAllister's symposium on energy and law last Friday. And  
7 I just wanted to note that specifically, because it was  
8 just an honor to be there to support the legacy of Lesley  
9 McAllister, as we all know, the late wife of Commissioner  
10 McAllister. And one of the things I shared there, and I  
11 just wanted to share here, is that so much of this  
12 transition that we are in calls for a moment of coming  
13 together with integrity. And coming together as closely as  
14 we can to develop a consensus and move forward together  
15 with humility and an appreciation and a love for future. I

16 And I think Commissioner McAllister does it so  
17 beautifully. And I am just so glad to highlight that when  
18 in the company of Commissioner McAllister, and through him  
19 I've come to know a little bit about Lesley McAllister.  
20 And I'm just so glad to be a part of this group. And  
21 Commissioner McAllister, thank you for the opportunity to  
22 speak there. It was just an absolute privilege to be  
23 there. And thank you for all your work and I was just  
24 very, very glad to be there.

25 There's a couple of workshops that I wanted to



1 point out. We kicked off the non-energy benefits  
2 discussion on the SB 100 thanks to Commissioner Douglas in  
3 a partnership with her on just moving the discussion  
4 forward. It has been something that the DACAG and a lot of  
5 the environmental justice groups have been asking us to  
6 think about. So this is going to be a kickoff over the  
7 next two, three years we're going to work on the non-energy  
8 benefits and integrate that into the SB 100. So that was  
9 November 1<sup>st</sup>.

10           And November 2nd we had a scoping plan workshop  
11 at CARB that was done very collaboratively, to think about  
12 the energy system and transition (indiscernible)  
13 transition. Again, very similar discussions, the role of  
14 hydrogen, CCS, and all of that was put on the table.

15           So taking all those questions in I had an  
16 opportunity to have my one-on-ones with most of the DACAG  
17 members. As we go into the 2022, I would really like to  
18 think through the energy transition and equity and  
19 developing a framework for some of the decisions we have to  
20 make on the energy system. So just flagging that to all the  
21 colleagues here and the stakeholders that it's going to be  
22 an important discussion to have. I think we are a lot of  
23 long-term resources that need to be decided today. And  
24 having a framework that we all feel comfortable to move  
25 forward in decision-making would be extremely timely and

1 beneficial, so that's something we're going to be looking  
2 into.

3           And lastly, I'm trying to hire a first advisor,  
4 so I've got a bunch of applications and looking through  
5 them, hopefully make a choice by the end of the month and  
6 have a team.

7           And I want to always kind of close off with Liz.  
8 Liz's baby is doing great. I'm still getting a bunch of  
9 pictures from her, wonderful. And thanks to my team,  
10 Miina, Le-Quyen, Sudhakar and Alicia (phonetic) for all  
11 their work. Back to you, Chair.

12           CHAIR HOCHSCHILD: Thank you. Let's go to  
13 Commissioner Monahan next.

14           COMMISSIONER MONAHAN: Well, first I want to say  
15 it's nice to see Vice Chair Gunda more relaxed. I think he  
16 in particular has shouldered a lot of the responsibility  
17 around reliability this summer, so I hope you have a good  
18 break and that it lasts a long time.

19           So I was on vacation in Kauai (phonetic) for some  
20 weeks, so I had to put my work hat back on. I had a great  
21 time in Kauai. I would recommend it for anybody who wants  
22 to see beautiful places.

23           But a few things that have come up since our last  
24 Business Meeting, this morning actually right before the  
25 Business Meeting I was on a small White House meeting

1 around the Infrastructure Bill and the money that's coming  
2 to states. And the federal government is really wanting to  
3 ensure that some coordination with the states and pulling  
4 together advisors to help with that process, so looking  
5 forward to having the funds flow to California in a way  
6 that makes the most sense for us to be able to achieve our  
7 goals.

8 I have done the number of presentations from a  
9 national perspective on California. Again, to kind of  
10 communicating California success in this, so one was with  
11 the National Academy of Sciences Engineering and Medicine.  
12 Another was I was the keynote at the Colorado Sustainable  
13 Transportation Summit with Will Toor who's the head of the  
14 Colorado Energy Office. So it's a pleasure, of course,  
15 always to talk about what California is doing and help  
16 other states as they try to follow our lead.

17 We've had a couple of workshops that have been  
18 really interesting. One was on \$150 million for ZEV  
19 manufacturing grants and that's way more money, much more,  
20 by a factor of 10, 20 then we've ever had for this  
21 category. So the team has pulled together a workshop. I  
22 think they're doing a great job in terms of thinking  
23 through all the different tracks, potential tracks,  
24 including lithium-ion extraction, I mean lithium extraction  
25 rather, from the Salton Sea. And battery manufacturing in

1 addition to ZEV manufacturing, component manufacturing, and  
2 chargers and hydrogen infrastructure. So there's a lot of  
3 ways that we can support this industry in California to  
4 make sure that we remain kind of at the center when it  
5 comes to ZEV manufacturing, not just ZEV deployment.

6 And last thing I want to mention I went to the  
7 opening of the Enel X office. And you may know Enel X from  
8 its work as a global energy provider and management  
9 systems. So they've opened a new office in San Carlos,  
10 totally worth seeing. It's very interesting, they're  
11 basically doing what we want in terms of not just chargers,  
12 but thinking through the smart-charging aspects and really  
13 linking it to demand response, renewable energy generation.  
14 So a really innovative company and glad to see them opening  
15 an office in San Carlos. That's all.

16 CHAIR HOCHSCHILD: Great. Thank you.

17 Commissioner McAllister?

18 COMMISSIONER MCALLISTER: Sure, well thank you.  
19 Let's see, I did miss the last business meeting because I  
20 was actually at an in person meeting in Portland, Maine.  
21 It was the NASEO Annual Meeting. And I just want to  
22 highlight not any particular issues, because it's always a  
23 wide-ranging conversation, but just the fact that we during  
24 the pandemic, and now actually in person, have been making  
25 sure to coordinate with other states around all the issues

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1 that we care about. And as Commissioner Monahan said,  
2 often we have something to share that can help lead the way  
3 for other states. But I think there's also often it's a  
4 two-way street and other states are coming up with  
5 innovative solutions as well.

6 And even the likes of Louisiana looking at carbon  
7 sequestration and utilization and stuff. So we have  
8 different perspectives on that and we probably end up in a  
9 different place than many other states on that. But still  
10 the building blocks are worth collaborating on wherever we  
11 can. And so I think that's just a positive sort of  
12 approach to take to the Hill and help shape what's going on  
13 with the infrastructure bill and other arenas as well, so.

14 And let's see, just FYI the NASEO, which is the  
15 National Association of State Energy Officials, they do  
16 keep very on top of the flows of funding potential for  
17 California. So we benefit from that by being members and  
18 have really kind of a main line to the committee staff and  
19 others in DC.

20 I wanted to highlight the CREPC WIRAB meeting,  
21 which was three weeks ago. So CREPC is the Committee on  
22 Regional Electric Power Cooperation and WIRAB is the  
23 Western Interconnection Regional Advisory Body. And they  
24 really are all the states getting together. It's a mix of  
25 PUC folks and state energy office folks to just think West

1 wide about different issues. And there's a lot going on  
2 right now in terms of a Western conversation around RA.  
3 And then also the expansion of the day ahead market by the  
4 California ISO. And that's sort of, I think, going to play  
5 out. It's early days, but it is leading towards much more  
6 collaboration and communication across the Western  
7 Interconnect, which is I think really a positive thing.

8           And the ISO and the PUC are very much engaged, so  
9 Elliot and his team and Commissioner Rechtschaffen over the  
10 PUC largely, and Commissioner Guzman are carrying that  
11 water. But really interesting and I look forward to some  
12 progress there.

13           Let's see, I want to just say a few thank yous.  
14 The IEPR team has been just burning the midnight oil, and  
15 just on all the different volumes that are emerging now,  
16 and sort of final internal review, agency review, before  
17 they go public.

18           And I to thank Commissioner Gunda for his  
19 partnership on many of the topics in IEPR this year. But  
20 really all the Commissioners as well for reviewing and for  
21 attending many of the workshops, our most recent one being  
22 the building decarbonization or grid interactive efficient  
23 buildings where we had the Department of Energy, David  
24 Nemptzow. And really a wide ranging very productive  
25 discussion, I think, to sort of try to true up our various

1 activities around high performing new construction that's  
2 grid flexible.

3 So I just want to thank Heather and the whole  
4 team, you know, many, many people to thank there. But  
5 they've done a great job this year.

6 One thing I wanted to just mention quickly in the  
7 NASEO context that I forgot was there's a lot of  
8 institutional memory in terms of what happened during ARRA.  
9 And so, a lot of I think what we can bring to the table is  
10 helping reflect upward to the Department of Energy and  
11 maybe that's through your participation in that,  
12 Commissioner Monahan and that advisory group, of any  
13 channel that we have. But I'm trying to avoid the  
14 programmatic potholes that sort of befuddled some of the  
15 ARRA, the American Reinvestment Recovery Act, back in the  
16 day. That's now been 10 or 15 years, but I think we still  
17 can learn a lot from that and really get the money out more  
18 effectively as a result.

19 So let's see, a couple of other things now. So  
20 we continue to meet the Housing and Decarbonization Working  
21 Group across the agencies. And I just wanted to highlight  
22 that there are a couple of new people in agency land that  
23 are just going to be super positive. One is Sasha Kergan  
24 who is now the Deputy for Secretary Castro Ramirez over at  
25 the agency, Consumer Affairs, the Business, Consumer

1 Affairs and Housing Agency -- really invigorating sort of  
2 participating in that conversation on behalf of that  
3 agency.

4           And then Sam Assefa, who is the new head of OPR  
5 who came down from Seattle, and is just full of good ideas.  
6 And so I think sort of looking at the state's efforts in  
7 affordable housing, particularly new construction, and we  
8 will be moving on to talking about existing buildings.  
9 That's really positive. I think there's a lot of positive  
10 engagement there.

11           And not least by the Department of Community  
12 Services and Development, which is also being also  
13 beginning to get engaged.

14           So two last really quick things. So I was happy  
15 to help kick off the CEC Familia that all the CEC staff  
16 that have Hispanic Latino Latinx roots, they got together.  
17 And I was really happy to see that forum and just another  
18 instance of our trying to be inclusive and sort of fly all  
19 the flags that we have at the Commission, which are dozens  
20 and dozens of them. And in particular I think it's  
21 appropriate for the Latin American connection, Mexico  
22 primarily, but really across Latin America with California.  
23 And I just think I'm so proud to be in an agency that can  
24 celebrate that. And celebrate diversity in a real way. So  
25 thanks to Guadalupe Corona who organized that alongside



1 with Noemi and Carousel. Really it's a beautiful effort,  
2 so thank you.

3 And then finally I just want to thank  
4 Commissioner Gunda, Vice Chair Gunda, for speaking at the  
5 Lesley K. McAllister Climate and Energy Symposium, the 13th  
6 one. And a few of you at least knew Lesley or had met her  
7 and she was so -- she put her heart of the law and into  
8 environmentalism. And really found a way to add incredible  
9 knowledge and nuance to Cap and Trade and just many, many  
10 other kind of detail regulatory conversations that are  
11 fundamental to our making progress. And just her legacy is  
12 still just -- her footprint, her legacy is just massive.

13 And I also wanted to just acknowledge  
14 Commissioner Houck over at the PUC and Alice Reynolds from  
15 the Governor's Office who also participated in that event.  
16 And Scott Anderson and the whole USD, the University San  
17 Diego EPIC team, they have an EPIC down there at their  
18 Energy Policy Initiative Center that organizes that  
19 symposium every year. So it just means so much to have  
20 that engagement, so thank you. And I really appreciate  
21 that.

22 So I think that's it for me thank you.

23 CHAIR HOCHSCHILD: Well, thank you for sharing  
24 that. And I do think it's true that people can continue to  
25 do good even after they're gone and inspiration carries on.

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1 So I'm so glad to hear that symposium is a success. Thank  
2 you for sharing that.

3 Let's go to Commissioner Douglas next.

4 COMMISSIONER DOUGLAS: Thank you, Chair  
5 Hochschild. So I have looked at my calendar and I actually  
6 don't think I have items to share from since the last  
7 business meeting. I've been busy, but no major milestones  
8 or anything and so I think I'll pass on this report. But  
9 thank you.

10 CHAIR HOCHSCHILD: All right, great. So I can  
11 just give a couple highlights. I've been on travel for  
12 three-and-a-half weeks. Offshore wind was one of the big  
13 things I was spending time on. I visited three different  
14 wind factories in three different countries and then went  
15 to three different wind projects, offshore wind projects in  
16 Portugal, in Denmark, and in the UK. And the main message  
17 I wanted to bring back is that this technology is legit.  
18 It is going big time. And I do not think most people in  
19 the United States have yet come to see just how significant  
20 a resource this will be.

21 So in the UK they're getting 10 gigawatts today  
22 of offshore wind. That's what's installed today. They're  
23 going to 40 gigs. Their peak demand is only 60 gigs and  
24 the wind resource is phenomenal. It's basically blowing  
25 all the time off sure. So they're going to get the

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1 majority of their electricity from this technology and the  
2 movement is further and further offshore. You know, their  
3 projects they're building now are 50, 60 miles offshore in  
4 some cases, so far out of sight. And the scale is just  
5 phenomenal.

6           So I visited the largest wind turbine in the  
7 world, which is 14 megawatts is getting installed in a  
8 couple weeks in in Denmark. And just as an example, I mean  
9 the blades on that turban are longer than a football field.  
10 They're doing 105 meter blades now. And every estimate of  
11 when it would be the largest, and what the ceiling on the  
12 size of the technology is (indiscernible), they can just  
13 keep going through that.

14           So my conclusion, I think we are headed towards  
15 25 megawatt turbines and maybe significantly larger. And  
16 that's all very, very good for cost reduction. And just  
17 super encouraging to see and to learn from some of the  
18 folks who've been on the front lines for a long time there.  
19 They've been doing offshore wind in Denmark since 1991.  
20 And in the UK, a lot of their experiences I download at  
21 length with Commissioner Douglas about what we can learn  
22 from this, so that was really encouraging.

23           I wanted to especially thank Alana Sanchez who  
24 helped organize all the complex logistics for this  
25 multifaceted trip.

1 I did have a good meeting with Secretary Granholm  
2 as well as Governor Lujan of New Mexico, Governor Bel  
3 Edwards of Louisiana, Governor Ige of Hawaii among others.  
4 Some great delegation visits with Germany, Israel and  
5 others. And a bunch of dialogue on different topics. But  
6 the highlight for me really was the offshore wind. That's  
7 the main thing I'm taking from that whole trip, is just our  
8 need to really scale that technology.

9 And so grateful again for Commissioner Douglas  
10 and her incredible leadership and the whole team working on  
11 this. I think this is time very, very well spent. It's  
12 been a long day, so I'm going to just stop there and thank  
13 everybody.

14 And with that let's see, I think we need to go to  
15 Executive Director's Report. Drew, do you have anything to  
16 report?

17 VICE CHAIR GUNDA: Chair, I don't know  
18 Commissioner Monahan went, did she?

19 CHAIR HOCHSCHILD: Yes, she did.

20 VICE CHAIR GUNDA: Okay, thank you.

21 CHAIR HOCHSCHILD: Drew, do you have anything to  
22 report? Is Drew still with us? Oh, there he is, so yes.  
23 Are you on mute, Drew?

24 MR. BOHAN: Apparently. Yes, thank you. Is that  
25 better?

1 CHAIR HOCHSCHILD: Yes.

2 MR. BOHAN: All right, good. Lips moving with  
3 sound coming out is better, so two quick things for you  
4 guys.

5 Thank you Chair and Commissioners, I just wanted  
6 to report that our telework policy is finalized. The CalHR  
7 finished their policy last month. CNRA sent theirs to us  
8 week before last. And last week we sent ours to the  
9 unions, and we have to wait 30 days to them to review it.  
10 And we need to confer if they would like us to, and we will  
11 have the final telework policy. As you know it is very  
12 bullish on telework. So that will be our future going  
13 forward. Hopefully folks will be more in the building as  
14 the pandemic eases, but I wanted to let you know that  
15 that's done.

16 And I also just want to say happy holidays to all  
17 of our staff with Thanksgiving coming up, a well-deserved  
18 break. We have been pushing hard. You guys have been  
19 pushing hard as our leaders and staff has just been working  
20 so hard. And so I hope they will be able to take a nice  
21 long break over Thanksgiving. Thank you.

22 CHAIR HOCHSCHILD: Thank you.

23 Public Advisor's Report?

24 MS. GALLARDO: Hello, there. No major report, I  
25 just wanted to say thank you for all the support today, and

1 just the entire year. And especially the support and  
2 uplifting of the DACAG. They are working really hard.  
3 They're a great advisory group. I'm really grateful that  
4 we have them and to be able to work with them, so just  
5 wanted to acknowledge you for uplifting them. And that's  
6 it for me.

7 CHAIR HOCHSCHILD: Thank you. Any public  
8 comment, Item 13?

9 MS. GALLARDO: Let me read those instructions,  
10 just a sec. All right, sorry about that.

11 So this is the period for any person wishing to  
12 comment on information items or reports of the meeting  
13 agenda or any other item. Each person has up to three  
14 minutes to comment and comments are limited to one  
15 representative per organization. We may reduce the comment  
16 time, depending on the number of commenters.

17 Use the raised hand icon to indicate your  
18 interest in making public comment. If you're on the phone  
19 press \*9 to raise your hand and \*6 to unmute.

20 After you are called on, please restate and spell  
21 your first and last name. State your affiliation if you're  
22 representing a tribe, agency, organization or any other  
23 entity. Do not use the speakerphone when talking, because  
24 we won't hear you clearly.

25 All right, let me check for hands. I do not see

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1 any hands raised, Chair.

2 CHAIR HOCHSCHILD: Thank you.

3 Item 15, Chief Counsel's Report?

4 MS. BARRERA: Hi Chair and Commissioners, I don't  
5 have a formal update. But I do want to just let you know  
6 that the Chief Counsel's Office has an Attorney I and an  
7 Attorney III position open. And we've been very proactive  
8 and I've gone to in-person meetings at law schools and also  
9 virtual meetings and will continue to do so. So if you  
10 know anybody who's exciting and bright and passionate about  
11 supporting the Commission's missions, please spread the  
12 word about our attorney positions. Thank you.

13 CHAIR HOCHSCHILD: Thank you so much for that.

14 All right, good to know.

15 All right, we are adjourned everybody. Thank  
16 you.

17 (The Business Meeting adjourned at 2:41 p.m.)

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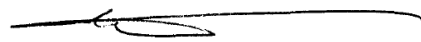
25

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

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 24th day of November, 2021.



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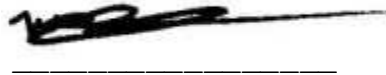


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And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 24th day of November, 2021.



Myra Severtson  
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