

DOCKETED

Docket Number:	24-BUSMTG-01
Project Title:	2024 Business Meeting Agendas, Transcripts, Minutes, and Public Comments
TN #:	254366
Document Title:	Transcript of the January 24, 2024 Business Meeting
Description:	N/A
Filer:	Blanca Camberos
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/7/2024 2:29:21 PM
Docketed Date:	2/7/2024

CALIFORNIA ENERGY COMMISSION

In the matter of:

)	
Business Meeting)	Docket No. 24-BUSMTG-01
_____)	

BUSINESS MEETING

CALIFORNIA NATURAL RESOURCES AGENCY BUILDING
 FIRST FLOOR AUDITORIUM
 715 P STREET
 SACRAMENTA, CALIFORNIA 95814

IN-PERSON AND VIA VIDEO AND TELECONFERENCE

WEDNESDAY, JANUARY 24, 2024

10:00 A.M.

Reported by:

Martha Nelson

APPEARANCESBOARD

David Hochschild, Chair

Siva Gunda, Vice Chair

Andrew McAllister, Commissioner

Patricia Monahan, Commissioner

Noemi Gallardo, Commissioner

STAFF

Drew Bohan, Executive Director

Jennifer Martin-Gallardo, Deputy Executive Director

Lisa DeCarlo, Acting Chief Counsel

Jill Horing, Chair's Office

Alyssa Rudelis, Chair's Office

Linda Barrera, Chief Counsel

Bryan Early, Office of Commissioner McAllister

Jason Harvill, Enterprise Data and Analytics Office

James Qaqundah, Special Advisor to Commissioner Gallardo

Erik Stokes, Office of Commissioner Gallardo

Pooya Khodaparast, Energy Systems and Transportation Branch

Nadia Richards, Energy Supply Branch

Joe O'Hagan, Sustainability and Health Unit

Viet Vo, Office of Governmental and International Affairs

APPEARANCESSTAFF (cont'd.)

Brady Borcharding, Office of Governmental and International
Affairs

PUBLIC ADVISOR

Mona Badie

Dorothy Murimi

ALSO PRESENT

Delphine Hou, Department of Water Resources

Neil Millar, California Independent System Operator

Pete Scala, California Public Utilities Commission

Derek Kirk, Labor and Workforce Development Agency

PUBLIC COMMENT

Steve Uhler

Bill Kissinger, Sentinel Energy Center

Meegan Murray, Southern California Public Power Authority

Ted Book, AMAAD Institute

Ian Blakeley, Enchanted Rock, LLC

Miguel Sierra Aznar, Noble Thermodynamic Systems, Inc.

Oded Tour, Tour Engine, Inc.

Sarah Taheri, San Diego Gas & Electric

APPEARANCESPUBLIC COMMENT (cont'd.)

Adam Jorge, Southern California Gas Company

INDEX	<u>PAGE</u>
Introduction	7
1. Public Comment	8
2. Agency Announcements	13
3. Consent Calendar	20
4. Information Item - Department of Water Resources to Provide an Update on Strategic Reliability Reserve	21
5. Information Item - Update on Data Visualization Exploration Tools	60
6. Order Instituting Informational Proceeding (OOIP) (Docket 24-OIIP-01)	74
7. CEC and California Workforce Development Board Collaboration	84
8. The Regents of the University of California, on behalf of the Berkeley Campus	97
9. Hydrogen Blending and Lower Oxides of Nitrogen Emissions in Gas-Fired Generation	104
• Oded Tour, Tour Engine, Inc.	
• Miguel Sierra Aznar, Noble Thermodynamic Systems, Inc.	
• Ian Blakeley, Enchanted Rock, LLC	

INDEX	<u>PAGE</u>
10. Peer-Hydro: Precipitation Enhancement and Environmental Research for Hydropower Generation	123
11. Building Decarbonization Coalition	34
12. Information Item - AB 590 Briefing	130
13. Minutes	137
14. Lead Commissioner or Presiding Member Reports	138
15. Executive Director's Report	150
16. Public Advisor's Report	151
17. Chief Counsel's Report	151
Adjournment	151

P R O C E E D I N G S

10:02 a.m.

WEDNESDAY, JANUARY 24, 2024

(Whereupon an introduction video is played and not
transcribed.)

CHAIR HOCHSCHILD: Good morning, friends. I'm David Hochschild, Chair of the California Energy Commission. Today is Wednesday, January 24th. I call this meeting to order.

Joining me in person are Commissioner McAllister and Commissioner Gallardo. Attending virtually are Vice Chair Gunda and Commissioner Monahan. This constitutes a majority of the Commissioners physically present in the same location. We have a quorum.

In order to comply with the Bagley-Keene Open Meeting Act, I'd like to ask the Vice Chair and Commissioner Monahan to please confirm there is no one else present in the room with you at the location where you're at.

Vice Chair, if you can go first.

VICE CHAIR GUNDA: Yes, I confirm.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: I confirm as well.

CHAIR HOCHSCHILD: Thank you both. Let's all stand for the Pledge of Allegiance.

(The Pledge of Allegiance is recited in unison.)

CHAIR HOCHSCHILD: Thank you.

We are going to try to move relatively swiftly through the agenda. Vice Chair Gunda has to leave a little early to get to the airport.

So we will begin with public comment and then move on to agency announcements.

Public Advisor?

MS. BADIE: Good morning. This is Mona Badie, the Public Advisor for the California Energy Commission.

The Energy Commission now welcomes public comment on any item on the agenda, including non-voting items. We will have dedicated public comment periods for voting items, so we ask that you reserve comments for voting items to those dedicated periods. But this is an open public comment period.

And if you're in the room with us, we do ask that you use the QR codes. Dorothy Murimi from the Public Advisor's Office is at the Public Advisor table to assist if you need assistance with that.

And if you are on Zoom, we're asking you to use the raise hand feature on your screen to let us know you'd like to make a comment. And star nine, if you're joining us by phone, that's the way to raise your hand by phone.

And so checking for in-room, I'm not seeing any

in-room comments, so we're going to transition to Zoom.

Call-in user two, I'm going to open your line. If you could please state and spell your name for the record. We are asking for comments to be two minutes or less.

MR. UHLER: Morning, Commissioner. I am Steve Uhler, that's U-H-L-E-R.

I direct my comment today to the Chair of the Energy Commission.

Thank you for ensuring the public's right to address the Commission before or during the Commission's consideration of an agenda item. The agency known as the Energy Commission has many directors. As Chair of the Energy Commission, you are director of all agency directors and the public advisers. You are the head of the agency and have certain authorities and responsibilities in managing the agency.

The last business meeting, I reminded agency staff that I had requested public records for RPS. The agency staff have responded to my request. Unfortunately, they've only provided unofficial documents that are not responsive to my request. Please see that my public requests are fulfilled.

Perhaps you've overlooked officially designating your authority to agency staff. I contacted the OAL and

asked for the Energy Commission's delegation of authority to your agency staff. The OAL had no responsive records for my request. Please ensure you've made all your official delegations to agency staff public record. Please provide me with a copy of the delegations of authority.

Now on to Item 1. I have provided a visualization to your RPS group about a power plant that appears to be claiming far more renewable energy credits than allowed. Perhaps that would be a good task for your new visualization facility, to take the information -- I give links to all the data -- and make a visualization similar, and run it for every power plant and RPS.

Thank you. That's the end of my comment.

MS. BADIE: Thank you.

Next we have Bill Kissinger on Zoom.

Bill, I'm going to open your line. Please state and spell your name for the record before making your comment. We are asking for comments to be two minutes or less.

Bill, please unmute on your end to make your comment.

MR. KISSINGER: There we go.

Can you hear me now?

MS. BADIE: Yes.

MR. KISSINGER: Great, thank you.

Bill Kissinger here, K-I-S-S-I-N-G-E-R. I'm calling on behalf of Sentinel Energy Center, which is Item 3E on your consent agenda.

I'm calling to mostly just thank you for the Energy Commission's prompt action on this matter. This is a petition to amend the certification of Sentinel Energy Center. It's an 850-megawatt power plant located outside of Palm Springs. The amendment to our certification is to enable it to provide black start services. It's currently the subject of a contract, which is before the Federal Energy Regulatory Commission for filing, and it's a contract between Southern California Edison, the California ISO, and Sentinel Energy Center. Obviously, we need this amendment to our certification in order to perform under the contract. And so we're very appreciative of the commission's staff's very effective work with us in terms of getting through the certification amendment process.

So I'm here if there are any questions, but otherwise, I just wanted to thank Mission staff for its hard work.

Thank you.

MS. BADIE: Thank you.

We also have a commenter in the room.

Meegan Murray, if you'd like to approach the podium, please spell your name for the record before making

your comment, and we are asking for comments to be two minutes or less.

Thanks.

MS. MURRAY: Meegan Murray, M-E-E-G-E-N, last name Murray, M-U-R-R-A-Y.

Good morning. Meegan Murray with the Weideman Group on behalf of the Southern California Public Power Authority, also known as SCPPA.

SCPPA is comprised of 11 municipal utilities and one irrigation district serving more than 5 million Californians and supplying 16 percent of California's power. All SCPPA members have been actively working towards 100 percent energy goal, clean energy goal. In fact, a majority of SCPPA members with IRPs are pioneering the effort by adopting local policy priorities to reach 100 percent clean energy well before the state's 2045 timeline.

As we work towards these energy goals, we are dealing with near-term challenges in the market that are beyond our control. For example, our experienced resource planners have seen a rapid decline in renewable projects due to factors such as clean chain supply issues and increased competition in the market. We used to receive over 100 project proposals a year. However, in the last three years, the number has been closer just to 20 proposals a year.

With the shortage of renewable projects, we have seen prices skyrocket as well. In the renewable proposals we have received, solar prices have gone up by 40 percent since 2018, wind by 78 percent, and storage by 74. Additionally, bucket one REC prices have gone from \$20 to over \$70 in the last year. As supply is strained and demand increases, we have major concerns and the problems will continue, especially due to transmission constraints and CAISO interconnection backlog.

We have started to engage with some of you and your staff to examine these issues more closely and to explore potential solutions. We would like to thank Vice Chair Gunda and Commissioner Gallardo for recently meeting with us to discuss these issues. We look forward to continuing the discussions that are hopeful to find ways to address the current market conditions so SCPA members can continue to provide clean, affordable, and reliable energy to their communities.

Thank you for your time.

MS. BADIE: Thank you.

That concludes public comment. Back to you,
Chair.

CHAIR HOCHSCHILD: Thank you all for those comments.

I will move now to Item 2, agency announcements.

I wanted to begin just by thanking all the team that worked on our offshore wind strategic plan that got released last week. On Friday, special recognition for Elizabeth Huber and her terrific team, Melissa Jones, Jim Bartridge, and everyone else in her division; my chief of staff, Kat Robinson; Vice Chair Gunda and his team; and to all of our sister agencies, Fish and Wildlife and Coastal Commission, Ocean Protection Council, Lands Commission, and the CNRA Deputy Secretaries for Energy, Equity, and Tribal Affairs, as well as our other partners in this long journey to get this landmark report out.

We will hold a 60-day public comment period and then take it up for adoption after that. And this is the final report in four that were required of us under AB 525 by the legislature and the governor. There's an additional two reports upcoming required by new piece of legislation, AB 3, by Assemblymember Zber.

But this is a big step forward and a very heavy lift. And I just really want to say I'm really pleased with where we've landed and the architecture of how all the agencies will work together to advance this critical goal. 25 gigawatts is a very, very significant planning goal for the state. And I think this report puts us in a good, good, good place to move forward.

And I also wanted to formally welcome the

governor's new appointee as his offshore wind advisor, Jana Ganion, who was announced last week, and he'll be supporting all these efforts, and we look forward to supporting her success and working closely with her.

So I also wanted to just if I could recognize the science fellows program, which has been a wonderful part. And in particular, I want to thank Alejandro Rios, who's been with my office for almost a year and has now transitioned to staff in the research division. And Alejandro, it was just an absolute delight to have you on the team for the last year, helping really with everything under the sun.

And then maybe Alyssa and Jill, do you want to just come up really quickly and just do a quick 30 second introduction of your background and say what you're working on?

They were not expecting this. Yes.

MS. HORING: Thank you, Chair.

My name is Jill Horing. I'm the new CCST Science Fellow in the Chair's office. And I come here from Stanford University, where I was studying in the Department of Management Science and Engineering, looking at wildfire risk management, in particular as it pertains to the electricity grid.

So thank you all.

MS. RUDELIS: Thank you, Chair.

My name is Alyssa Rudelis. And I just came from MIT, where I did a PhD in atomic physics. And now I'm a Science Fellow in the Chair's office, working on offshore wind, tribal engagement, and also decarbonization electrification.

Thank you.

CHAIR HOCHSCHILD: Well, it's great to have you all on. And the program, I think, has really, you know, been yet another great pathway to get talented young people into the Energy Commission, and thank you for all your service.

Let's just turn to our colleagues. Any other announcements on your side, Commissioner Gallardo? Vice Chair? Commissioner Monahan?

Vice Chair Gunda. Yes, please, go ahead.

VICE CHAIR GUNDA: Alright, Chair. I just want to take a moment to just uplift what you said on the offshore wind. Particularly, I also want to just say thanks to your leadership. I think it has been an incredible process to land those four reports, so I just want to commend your leadership and vision on the offshore wind at large.

I also want to give special kudos to your office, particularly Kat, your chief of staff, for the effort that

she put in. We can't do anything here without the staff support we have, so staff division, Elizabeth Huber and her entire team, for all the work that they have done. So I just want to uplift that. And also really, really warmly welcome Jana Ganion again. What a tremendous opportunity for the state agencies to lean into her expertise, her commitment, passion to further the state goals.

I also want to just quickly note that, you know, the next couple of months we are going to continue putting out important work on SBX 1-2, the Petroleum Transparency and Oversight. We have some products coming up here quickly in the next month or so in terms of the assessment. So I just wanted to uplift the work that the Energy Assessments Division under Aleecia Gutierrez has been doing to further that work.

There's a lot on the CEC plate, but I just want to uplift those particular projects.

Thank you.

CHAIR HOCHSCHILD: Yes.

Just to build on those points, I do want to say, you know, staff routinely, when we have big, big projects that are due, you know, at the energy condition, people are working nights and weekends, whatever it takes to get it done. I just really want to acknowledge how hard folks are working on these key priorities and just extend the

gratitude from all the Commissioners to your point, Vice Chair.

Unless Commissioner Monahan, I think Commissioner McAllister had one other thing you wanted to mention.

COMMISSIONER MCALLISTER: Yeah, just by way of just acknowledging incredible work at the commission, I did want to thank Deana Carrillo and Christine Collopy -- and I think I see Deana in the room -- and their whole team in the RREDI Division for working tirelessly over the break, and nights and weekends, with the Department of Energy and, you know, leadership here at the Commission to get our HEEHRA preliminary application. That's one of the big Inflation Reduction Act programs from DOE, asking DOE for the initial, well, for really the 280 or so million dollars that'll come for appliance incentives. And we were among a small group of four elite states, along with New York and New Mexico, and -- I'm forgetting the other one, which one was it -- Hawaii, exactly, Hawaii -- to get those preliminary applications and sort of pave the way for the other states.

And so I think, you know, DOE is really trying to get that money out the door and there are a fair number of hoops to jump through and there, you know, the bureaucratic elements cannot be minimized. And I think, you know, Deana and Christine and the team just sort of felt that acutely

through the process but persisted and really showed a lot of leadership and drive and vision to help the state get that process moving forward.

So, really, many steps to come still, but I think it bodes well for getting those funds flowing during the course of this year and getting them out to Californians where they can make a big difference.

So thank you.

CHAIR HOCHSCHILD: Great. Thank you, Commissioner.

So at today's Commission meeting, we're going to be seeking approval for \$11.6 million, which contributes to California's economic recovery. And the only other announcement I want to make, we're going to take Item 11 up after Item 5 and before Item 6. So just be prepared for that.

Okay, with that, unless there's any other discussion, we'll turn now to Item --

VICE CHAIR GUNDA: Jim?

CHAIR HOCHSCHILD: Yeah, go ahead.

VICE CHAIR GUNDA: Could I request that we take 11 before 5? So 1 through 4, and then take --

CHAIR HOCHSCHILD: That's fine. Yes. Sure

VICE CHAIR GUNDA: Yes. Thank you so much.

CHAIR HOCHSCHILD: Let's do that. We'll take

Item 11 up before Item 5, after Item 4.

Thank you.

With that, let's turn to the consent calendar.

Is there any public comment on Item 3?

MS. BADIE: Good morning. This is Mona Badie, the Public Advisor for the Energy Commission.

The Energy Commission will now take public comment on Item 3, the consent calendar for today.

If you're in the room with us, we ask that you use the QR code or visit the Public Advisor table in the room. And if you're joining us by Zoom, please use the raise hand feature on your screen. If you're joining us by phone, please press star nine to let us know you'd like to make a comment.

Just checking. We don't have anyone in the room so I'm going to transition over to Zoom and we do not have any raised hand on Zoom.

Back to you chair.

CHAIR HOCHSCHILD: Unless there's any Commissioner discussion, Commissioner McAllister would you be willing to make a motion on Item 3?

COMMISSIONER MCALLISTER: Move Item 3.

CHAIR HOCHSCHILD: Is there a second from Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye.
Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

STATE BOARD MEMBER MORGAN: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Item 3 passes unanimously.

We'll turn now to Item 4, information item,
Department of Water Resources to provide an update on
strategic reliability reserve investments.

This is a non-voting item, so we'll just go
directly to the item.

MS. HOU: Great. Excellent. Good morning. Can
I just make sure we also have our representatives from PUC
and CalISO here with us?

CHAIR HOCHSCHILD: Delphine, can you speak a
little closer to the mic?

MS. HOU: I'm vertically challenged. Yes. Okay.

CHAIR HOCHSCHILD: Okay. Okay.

MS. HOU: A little closer there.

And I just wanted to make sure we have our

colleagues from the California Public Utilities Commission and California Independent System Operator. They should be joining us virtually.

MR. MILLAR: Yes, it's Neil Millar here with the California Independent System Operator.

MS. HOU: Great.

And on the PUC side, I think we were hoping for Director Scala.

MS. BADIE: There's the option for folks to raise their hand on Zoom if they don't have an unmute option.

MS. HOU: And I know they may have logged in as a participant and would need to be promoted as a presenter.

(There was a prolonged pause.)

MS. BADIE: Delphine, who is it that's going to be speaking from CPUC?

MS. HOU: Mr. Scala.

I think he is joining now. Maybe there's some technical difficulties.

(There was a prolonged pause.)

MS. BADIE: I'm seeing a Pete Scala on the panelist list so I think we can begin.

Thank you.

MS. HOU: Great. I think we are good to go. I'm going to start.

So once again, good morning, Chair, Vice Chair,

Commissioners. Delphine Hou, Deputy Director of the Statewide Water and Energy Office with the Department of Water Resources. Thank you again for having us here to present the Electricity Supply Strategic Reliability Reserve Program, as we lovingly call ESSRRP.

So next slide, please.

As you all know, Assembly Bill 205 created the state's Strategic Reliability Reserve, and of the three parts of the reserve, two which the CEC oversees is focused on demand response and distributed resources, while DWR's portion, our program, is focused on grid-connected resources. So the ESSRRP acts as an insurance policy and safeguards the statewide electrical grid during extreme and combined events such as heat waves, wildfires, and droughts driven by climate change. The program also supports California's transition to a clean energy future.

Next slide, please.

Per SB -- excuse me, per AB 205, we are required to provide regular updates at the Energy Commission meeting for investments made or under consideration. Moreover, the legislation requires the attendance of our colleagues from the Public Utilities Commission and the California Independent System Operator, and we have a representative from each entity in attendance today. Today's our fifth update at the Energy Commission and we expect to have the

next one early on in the second quarter of 2024.

Next slide please.

We have five distinct projects under our program. The first is an extension of the operating life of existing generating facilities that could be planned for retirement. The second is new temporary power generators of five megawatts or more. The third is generation facilities using clean, zero-emission fuel technology of any size. The fourth is new storage systems of 20 megawatts or more with at least a two-hour discharge. And finally, we do look at reimbursement of imports for their above-market prices in excess of procurement authorizations and requirements such as the Resource Adequacy Program.

Next slide, please.

So this table here, I've shown this before. So we have our investments laid out from '22 through '24. For the 2022 column, that is the same as I presented in last October. So I'll skip over that and move on to 2023. For 2023, we had 147.5 megawatts of emergency and temporary generation available during the summer.

Moving down to the imports line, we also had a fairly robust amount of imports there. We are calculating and going through the numbers now, looking at the CAISO settlements data. So that information is forthcoming. But in a ballpark, in the September timeframe, we had about 800

megawatts, just for your information.

Moving on to the last column in 2024, DWR expects an additional 143.5 megawatts of emergency and temporary generation to come online before summer, which will get you to that 291 megawatt total that we have here in the table.

Moving down to the next row, we do have now the three once-through cooling generators, Alamitos, Huntington Beach and Ormond Beach generating stations as part of the reserve. And as I discussed in the prior presentations, these units are default off rather than available 24 hours a day, seven days a week as they were when they were part of the resource adequacy program. So a big sea change in their operations and their availability.

So currently, DWR, we do not have any new resources under consideration. We, like the rest of the industry, have found it very difficult to move forward with new projects because of increasing costs, lack of interconnection, very high demand for non-emitting technologies such as battery storage. So that's not new information. And lastly, you know, per our legislation, we have to prioritize investments that do not compete with facilities already planted under consideration by load-serving entities and public utilities.

So I want to conclude by providing my appreciation and thanks to the Energy Commission and our

colleagues at the CPUC and CalISO in working with us in developing and maintaining the state's strategic reliability reserve.

And this concludes my presentation.

Thank you.

CHAIR HOCHSCHILD: Thank you so much.

Let's go to commissioner discussion, starting with Vice Chair Gunda.

VICE CHAIR GUNDA: Thank you, Chair. Thank you so much, Delphine, for your presentation.

I just want to begin by, you know, just sharing my gratitude for Delphine's leadership, particularly the ability to digest these complex issues and create a clear recommendation pathway for all of us. So and the entire DWR staff that support Delphine, just really a big thanks for all the work that you're doing in enabling this program per statute.

I think, you know, DWR is going to continue to play a critical role in our energy transition, given some of the potential work that they're going to do in long-lead time resources and such. So, you know, just a big kudos to you.

I also want to acknowledge Neil Millar and the ISO team, Pete Scala and the CPUC team for their contribution as a joint state team in keeping our

reliability at the forefront of the discussion.

Along those lines, really want to uplift the work of David Erne, Liz Gill at CEC, and many, many staff that support that work at the CEC.

I want to just share a couple of points I've mentioned previously. It's really important to note the volatility of the climate. The extreme conditions that we're seeing on the grid is just unparalleled to anything that we've seen before.

And just as a statistic that I've shared before, on September 6th, 2022, you know, Kaiser was almost, you know, in line to get to 53,000 megawatts. A year later on September 6th, 2023, we were at 33,000. So that's a 20,000-megawatt swing. And that's not something that any grid planner and grid operator would take lightly. So just want to uplift that important point that the volatility that we are, like, working through, and all the analysis that goes in making sure we have a good idea on the options and the deltas that we have to deal with.

Second, Delphine already mentioned this, but the legislature considered a holistic program, one looking at what is the near-term things that we can do in securing megawatts for the Delta. That's where some of the retirement assets come into place. But they also gave us this opportunity with both the Demand Side Grid Support

Program and the DEBA program to get us on a path to a clean backup moving forward.

In the words of Chair Hochschild, I think we are in the third stage of our energy transition. You know, stage one, we have been a highly, you know -- the fossil-heavy, fossil majority stage. More recently in chapter two, I think we've gotten to, you know, majority zero carbon. And chapter three, you know, we are on a journey to get to a hundred percent zero carbon, with fossil really supporting as needed in an extreme condition as backup. And then hopefully we can get on to Chapter 4 where everything becomes clean.

So I just want to recognize the importance of how difficult these discussions and situations are, but really want to commend Deana Carrillo and her team on getting us towards that clean backup path through DEBA and DSGS and the diligent work that they are doing.

So in closing, this is a team effort, and everything that DWR presents here has been thoroughly supported by the joint agencies and working together, and look forward to further discussions on this. So Delphine, again, to you and the DWR team, thank you for all the tremendous work you're doing.

I'm going to pass it to the chair.

CHAIR HOCHSCHILD: At this time, I'd like to just

go to Pete Scala with the Public Utilities Commission to see if you would like to add anything.

MR. SCALA: Thank you, Chair Hochschild.

Just echoing a lot of Vice Chair Gunda's comments on just how important this resource is to us, and I'm, you know -- that's both President Reynolds' position, and as Director of Electric Supply, this resource just helps us tremendously as we try to get a lot of more new resources online and face challenges in that. It's just incredibly reassuring to have these resources available to us.

So much appreciations to DWR for helping make this happen.

CHAIR HOCHSCHILD: Thank you so much.

Any other Commissioners wishing to make a comment?

Commissioner Gallardo, please.

COMMISSIONER GALLARDO: Delphine, I also want to express my gratitude to you for all the work you're doing and also for, you know, helping me better understand the issues and, you know, being able to join you on a visit into some of the facilities.

And I also want to uplift Vice Chair Gunda for his leadership in all of this. And I think one of his superpowers is being, you know, connective tissue. And he's really good about convening folks and, you know,

making this more harmonious. And I know it's a tough, tough situation, can be challenging, but all of you are handling it so well.

So thank you, CPUC, CalISO, and our CEC leadership.

I also wanted to highlight from the siting side, I think there's staff there also working on these efforts that are helpful to me, including Elizabeth Huber, Brett Fooks, and Ashley Gutierrez, so I wanted to highlight their efforts in all of this. So thank you so much.

I did want to ask you a question aside from expressing gratitude here. On the last slide, Delphine, I didn't catch on the 2024, the last two items, is that meaning that those are not being considered for 2024?

If we could go back to the slide, I think it'll be easier for Delphine to see what I'm talking about.

MS. HOU: Sure. I'll wait for the slide to come back.

COMMISSIONER GALLARDO: There's a request to go back to the last slide for Item 4.

There we go.

Yeah, for the firm energy import contracts and temporary diesel generators.

MS. HOU: Correct.

So for 2024, the DWR's authorization for imports

is only up until October 31st, 2023.

COMMISSIONER GALLARDO: Okay.

MS. HOU: So we no longer have that for '24. And then for the temporary diesel generators, that authorization also ended in 23, but actually we decided well before July 31st, '23 to just close that program.

COMMISSIONER GALLARDO: Got it. Alright.

Just wanted to make sure I understood that.

Thank you.

MS. HOU: Thank you for the question.

COMMISSIONER GALLARDO: That's it, Chair.

CHAIR HOCHSCHILD: Any other Commissioners?

Commissioner Monahan, please.

COMMISSIONER MONAHAN: Yes. Well, I want to be really brief, also because my voice is starting to go out. It was doing so well.

Delphine, thank you so much for your leadership.

And I actually wanted to comment on the slide that Commissioner Gallardo brought up that, you know, it's really, I think a testament to this work around, you know, hard decisions that we've all had to make around once-through natural gas resources for extreme events. I just want to call that out as something that we all found very challenging. We're moving to 100 percent clean energy. We're all committed to that. And we've had to make really

difficult decisions to ensure there's reliability.

But it is heartening, of course, to see that we're not going to be relying, at least in the near term, expected to rely on diesel generators. So just wanted to, you know, call out the fact that as we all work together through a 100 percent clean electricity system, there are challenges in the near term. And we're addressing those challenges. We're working together. And we're all, I think, as an energy agency unit, moving forward with this commitment to a 100 percent clean energy system.

And I'll stop talking now, because I don't think I'll have any voice.

CHAIR HOCHSCHILD: Alright. Vice Chair, Gunda?

VICE CHAIR GUNDA: Yeah, Chair, thank you.

And just one thing I wanted to close off on is a commitment that Commissioner Monahan just kind of raised.

You know, we, I think in my three years on the Commission -- and Chair, you've mentioned this many times in our conversations -- that one of the most difficult decisions we had to make was the OTC extension, and the burden it puts on the communities that have so long advocated and hoped for their closure.

And a comment that we've made during, you know, the approval of the extension is really kind of looking at conditions necessary the retirement of these units in the

long run, and we've kind of discussed that. And I am just kind of lifting that discussion up with the staff on our side to, you know, at some point, you know, provide an information item to the CEC on the work we're doing to continue to clean up that, you know, back end. We don't have to be in a situation in 2026 where you have to rely on extending these power plants.

So just wanted to uplift that conversation and, you know, thank Commissioner Gallardo for her, kind of, for her -- you know, there's a lot I can say, but I'll just leave it there, for how much she wants us to think about the equity implications of all the work we're doing while keeping the lights on, but what does that mean to communities?

So thank you, Commissioner Gallardo, for your leadership, Commissioner Monahan. Chair, you have been a silent warrior behind the scenes, and Commissioner McAllister for your leadership on demand flexibility in creating the conditions necessary for retiring these resources.

So with that, I'll close.

Thank you, Chair.

CHAIR HOCHSCHILD: Thank you.

Are there any other Commissioners wishing to make a comment?

I guess not.

Thank you so much, Delphine. Thank you, Pete Scala.

And we'll turn now to take up out of order Item 11.

I do have an announcement to read on Item 11. In an abundance of caution, I will recuse myself from discussion or vote. The scope of work for this item includes the development of the organizational documents for the heat pump partnership. In the event that I participate in the Public Advisory board contemplated for the partnership, as I've done for Veloz for electric vehicles, I will recuse myself from this contract decision to avoid any appearance of incompatibility. I will step out of the room and ask the Vice Chair to lead this item.

After the vote, I will return to the room.

COMMISSIONER MONAHAN: Chair, before you go -- I'm sorry -- can I just ask a clarifying question on quorum for our CCO? Because I think both Vice Chair Gunda and I are counting towards the quorum, that we have to make a formal announcement in order, if you're leaving, I think we lose the quorum. But just to clarify that with CCO.

MS. BARRERA: Yes. Very good point, Commissioner Monahan.

I apologize for not recognizing that at the

beginning. Because the chair will not be able to vote on this, in an abundance of caution because we could still potentially argue that the quorum was only necessary to begin the meeting, nevertheless, we should have you, Commissioner Monahan, make the statement regarding the reason for your needing to appear virtually, and then have the Commission vote to approve your virtual appearance in accordance with the Bagley-Keene Open Meeting Act.

CHAIR HOCHSCHILD: I see. Okay.

COMMISSIONER MONAHAN: So I'll read it as long as my voice lasts.

In accordance with the Bagley-Keene Open Meeting Act, I am informing the Commission that I currently have a communicable illness, including a bad voice, and am too ill to travel to the meeting and appear in person. I am requesting approval to attend this meeting remotely under the exception to in-person attendance provided under Government Code Section 1123.2J.

CHAIR HOCHSCHILD: Thank you, Commissioner.

So, can you read what it is we should vote on now?

MS. BARRERA: Yes, we just need someone -- Commissioner Monahan indicated the request to approve under Government Code 11123.2J, her absence or her appearance virtually.

So, we just need the Commission to approve that and Commissioner Monahan can participate in that vote as well.

CHAIR HOCHSCHILD: So, Commissioner McAllister, would you be willing to move that?

COMMISSIONER MCALLISTER: So moved.

CHAIR HOCHSCHILD: Is there a second?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: I vote aye as well.

Can Vice Chair vote?

MS. BARRERA: Oh certainly, yes.

CHAIR HOCHSCHILD: So Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Can Commissioner Monahan vote on her own?

MS. BARRERA: Yes.

CHAIR HOCHSCHILD: Okay, Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Okay, that passes unanimously.

With that, we'll turn to Item 11. I'm going to

go outside and you'll come get me when you're ready.

So, Vice Chair Gunda, over to you.

VICE CHAIR GUNDA: Yes. Thank you, Chair.

I am waiting for a signal from the Public Advisor that the Chair has indeed left the room.

MS. BADIE: Yes, we're ready for Item 11.

VICE CHAIR GUNDA: Okay. Thank you so much, Mona.

With that, I would like to welcome Bryan Early, Chief of Staff to Commissioner McAllister, to present.

MR. EARLY: Hello Vice Chair and Commissioners.

As was mentioned, my name is Bryan Early and I'm the Chief of Staff to Commissioner Andrew McAllister.

I'm here to present on Item number 11, which is a \$9 million contract to the Building Decarbonization Coalition to establish a public-private partnership that will be tasked with helping the state achieve its building decarbonization goals.

Next slide please.

This contract would establish a heat pump public-private partnership, the purpose of which is to accelerate the equitable adoption of building decarbonization technologies in California. Benefits of this agreement that will be accrued to Californians include: providing technical assistance to California's diverse community of

homeowners and renters to help them access incentives to decarbonize their homes; increasing the general knowledge base amongst California homeowners, renters, and contractors on the benefits and proper operation and installation of heat pumps; working with manufacturers to ensure that adequate heat pumps are available on the market to meet California's current and future demand, especially in emergency change-out scenarios. Partnership will also work to train California's highly skilled clean energy workforce.

Next slide, please.

Buildings are a significant source of GHG emissions in the state. The California Energy Commission has engaged in several years of iterative action planning and analysis that has found that electrification of buildings is a key GHG reduction strategy and that the transition to electric buildings must, as a matter of equity, be centered in California's low-income communities. Recognizing this work in July of 2022, Governor Newsom established a goal that called for the installation of 6 million heat pumps in California's buildings by 2030 and called for a minimum of 50 percent of associated incentives to be provided in low-income and disadvantaged communities. The governor and legislature have also directed the California Energy Commission to establish an Equitable

Building Decarbonization Program that will provide hundreds of millions of dollars of incentives to low-income Californians to decarbonize their homes.

Building off these foundational policies, in October of 2023, the CEC and the Electric Power Research Institute, or EPRI, organized a summit on building electrification held here at CNRA headquarters. The summit explored key barriers to providing building decarbonization technologies equitably to California's diverse communities. One important outcome of the summit was a call for the creation of an enduring partnership between participants to address barriers to achieving the 6 million heat pump goal. This was memorialized in the signing of a commitment between the heat pump manufacturers and the CEC that called for the creation of a public private partnership.

Next slide please.

This agreement tasks the Building Decarbonization Coalition -- a California-based, nationally-facing nonprofit whose members consist of stakeholders in the building decarb space -- with developing and implementing this partnership. To overcome barriers to achieving the 6 million heat pump goal, the partnership will work to bring greater consumer awareness through marketing and consumer outreach to increase adoption and to help lower costs by providing technical assistance to help California entities

access federal tax credits and rebates. Partnership will work to ensure that California's diverse communities are aware of and have access to building decarbonization incentive dollars. The partnership will also work collaboratively to help remedy issues such as equipment sizing, load flexibility needs, supply chain constraints, and workforce challenges, and finally, the partnership will help track and measure progress towards our equity and building decarbonization goals.

Next slide please.

This agreement calls on the Building Decarbonization Coalition to recruit for and establish a heat pump public-private partnership that will consist of environmental organizations, heat pump manufacturers, utilities and other stakeholders. The coalition will convene a governance structure for the partnership that will be advised by a Public Advisory board whose membership will consist of principals from relevant state and federal agencies, including the California Energy Commission. There will also be a market advisory board whose membership will consist of heat pump manufacturers and other market actors that will address market barriers and issues beyond consumer awareness. The coalition will develop a blueprint to show how California can achieve the Governor's 6 million heat pump goal and develop an operational plan to ensure

appropriate oversight and management partnership.

Next slide, please.

We recommend the CEC adopt this agreement directing the Building Decarbonization Coalition to establish a heat pump public-private partnership to address market barriers to electric heat pump adoption. I'm joined by CEC staff and legal who can help answer any questions you may have.

This concludes my presentation.

Thank you for your consideration.

VICE CHAIR GUNDA: Thank you so much, Brian.

We'll now hear public comment on this item.

MS. BADIE: Good morning again. This is Mona Baddy, the Public Advisor for the California Energy Commission.

The Commission now welcomes public comment on Item 11.

If you're in the room with us, we're asking you to use the QR codes posted in the room or visit the Public Advisor table for assistance. And if you're on Zoom online, please use the raise hand feature on your screen. And if you're calling us or joining us by phone, please press star nine to let us know you'd like to make a comment.

So we don't have any comments in the room. I'm

going to transition to our Zoom attendees.

Call-in user 2, I'm going to open your line. If you could please state and spell your name for the record.

We are asking for comments to be two minutes or less.

MR. UHLER: Steve Uhler. That's U-H-L-E-R.

In the transition from a heating system that is powered by gas or by resistance heating, I'm hoping that folks have already done a resource -- need to look at inrush currents regarding heat pumps and the situation of a much higher likelihood of simultaneously -- events that would produce another chart, maybe another name, but something like the duck chart to show as people switch in and out all these heat pumps.

Inrush current, that can be sometimes twice or three times the operational current. Keep that in mind.

For a lot more money, to go to things like combined heat and power, you have an item today that will talk about that. Devices like that could actually provide generation heat, and also provide cooling, opening up the situation to decarbonize.

And also do not lose sight of the fact that a shortage of renewables, it doesn't remove carbon from the building. The electricity still has carbon in it. A certain number of megawatts that are produced daily,

hourly, that have carbon. So that's owned by the home. So don't consider these to be carbon-free until you have a carbon-free power supply.

Thank you.

MS. BADIE: Thank you for your comment.

That concludes public comment. Back to you, Vice Chair.

Vice Chair, you're on mute.

VICE CHAIR GUNDA: Sorry. I was speaking very elegantly. But thank you, Mona.

Then we'll move to commissioner discussion with Commissioner McAlister.

COMMISSIONER MCALLISTER: Thanks, Vice Chair Gunda.

And no doubt you were speaking very eloquently on mute.

So really appreciate it, Brian. Thanks for the presentation and just all the work after the summit in October to sort of solidify the outcome of that summit, which I think demonstrated very clearly throughout the course of the whole event that really we needed a true broad-based market transformation effort around heat pumps.

And just to sort of put a finer point on this, you know, heat pumps are a critical central core technology for California to reach its climate goals and certainly for

the building sector to sort of hold up its part and get its wedge of decarbonization to meet those long-term goals for the state as a whole. Even just, you know, HVAC systems moving from furnaces to heat pump HVAC systems is a significant percentage of the overall emissions in the state, maybe 5 percent, 6 percent, something like that. That's a big wedge for a single measure that really we need to develop fully to get the kind of scale that we need in a state like California where there are tens of millions of heating devices throughout the state.

So, and you know, the CEC ever since its origin really has worked to unlock savings potential in existing buildings. And it's hard.

You know, every building's a little bit different. We have a big diverse building stock, lots of 16 climate zones and all different sorts of buildings. Obviously our demographics are incredibly diverse, just representing the whole globe. And so it'll take a lot of collaboration effort to put California's buildings on that trajectory to help meet the state's climate goals. So a critical sector, and it's just going to take a lot of collaboration.

So we have the governor's goal of 6 million heat pumps by 2030, and if we can meet that goal, it's a big lift. It roughly requires a little more than doubling of

where we think we kind of on the natural are going to go. And so this partnership really does need to sort of amp up the effort and help that happen broadly across our whole society, and if we can reach that goal by 2030, it puts the state and the building sector on a trajectory to meet its piece of our climate goals.

So we're really approaching this transition from the perspective of affecting true market transformation. But as all of you know, our programs generally at the Commission are focused very much on under-resourced communities, disadvantaged communities, low-income communities. We're going to be pushing close to three quarters of a billion dollars roughly into low income communities across the state with the various programs from the state, Equitable Building Decarbonization Program and the federal Inflation Reduction Act monies. And so those really are revolving around the neediest communities in the state.

And that, really, in terms of market transformation, that's flipped. You know historically, with solar, for example, and many buildings technologies, we've sort of pushed technologies into the upper end of the market and sort of trickled down from there by reducing costs and making it more accessible to lower-income consumers. And here we're really starting with a different

premise, that we can open up markets beginning with folks who need the most help, dial in the technologies, and then go up market from there. And so this partnership I think seen in that context will really help broaden and scale that market transformation expeditiously. And it's a big lift. It's going to take a lot of collaboration across many, many partners. But overwhelmingly, you know, it won't change the fact that we're focused primarily on low-income and under-resourced communities.

So the partnership will assemble all the relevant regulatory and market actors into one body and task the partnership with that body and committees on that body to educate the public about heat pumps, all the incentives available, breaking down the other barriers. You know, anybody who's done a mechanical upgrade in your home or business knows that it's not the easiest process in the world. There's a lot of steps to it, a lot of links in that chain, and a lot of places where it can break down.

I think this effort dovetails well with our compliance improvement efforts at the commission, which we have a huge vested interest in enhancing. And the summit, I think, really brought up all these issues, and the clear outcome, as I said, was that we need a sort of an all-hands-on-deck approach. And so the market transformation, and just taking advantage of a lot of the existing work

that was already happening to knit together these efforts. Just the synergy in the moment I think was really great with the budget bill that provided some resources to do this and sort of the pieces kind of fit together nicely.

So really in strong support of this. I think the oversight of a \$9 million contract over a number of years is going to be super critical to get the outcomes that we're looking for, to maintain the focus, the policy focus, and all its different elements, including the focus on disadvantaged communities, and then to take those experiences and just learn as fast as possible and permeate the marketplace with effective projects. And really change the tune, change the tenor, change the sort of the public's understanding of heat pumps as a product that's really ready for prime time that they can adopt and benefit from doing so.

So I'm really excited about this collaboration, or this effort, by the Building Decarb Coalition, you know, who has really brought on board an incredibly large and diverse set of stakeholders and members and partners to move markets and to make heat pumps sort of be all they can be. So happy to support this and looking forward to our, you know, active kind of engagement and the successes that it'll engender.

So thanks again, Brian, and pass the mic to my

colleagues.

VICE CHAIR GUNDA: Thank you, Commissioner McAllister.

Commissioner Monahan, and then Commissioner Gallardo.

COMMISSIONER MONAHAN: Well, first, I want to say how excited I am for this initiative. It just sounds really interesting, and having had experience with Veloz, which is the public-private partnership that California established to accelerate electric transportation, it seems like there's a lot of overlap between what this initiative is and Veloz just with different sectors.

Is that fair, Commissioner McAlister?

COMMISSIONER MCALLISTER: I think that's absolutely fair.

And the Veloz model, I think, will provide -- it's different, right? Because it's a different product. And I think in some sense, you know, EVs are maybe five or 10 years ahead of heat pumps. We need to collapse that time difference. But EVs, you know, obviously, it's worked. They're taking off. And so that public-private partnership, and the messaging, and the public facing and the barrier busting in a supply chain sort of within the industry, both are, you know, equally necessary to really move the needle.

And so I think the Veloz model definitely provides inspiration for this effort.

COMMISSIONER MONAHAN: Well, I think this combination of convening the manufacturers, but bringing them into this Building Decarbonization Coalition, which is really focused, has a big focus on equity. And I just really liked that pairing.

And also the data side. I mean, one of the -- you know, the Veloz coalition has been using the data that Vice Chair Gunda actually was seminal in first putting together the ZEV dashboard. And that's just become such a great platform for amplification and for, like, building this narrative that this is about -- you know, it's not about any individual agency, but it's about the endgame, and making sure that we're tracking progress. So I just love all the different aspects of it.

And I guess my only question is, is there a plan ultimately to make this kind of self-sustaining where the manufacturers would put money in? I mean, I think it's early. I think you're right, it is early. But that Veloz model of also having the utilities at the table -- which I don't think right now is part of this -- but you know, just are you thinking over the long term that this could be a self-sustaining model where different entities will put in funding to be able to support it?

MR. EARLY: Yes, Commissioner. The Building Decarb Coalition is tasked with entering into partnership agreements with the OEMs, and I think those will vary by market actor, but part of that I think is an expectation that they will either be contributing directly or in-kind with marketing materials.

COMMISSIONER MCALLISTER: I'll kick in here.

Some of the OEMs have already, you know, demonstrated sort of an enthusiasm for contributing resources to this effort. And I think part of the challenge will be kind of managing that and making it equitable within the group.

But, you know, I guess maybe a point I would add is in the case of Veloz, you know, you have the big auto manufacturers. These are global, huge enterprises that are engaged, and understand the importance of the California marketplace for EVs and you know, as a sort of fulcrum point for market development, and the same applies here.

You know, at the summit, we had, you know, ten or so of the world's largest OEMs for heat pumps sort of singing Kumbaya on the stage and committing to help us meet our 6 million heat pump goal. And you know, that set of OEMs, you know, is what it is. We have to, I think, really work with them. You know, they're from all over the world, from Japan, from Korea, from the U.S. from -- you know, all

over the globe, from Europe, that are all wanting to participate in this great opportunity they see in the California market.

And so I think they -- we have a great opportunity, I think, to leverage this investment that we're making and this effort in our big market to maybe affect some change in the way the OEMs approach their markets as well, and sort of how they maybe embrace some of our policy goals in terms of equity and the like.

So, I think starting -- we have to start where we are obviously, but I think, you know, at the summit, we successfully knitted together this coalition and this group of OEMs, and I think they're going to learn a lot on the journey as well, what our priorities are, and hopefully shape their efforts to meet those priorities as well.

VICE CHAIR GUNDA: Commissioner Gallardo?

COMMISSIONER GALLARDO: Thank you, Vice Chair.

First, Brian, congrats. You did a great presentation, and I wanted to express my gratitude to you and the team for the briefing you provided with me earlier.

Also, thank you, Commissioner McAllister, for your leadership on this. I wasn't able to attend the summit, so it's really nice to hear more about the details and the tangibles that are coming out of that fantastic summit you had.

So I do have a couple of questions. My first one is probably the easier one.

I was wondering, Brian, if you could talk a little bit more about the funding breakdown.

MR. EARLY: Absolutely, Commissioner.

So, I think that the majority of the breakdown of the funds is going to be going to the AB 102 consumer-facing technical assistance program, since that is the source of the funds. And so that's going to establish a multi-year program that's going to be aiding consumers in finding and applying for the various federal and state incentives. And so that also is going to entail the launching of a website, which will be a portal that will assemble all of those.

And so another portion, obviously a smaller portion -- let me pull up the breakdown here -- is going to be going towards the actual funding and operation of the partnership, and so -- okay, here's the breakdown. So 4 percent for administration, 6 percent for planning and launch, 16 percent for partner management and convening, 4 percent for strategic planning, and 70 percent for marketing, education, and outreach which is the AB 102 main task.

COMMISSIONER GALLARDO: Great, thank you. That's helpful.

And then another item that stood out to me was the advisory boards. So, Commissioner McAllister, you did a great job giving us context. And I'm really excited about the focus on bringing in new consumers for the heat pumps, you know, in focusing on disadvantaged communities, low-income communities, under-resourced, etc. And I was just curious if there was any possibility of including experts of the community, especially for those of the folks that we're trying to get, to participate on the advisory boards, possibly as holding a seat so that there's consistent communication and that sharing of insight and expertise with the, you know, manufacturers and the agency heads. Or, you know, if that's not possible I would encourage some other type of formal structured setup where we could get that expertise on a consistent basis. and I know, Building Decarbonization Coalition is really good and has an extensive network, and they're really good about communicating and engaging. But I just want to, given the impact this program could have, making sure that those types of experts from the community are included in a very real way.

So just curious if you want to talk about that a little bit more. I know it's more of a recommendation suggestion rather than a question, but if there is anything else that you wanted to say about that, I welcome it.

MR. EARLY: Absolutely.

And I think we will be relying on the oversight and consulting role -- a recode of DACAG, for example -- in terms of reviewing work product and informing work products. The other principals on the Public Advisory board, of course, have their own sort of DACAG equivalent type organizations.

And so I think in the effectuation of the governing documents, which would be the next step if this were approved, we can ensure that all of the expertise and learnings that we've accrued here at the CEC and CPUC and CARB, you know, are brought into the development of the governing structure.

COMMISSIONER GALLARDO: Okay.

I just want to note that that's different than including someone, you know, who is an expert on, you know, in a structured group that's formal that, you know, can be consistent communication. DACAG is fantastic and I do recommend working with them as well if they're able to do the review, but that won't provide you the consistency that I think could be really valuable if there's, you know, something aside from DACAG, so just want to highlight that.

COMMISSIONER MCALLISTER: I really appreciate that that point Commissioner Gallardo. And the fact that we will be garnering so much experience from the programs

that we'll be implementing alongside this effort I think provides a key opportunity to sort of put sort of the realities of those programs, and the implementation, and the tight connection that those programs will have in key communities across the state, in key equity communities across the state, getting those experiences in front of the partnership, and just sort of -- I don't think there's going to be sort of an ability, really, to not treat those, you know, kind of those market barriers front and center. If the partnership is going to be successful, they will have to be really front and center.

So however that dynamic has to work. I think, you know, that I agree with you. I'd like to see the same thing. And I think that the experience that we'll be getting in the programs will just be invaluable for ground truthing everything that this effort I think does along the way. Because if it doesn't take those lessons into account, it won't be successful. And then we'll all be worse off. So I think we all have a stake in making sure that happens. I really appreciate your sort of pushing for accountability in that space.

COMMISSIONER GALLARDO: Thank you so much. And again, Brian, I appreciate it and your willingness to engage.

Thank you. Thank you, Commissioner McAllister.

VICE CHAIR GUNDA: Thank you, Commissioner Gallardo.

I just have a couple of quick comments. I also want to start with saying thank you, Brian, for the presentation. Super helpful to understand the context and just kind of the clarity on what you're thinking here.

So, I want to uplift in the vision behind this, both from the Chair and Commissioner McAllister in recognizing the need for such an important transition, and figuring out a way to effectuate that transition and creating that market transformation needed. I think we can look back on the success stories, and not so successful stories, in terms of technology adoption in California. You know, we can even talk just a couple of different technologies in lighting, how some, you know, some have flourished and some didn't, and the importance of that public-private partnership.

I think the, you know, Building Decarbonization Coalition has been a proven and trusted partner in this space, so really heartened by, you know, them being a part of this work to really elevate not just the policy and technical fronts, but the ability to engage and communicate and develop the process towards stakeholder engagement and barrier busting. So it all sounds great.

And I also want to recognize just how incredible

of a moment CEC is in right now in the middle of humongous building transformation. Transportation under Commissioner Monahan, we have the offshore wind under the chain, and these are, like, some tremendous transformational times that we're in. And I just want to commend the staff who are the underpinning of so much of the work that the team does. And Commissioner Gallardo, thank you for uplifting the voice on how do we make this more frequent and meaningful engagement in bringing the voices from the communities in this process.

I do want to also just note for the staff, six million heat pumps on the grid has an impact and, you know, actively planning for that. I know we are planning for it in the forecasting, but Commissioner McAllister, to you, your interest on data, you know, I really request for your oversight in figuring out how we can really get data, localized data on how to effectuate this into the modeling that we do for grid planning purposes and creating that transformation. So I look to your leadership on helping us with that in our planning processes.

COMMISSIONER MCALLISTER: Vice Chair Gunda, I really appreciate that and would, you know, love to coordinate around, you know, how we can potentially target some of these investments to, you know, provide on-ramps to load flexibility programs, to sort of target some of our

subsidy efforts, not just in justice communities, but in those communities that are in critical places on the grid so that we can really sort of, you know, really help develop and implement this vision of load being part of the solution for reliability. I think it's a great opportunity to put the equipment where it can be both most helpful to the customer, but also most well-aligned with the grid needs in a particular area.

So, look forward to coordinating with you and your team on that.

VICE CHAIR GUNDA: Thank you, Commissioner McAllister.

So just one last point on that one, given your leadership also on the EPIC and many other places, I feel like there is a real opportunity for us to leverage all the CEC funding, whether it's at technical institutions that we have, LBNL on demand flexibility, we have put in a lot of money at UC Davis on cooling technologies. So just wanted to uplift the opportunity to leverage the money that we've already put to the table to here.

So thank you so much.

I don't have any further comments, and with that, would like to request Commissioner McAllister if you want to move it.

COMMISSIONER MCALLISTER: Well, thanks Vice Chair

Gunda.

I will move Item 11.

VICE CHAIR GUNDA: Is there a second,
Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

VICE CHAIR GUNDA: Okay, we'll take the vote.
Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

VICE CHAIR GUNDA: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

VICE CHAIR GUNDA: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

VICE CHAIR GUNDA: I vote aye as well, so that's
four to zero and the motion passes.

Thank you so much and we'll call the Chair back
into the room.

MR. EARLY: Thank you.

COMMISSIONER MCALLISTER: Thanks Brian.

VICE CHAIR GUNDA: I do see an empty chair.
Waiting.

So Chair, I see you coming in. I just want to
note that it's 11:15 and it's a good time for me to step
out of the meeting. Requesting that I step out.

But I also just want to thank and say sorry to
Jason, I'll be missing his presentation, Item 5, which is

very close to my heart, the work that Jason's doing.

And before he jumps in, just want to give a huge kudos to Jason's leadership here at the agency and Commissioner McAllister's continued leadership in the data field.

So a huge thanks and good luck with the rest of the meeting and I'm going to step out.

CHAIR HOCHSCHILD: Okay. Thank you, Vice Chair. And we'll turn now to Item 5, Jason Harville.

MR. HARVILLE: Thank you, Chair. Thank you for those kind words, Vice Chair.

Good morning, everyone. I'm Jason Harville, our Director of Enterprise Data and Analytics. I lead our Enterprise Data and Analytics Office, which is responsible for organization-wide data infrastructure management and governance.

I'm here this morning to provide an update on our data modernization efforts, specifically on our implementation of new data visualization and exploration tools.

Next slide. Next slide, please.

Data visualization and exploration tools provide many benefits to Californians. Those who want to explore and use our data can now do so through various tools on our website. They can also download data directly from these

tools without needing to make data requests, and can use the tools to filter and parse the data prior to downloading. This gives the public fast, interactive, and detailed access to Energy Commission data without additional time or work from Energy Commission staff.

Next slide.

To refresh your memories, Tableau and ArcGIS are tools for creating interactive data visualizations that can be hosted and viewed in a web browser.

For example, the screenshot on the right is from one of our very popular Tableau visualizations for zero-emission vehicle data, which allows users to filter data across a number of properties and then view or download whichever subset of the data they like. In fact, this particular visualization has been viewed over 15,000 times in the last year, and our broader collection of zero emission vehicle visualizations has been viewed over 125,000 times this last year.

Also, I should note due to technical constraints on what we can measure, both of those numbers are likely significant undercounts.

Alright, when I last updated you, which was last February, we'd recently rolled out organization-wide access to Tableau, and the Vice Chair set an aspirational target of having 20 visualizations on the public website in our

first year. As we build these tools, we maintain a link and description for each on the data exploration tools page on our public website, which you can see a link to there. This page has grown significantly over the last year, and I'm happy to report that we have met the Vice Chair's goal.

Next slide, please.

As of last week, we have 30 data visualization and exploration tools live on the public website, 24 of which are built in Tableau, the rest in ArcGIS. We also have four visualizations that are in our active development process, and at least five more that I'm aware of that are in earlier planning or prototyping stages.

We've also made progress in a few other areas of our data modernization efforts that I would like to make you aware of.

First, over Christmas, we rolled out access to an online data and analytics training platform called DataCamp. We previously had limited access, but we adopted an enterprise plan that gives access to all staff in the commission. It gives our staff access to on-demand interactive training to a suite of modern data tools and concepts, including Tableau, but also other popular tools such as SQL, Python, and R, and it accomplishes this at a significantly lower cost than procuring similar training from multiple vendors. In the last four weeks, we've grown

to over 225 DataCamp users -- these are all internal Energy Commission users -- and they've collectively logged over 400 hours of training. Yesterday we held a voluntary orientation webinar for new users during lunch and nearly 200 staff members attended. That's on their own time during lunch. I think this speaks to both the dedication of our staff, and also to their enthusiasm for learning the kinds of tools and technologies that we're implementing as part of our data modernization efforts.

Second, we have established a formal data engineering unit. It's located in IT, but is primarily tasked with executing the vision of my office and our data modernization efforts. The unit will contain nine staff total, and our first new hire is a data visualization specialist who starts next week. This person will be responsible for providing technical training and support for our staff internally, maintaining our visualization standards and best practices, and shepherding visualizations through our formal development and approval process. We've also filled a project manager role internally for the unit, and are currently hiring for a manager, a support position, and two data engineers. So we're building fast. I expect the hiring for the new unit to be completed by the summer and for the unit to be fully operational for the second half of this year.

Next slide, please.

And this is going to be a busy year. It's going to be a year of building, and the first of many years of building out on the foundation that we've spent a number of years preparing for. We have all of our core tools and technologies in place now, which I've briefed you on previously over the last several years, and we're putting in place the staff and training to significantly scale out the usage of these tools. For data and visualization and exploration tools, I think 20 new tools is a perfectly reasonable target for this year, although this target is largely driven by demand inside the organization. We were prepared to help them build as quickly as they want to build, and "they" being staff out in the divisions building these visualizations. In the process, we also intend to update and refine the processes and training to support this development to give us higher quality visualizations and speed the amount of time from concepts, such as from one of you all, to actually getting something on the public site.

And with our Tableau work moving into a more mature phase, we'll also have the bandwidth to explore new tools for staff, such as Microsoft's Power BI.

Finally, the beating heart of all of this work is data. And for our data modernization efforts, that means

getting our data that we currently have into our new cloud architecture. It means getting it into our new data works. So the majority of my office's focus and work in the coming year will be on identifying and migrating our most important data to the cloud and building out our capabilities to provide staff access -- not just our staff, excuse me -- to provide access to staff, our partners, and the public.

So, thank you for your time this morning.

I'm happy to answer any questions you have.

CHAIR HOCHSCHILD: Really helpful. Thank you so much.

With that, let's go to commissioner discussion starting with Commissioner McAllister.

COMMISSIONER MCALLISTER: Well, great. I'll try to channel the Vice Chair as well a little bit.

But thanks Jason for that presentation. Really great as usual. And it just reflects such competence that you've helped engender just across our whole data team and now across the whole commission. So just kudos to you.

I wanted to just make a few comments. I get the shivers when we talk about this because I think it's just such a powerful set of tools and just approach, and a way to unlock the creativity of our staff that's just never existed before. You know, I think historically, you know,

we have such an incredible dedicated staff to commission. And I think in order to do the mission-driven work that they feel so passionately about, often that has come with a lot of sort of developing high tolerance for bureaucracy and process and, you know, difficulty in getting data and just a lot of, you know, friction in the system, to really get to be able to do the kind of work that they really want to do.

And this, you know -- I mean, we can never say it gets rid of all the friction, but it certainly enables access to data at a level that just staff has never seen. And none of us have ever seen, really. And most state agencies, I would argue, have not ever enabled access to. And make that the centerpiece of their job, and not the sort of the nice to have at the end, but the actual fundamental, most of what they're putting their time and energy into. And so I think that's just a super powerful paradigm shift.

And, you know, there are so many good ideas out there. I mean, I think 20 is a tiny number, because the list of possibilities is longer than I think all of our arms together. And the task, I think, the difficulty, is going to be prioritizing what are the ones that we really ought to work on and that staff should be sort of empowered to create and make public. But that's a great problem to

have. So I'm really excited about it.

Congrats on the data engineering unit. I think that's an incredibly savvy structure to put in place and really looking forward to all the hiring. And I'll say, as a, you know, bureaucrat of a certain age that did not grow up in the digital age, I am just -- I am really very sanguine about my ability to understand all the possibilities here. You know, I do come from a technical background, so I, you know, understand the -- sort of the concepts, but the ability to work with big data sets and all of the modern tools that enable competence in that realm really is just a game changer. And so, I think our staff that really has grown up through an educational system that enables -- that makes those tools kind of part of their DNA offers us at the commission, and just across our partnerships out in the world, a level of skills that is going to produce just amazing things, and just -- so I'm super excited about it.

Just a couple of final comments. Another aspect of this in terms of, say, interval meter data -- you know, there are lots of different kinds of data, so it's hard to generalize -- but the interval meter data is a big part of what we're going to be able to work with now. Already are. And part of my vision, and I know the Vice Chair shares this as well, is to enable access to key partners of the

interval meter data and some other key data that can help with decarbonization of our state, local governments being sort of primary among them. And I want to just give a shoutout to you, Jason, and also to CCO, and Christina's back there is working hard on this as well, to develop agreements with local governments that enable them to hire contractors to do this kind of analysis and then provide the fruits of that, of those labors and that data access, to the local government and out to the public and the world. But without compromising the sort of sanctity of the data, the security of the data, and really making sure that the folks that can touch it and work with sensitive data actually have the skills, the cybersecurity protocols in place, and the accountability to really do that correctly and hygienically. So those structures really matter. But I think we're working through that and we're going to get there here pretty soon where we're going to have local governments really, I think, also receiving a lot of fruits of this new paradigm.

And then also just to wrap up, the counterparts that I work with every day out there in the world, like the CDMEC, you know, the California Demand Management and Efficiency Council, and some other very knowledgeable groups in the efficiency and building space more broadly are just ecstatic that we're doing this. And they see the

potential. They've been sort of beating their head against this wall for decades. And I think they see us as enabling solutions to problems that are longstanding out there. And, you know, we talked earlier about market transformation and market development. It's really going to help develop a highly attuned set of programs and counterparts across the state that really -- we're going to have visibility that we've never had before. And that's going to really improve our programs, and make all of us more effective, including, you know, starting with our staff.

Anyway, just really, I'm glad you're doing this. I mean, once a year seems like not quite enough, but maybe you can come back in six months.

MR. HARVILLE: We have a quarterly updates schedule.

COMMISSIONER MCALLISTER: Oh, we -- good. Good. Even better. Even better. Awesome. Terrific.

So I'll wrap up my comments, but I'm just super excited about this and hopefully I spoke for both myself and the Chair -- and the Vice Chair, rather.

CHAIR HOCHSCHILD: Thank you.

Let's go to Commissioner Monahan.

COMMISSIONER MONAHAN: Well, Jason, very cool stuff.

And of course, you know me and how much I love the ZEV dashboard, and it keeps getting shown. I guess it's still like the poster child. It's like a cool tool.

What would you put, like, as the -- if you were going to recommend to us, we'll check this one out because it's a really good visualization -- what would you recommend from your many visualizations?

MR. HARVILLE: Let me see. Probably that ZEV dashboard. I mean, that's why I chose it for the screenshot, but -- not a satisfying answer, but it is the poster child currently. Although the rest of that collection is also some excellent visualizations

We group our visualizations into what we call collections so that we can present a group of related visualizations. The other ZEV visualizations are also excellent.

COMMISSIONER MONAHAN: I think so too, actually.

So I'm wondering if in your next presentation you could kind of just walk us through a couple of examples, and I think it'd be great to just see more in concrete ways, and maybe if you have information on the traffic that you're seeing, in terms of like what is the public glomming onto, and maybe we could even talk about what more could be done kind of in social media or with us to amplify some of this cool graphic. You know, it seems like there's a big

comms opportunity here if we capitalize on it.

MR. HARVILLE: Will do.

Thank you.

COMMISSIONER MONAHAN: Yeah, thank you.

COMMISSIONER GALLARDO: Jason, I also have comments and questions.

First, thank you for the presentation. It's fantastic to hear even all the data just today about, you know, 200 employees from Energy Commission joining that training that shows the excitement and enthusiasm for all of this. I think it's really helpful to have these visuals for the public as well. And I'm really excited that we're going to work -- My team's working with you on some tools for Lithium Valley. So watch out, Patty, you might have some competition coming soon.

So, like, one of them being a dashboard to show the investments that we're making in Lithium Valley. A lot of people have been asking us, you know, what are the investments? Who's doing what? And it's hard to tell them all of that, but a visual will make it easy. And, you know, having a centralized place for that, too.

Again, gratitude for you working with us, setting that, you know, all of this up and, you know, just making us even better, uh, for the public.

CHAIR HOCHSCHILD: So I just wanted to add my

thanks, Jason, to you and the team. Really excited to see the progress.

And just one request I would have going forward as we have the particularly compelling data visualizations that, you know, we're generating, you know, to bring those into the meeting and do future information items like this -- I would just point to, you know, the ZEV dashboard being a great example of regular, you know, quarterly intervals where we're producing really valuable data, rendering in a way that's really accessible that gets picked up now and gets major media coverage, and we're doing that with RPS and other programs we offer, you know, increasing with energy storage and so forth. But just kind of a standing request to you to kind of gather the most compelling ones, and then we'll be doing these periodically because I think as Commissioner McAllister noted, it's really valuable and in demand and great to showcase.

So thank you for all the all the hard work.

Yeah, Commissioner.

COMMISSIONER GALLARDO: I have one more question, Jason.

Is there any utility in having training for the public to use these tools, or a group like our Disadvantaged Communities Advisory Group who are working with us on a regular basis?

Does that make sense at all, or there's probably no need as long as they're able to view the --

MR. HARVILLE: Yeah. Wow. I guess I'm surprised to realize I've never thought of that. That's an excellent suggestion.

Fortunately the tools are built to be extremely user friendly and it's largely point and click and it's sort of -- if you're savvy enough to make sense of the data and what it's showing you, you're savvy enough to figure out the tool, but we could certainly look for some resources to maybe point folks to, like from our data exploration page, sort of our central hub, and maybe provide the public some resources on what Tableau's like and, and how they can work around.

I think that's great.

COMMISSIONER GALLARDO: Yeah. I think that that'd be helpful to some guidance there that they can go to.

Alright. Thank you.

MR. HARVILLE: Thank you. Great.

CHAIR HOCHSCHILD: Thank you.

Commissioner Monahan, anything further on your side?

Okay. With that, thank you so much, Jason. Really appreciate that.

And we will turn now to Item 7. And colleagues, before we do that, I just want to say we're at 11:30 now. I'd like to run to roughly noon, and then we'll break for an hour for lunch if we don't get through, and then pick it up -- oh, I thought that was Item 6.

My mistake. Was that Item 5?

Oh, my, I apologize.

We're on Item 6 now. Order instituting informational proceeding.

Where is Jimmy Qaqundah?

There we go.

MR. QAQUNDAH: Good morning, Chair and Commissioners.

As you mentioned, my name is Jimmy Qaqundah, and I'm an advisor in Commissioner Gallardo's office. I'm here to present Item 6, and request that you adopt an Order Instituting an Informational Proceeding regarding Justice, Equity -- sorry, Justice, Access, Equity, Diversity, and Inclusion, or JAEDI for short.

Next slide, please.

The JAEDI principles are integral to the CEC's identity, both internally to create a culture of belonging, and to achieve CEC's mission of a 100 percent clean energy future for all. For this reason, CEC has a history of taking proactive action to embed JAEDI throughout its work,

even before it was named JAEDI.

There are multiple benefits of being intentional in keeping these principles at the forefront of our work, such as achieving a workforce that reflects the diversity of California; creating workplace atmospheres in the energy field where workers are supported and can thrive; removing barriers for consumers to access clean, reliable, and affordable energy; and enabling tribes and communities to engage early, often, and meaningfully on all our programs and policies. Ultimately, the purpose of these endeavors is for the CEC to contribute to realizing a vision where all Californians live with dignity, have improved health outcomes, and enjoy opportunities to achieve prosperity.

Next slide, please.

As part of these ongoing efforts, equity and environmental justice were a primary focus of the CEC's 2022 IEPR update proceeding, which was led by Vice Chair Gunda. That update included a recommendation to open an informational proceeding on JAEDI, and consistent with that recommendation, this proceeding will provide a public forum for the CEQC Commissioners and staff to engage with communities, tribes, local governments, peer agencies, and others about JAEDI-related matters. This proceeding will complement staff's already successful efforts to embed JAEDI, providing an independent forum to seek feedback

through workshops and also in a dedicated docket for ways to keep leading efforts to embed JAEDI into our clean energy transition.

Next slide.

The OIP is adopted. The proceeding will cover multiple subtopics. We're still working on the exact order to be determined, but this will give you a glimpse. First, through the 2022 IEPR update, the CEC adopted a JAEDI framework, which outlines the CEC's commitment to embedding energy equity and environmental justice into our energy future. This proceeding will further develop and improve upon that framework.

Next, in order to meet the needs for a skilled workforce required for the clean energy transition, CEC programs invest in assisting with workforce training and development, including by collaborating with other agencies such as the Workforce Development Board. Similar to workforce, the CEC strives to increase opportunities for suppliers and vendors to reflect the diversity of California. CEC encourages supplier diversity through its programs, including its Empower Innovation Platform, which helps individuals and organizations identify funding and partnership opportunities to advance a clean energy future. This proceeding will seek feedback on how to improve CEC's current work on workforce development and supplier

diversity.

Benefits metrics is another one, which is another area of great importance. We will want to brainstorm more deeply with the public about what is the value there in terms of the development and implementation of our policies, programs, and projects. I'm going to discuss energy equity indicators a little more on the next slide, but I also want to point out that the preceding will explore other matters that we'll identify through the preceding process.

The anticipated result of this proceeding will be an updated JAEDI action plan. In 2022, Governor Newsom issued Executive Order N-16-22, which directed all agencies to develop and implement action plans to advance energy equity and environmental justice through their mission -- equity and environmental justice -- which the CEC did for our programs. This proceeding will enable the CEC to seek feedback from the public to update that action plan. And at the end of this proceeding, we plan to bring an updated plan to present to you at a future business meeting.

Next slide, please.

Again, if you approve the OIIP, we anticipate the first workshop will take place in the next couple months and is planned to accomplish two goals.

First, it will be an introduction to this

proceeding, and as part of that introduction, we will seek public input on what other additional areas we can be looking at in the proceedings.

Second, it will serve as a launching pad for the Energy Equity Indicators tool that is being developed now by the Energy Assessments Division. Energy equity indicators are data visualization mapping tools that will allow users and the public to explore various energy equity data sets at various geospatial resolutions. This will be useful in identifying solutions, prioritizing areas, and highlighting opportunities for investments in California's environmental justice communities. CEC staff will announce more details about that first workshop in the near future, as well as future workshops and other opportunities to participate on the proceedings docket.

Next slide, please.

So before getting to the recommendation, I want to say I have the honor of presenting this OIIP to all of you for your approval, but there are many people who've been behind this effort, including, of course, the Commissioners who, you know, show leadership on this issue and provide that leadership, Mona Badie and PAO+ and her office, Carousel Gore, staff and CCO attorneys who worked on the 2022 IEPR update, as well as staff from every division, and attorneys who put amazing amounts of time and

effort to ensure equity and environmental justice are embedded in all the programs on a day-to-day basis.

And on that note, we respectfully request the Commission adopt this Order Instituting Informational Proceeding as filed in the back of materials. Rachel Shuen from CCO is here and we're both available if you have any questions.

CHAIR HOCHSCHILD: Thank you so much, Jimmy.

With that, we'll turn to public comment on Item 6.

MS. BADIE: Hello again. This is Mona Badie, the Public Advisor for the California Energy Commission.

The Energy Commission welcomes public comment on Item 6. If you're joining us in the room, we're asking folks to use the QR code or visit the Public Advisor table in the back of the room to let us know you'd like to make a comment. And if you're joining us online, please use the raise hand feature on your screen. And if you're joining by phone, please press star nine to raise your hand.

So just giving that a moment.

Alright. We're not seeing any raised hands.

So back to you, Chair.

CHAIR HOCHSCHILD: Thank you. Let's go to commissioner discussion, starting with Commissioner Gallardo.

COMMISSIONER GALLARDO: Thank you.

So I'm excited to talk about this item. Before getting into the substance, though, I did want to thank Jimmy for presenting so well, for offering briefings, and it is his first time presenting to the dais. And so I wanted to make sure that he had an opportunity for more people to get to know him, to see his talent and his skills. He's been a tremendous asset in my office. He's been a good friend, and it's only been about six months that we've been together as a team, but he's doing wonderful, and really appreciate you stepping up to do this presentation.

So I also wanted to give thanks to Vice Chair Gunda, who is actually the person who recommended that we set up a formal proceeding for equity and environmental justice work. He did that through the 2022 IEPR update that he led. I worked with him on the equity and environmental justice focus for that diaper update, and that was a wonderful opportunity I had. And at first I thought it might be too bureaucratic of a process to discuss equity and environmental justice. But now as a commissioner, I see that it is of great value because it will be a forum where we can come together as Commissioners to talk about these matters more deeply.

We'll be able to engage with the public and get

guidance from experts from the public, so we really think that this will be helpful in that regard. And it's meant to be a home for a lot of the hard work that we're doing agency-wide. So, you know, the type of work that's not necessarily mandated, it's above and beyond to help ensure that we are being inclusive. And I think, you know, Divisions are welcome to leverage this proceeding as well if needed.

For example, EAD, our Energy Assessments Division, there's a team there that is going to use this proceeding to launch the Energy Equity Indicators tool. There wasn't necessarily a perfect home for that tool, but this proceeding will be a perfect fit for that. So it'll be a good place for us to have more discussion about these matters.

I'm really looking forward to developing that Justice, Access, Equity, Diversity, Inclusion action plan. The action plan we did when the governor encouraged us to do that first one was more of an internal plan. And so this update will be something that we can share publicly and get guidance from the public and experts, and so that will be a really robust process and we'll provide more details as we move forward. So I recommend that we support this process and look forward to hearing your comments, fellow Commissioners.

CHAIR HOCHSCHILD: Alright.

Let's go to commissioner discussion starting with Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I'm excited for this initiative and I just want to commend you, Commissioner Gallardo and Jimmy for his excellent presentation.

And I agree there's going to be a lot of value to, I would say, distilling some of the best practices from the divisions on JAEDI principles. And I think there's a lot of sort of actionable things we can pull from this in terms of our grant making and policies, so I am excited for this. And kind of more in the brass tacks, like our daily business, how do we make sure that we are doing all we can to promote an equitable energy future. So just want to thank you, Commissioner Gallardo, for your leadership in this space and looking forward to participating.

I think one of the challenges, as you well know, is that we all have a lot of competing demands on our time and workshops often kind of are harder for us to participate in if we're not a co-lead on a specific topic. So as much that can be brought to the level of the actual business meeting, kind of the better for having a dialogue across all of us.

That's all I have to say.

COMMISSIONER MCALLISTER: I just want to voice

support. Thanks, Jimmy, for the presentation. And Commissioner Gallardo, I would definitely second the commendations for your leadership in this arena, as well as Vice Chair Gunda. I know you both work together closely on all of these issues.

And, you know, I would I guess just to put a finer point on what Commissioner Monahan just said, just really building this into our processes in an integral way so that it's not, you know, sort of a nice to have, but it's just built into the DNA of our procurement processes and all our other, -- you know, assembling workshops, all that kind of stuff. Where, you know, hopefully that can be done in a way that still lets staff make progress and get work, you know, done and move things ahead, but also, you know, really be true to the the substance of what it really means to approach our work in this way and in the most inclusive way possible.

So, I think that this conversation of rulemaking is a perfect place to put some flesh on all those bones and really make it work.

So, thanks for your leadership on this.

CHAIR HOCHSCHILD: I just really wanted to add my thanks as well, and Commissioner Gallardo, you have just so enriched the Energy Commission's work on this topic, and really helped infuse it throughout the whole program we're

doing, and this is yet another milestone in that journey.
So thank you for all the hard work.

And Jimmy, thank you for the presentation. I'm
happy to support.

If Commissioner Gallardo, would you be willing to
move the item?

COMMISSIONER GALLARDO: Yes, thank you, Chair.

I move to approve Item 6.

CHAIR HOCHSCHILD: Is there a second from
Commissioner McAllister?

COMMISSIONER MCALLISTER: I second Item 6.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

That item passes four to zero.

And we'll turn now to Item 7, which is CEC and
California Workforce Development Board collaboration.

MR. STOKES: Good morning, Chair and
Commissioners. My name is Erik Stokes with Commissioner
Gallardo's office.

I'm seeking Commission approval today for a partnership agreement between the Energy Commission and the California Workforce Development Board. This agreement will provide a framework for how the two agencies collaborate at this really important intersection between clean energy and workforce development.

Next slide, please.

So, we've identified several benefits that this agreement will have for California. At the top of the list is ensuring everyone is included and benefits from the clean energy evolution, and one of the ways we see this agreement doing this is increasing high-quality jobs and economic opportunities especially for those in under-resourced communities.

Second, As the SB 100 report showed us, we're embarking on this unprecedented build-out to meet our clean energy policy goals. Building out at this pace and scale means we're going to need a much larger workforce in the state. This partnership will help ensure that we have that workforce in place and that we avoid some potential workforce bottlenecks down the road. This agreement will also enable the state to maximize its workforce investments by targeting and tailoring workforce training programs to clean energy industry trends and the workforce needs and opportunities behind those trends.

And then lastly, by having a trained workforce, this will lead to higher quality work, which can lead to lower costs for customers, as well as higher consumer confidence in clean energy products and services as we deploy those.

I want to provide just a quick overview of the agreement. As I mentioned earlier, the agreement does a couple things. One, it provides a high-level framework for how the two agencies collaborate. Second, it also formalizes the partnership between the Energy Commission and the California Workforce Development Board. This agreement builds off a lot of prior work and policy recommendations, most notably the SB 350 low-income barrier study that the CEC authored several years ago. That report specifically recommended the CEC and the CPUC partner with CWDB and the Labor and Workforce Development Agency.

We were inspired by the CPUC's efforts. A couple years ago, the CPUC established an agreement with CWDB to ensure CPUC's policies and programs lead to high-quality jobs. The CEC's agreement is modeled after that one and will provide an important mechanism to enable the CEC and the Workforce Development Board to share subject matter expertise to inform each other's activities.

Next slide, please.

The next steps if this agreement is approved. We

plan to schedule a meeting with CWDB to discuss near-term activities between the two agencies. This includes determining the optimal cadence for coordination meetings and determining the most effective ways to engage with each other. The other step we'll discuss is holding a public workshop to further engage and get input from the public to guide our coordination efforts going forward.

Next slide.

This concludes my presentation.

I just want to give a special thanks to a couple folks that really did the heavy lifting. Renee Webster-Hopkins from our Chief Counsel's Office, as well as Larry Rillera, who's no longer at the CEC, but I think probably is in spirit since he put a lot of the work that went into this. I'm joined today by online by Derek Kirk. He's the Assistant Deputy Secretary of Climate at the Labor and Workforce Development Agency. He would like to make some comments, and after Derek speaks, I'm available to answer any questions.

CHAIR HOCHSCHILD: Thank you.

MS. BADIE: Thank you.

We've promoted Derek Kirk to a panelist. So Derek, if you wanted to come on.

MR. KIRK: Thanks, Mona. Appreciate that.

And thanks, Erik and Commissioner Gallardo for

all of your continued partnership in this process.

As Erik noted, my name is Derek Kirk. I'm the Assistant Deputy Secretary for Climate at the Labor and Workforce Development Agency.

I'm working closely with the California Workforce Development Board, which is one of our department's boards and panels within the Labor Agency, to ensure that we are collaborating with all of you that are doing the really important work of supporting the transition to a carbon-neutral economy, while ensuring that we're creating really important access points for Californians in this space.

The Workforce Development Board has long partnered with other agencies, including the Labor Agency, to ensure that we're utilizing their skill and techniques and understanding best practices for investing in workforce development. And we're excited to further that partnership with the Energy Commission through this MOU. We appreciate the consideration and hope to partner with future agencies and, quite frankly, that this MOU will serve as a model going forward for the ways in which we can collaborate with all of the other agencies that are investing in critical infrastructure needs.

So, I'll just say thanks to Commissioner Gallardo for working collaboratively with our office to further this and we look forward to the continued partnership.

MS. BADIE: Thank you.

We can transition to public comment now.

If you're joining us in the room and you'd like to make a public comment, we're asking folks to visit the Public Advisors table or use the QR code to notify us. And if you're joining us by Zoom, please use the raise hand feature on your screen or star 9 if you're joining us by phone.

So we don't have any in-room comment. I'm going to transition over to Zoom.

Call-in user 2, I'm going to open your line. If you could please state and spell your name for the record. We are asking for comments to be two minutes or less.

MR. UHLER: Hello, Commissioners. This is Steve Uhler. That's U-H-L-E-R.

I'm very much interested in the effect of improving the quality and lowering the cost. I'd be really interested in looking at what kind of syllabus of training on working with AC circuits, which our grid is, and really how they cover factors like power factor, inrush currents, and such. I do know in some situations, mix and match in a house can even blow the main breaker for such issues. And that would be, I would consider low quality work, even though it's not a factor of how skilled the individual was mechanically installing it.

So, I would like to know where I could see any kind of syllabus or training, or what standards would be taught to teach this workforce.

Thank you.

MS. BADIE: Thank you.

Next, we have Ted Booker.

Ted, I'm going to open your line. If you could please spell your name for the record. We're asking for comments to be two minutes or less.

MR. BOOKER: Thank you so much. My name is Ted Booker. It is spelled T-E-D, last name Booker, B as in baby, O-O-K-E-R.

My comment is I'm so thankful for this opportunity for a collaboration to happen. What I'm most interested in is making sure -- because I've been working in social service for the last 30 years and been doing workforce development for more than 15 years -- I want to make sure that while discussions are happening on a macro level, that you have some community-based leaders that are participating in the process and facilitation. Because my group, which is Anchor of Hope, my Executive Director, Jean Franklin, was an individual that was instrumental in working with Mayor Villaraigosa to get to the local hiring initiative on the book. So, she's well versed in the subject matter in this process and making sure that

opportunity gets to disadvantaged communities like they need to.

You need leaders like her participating from community-based organizations in this process while it is at the macro level, because by the time -- I know that the groups with their best intentions are working on behalf of community, but without those leaders that are boots on the ground participating in the process, there's usually a miss. And there's some back-end work that needs to happen on some consideration that didn't take place on the macro level, because by the time it gets to the micro level in community, sometimes it's too late. There are certain things that need to happen at the macro level when these discussions are first happening, and a certain number of community experts need to be participating in these conversations.

Thank you so much.

MS. BADIE: Thank you for your comment.

That concludes public comment.

Back to you, Chair.

CHAIR HOCHSCHILD: Okay.

Unless there's any other commissioner discussion -- did you want to make some?

COMMISSIONER GALLARDO: Okay. So first, just addressing Steve Uhler, Ted Booker, who made comments,

thank you so much for joining and participating.

And that's exactly, you know, one of the reasons why we're doing this as a formal partnership, so that we can talk about these issues publicly. And, you know, want to have that type of insight and experience that you just mentioned so that we know that we're looking at the right things. And we're working together as a team with experts in workforce, as are the Labor Workforce Development Agency, California Workforce Development Board, and then Energy Commission being the expert on energy policy planning and, you know, combining that.

So again, thank you so much, Steve Euler and Ted Booker, for the comments. And we hope that you will participate in our processes focused on this agreement that we have on workforce.

And I wanted to also express gratitude to Erik for stepping up to do this presentation. So, you can see my team is in full force today and we're really excited about this opportunity. And I also want to thank Derek, who's been a great partner as it is even before this agreement was being formalized. I think it'll just be helpful to have this type of agreement, which is binding us and then also helping us convene more often so we have that type of consistent communication that will enable us to share information and hopefully take, you know, actions and

next steps that will make a big difference for all Californians and remove those barriers to these amazing opportunities that we have that are being created by Offshore Wind, Lithium Valley, and, you know, there's conversations in SB 100 about what types of employment opportunities will be there as well, given the unprecedented buildout that will be needed to reach those goals. So I'm just really excited. Also in the transportation space, there's a lot of opportunities.

So looking forward to thoughts from my fellow Commissioners, but again, recommend that we support this so we have a formal agreement with the California Workforce Development Board.

CHAIR HOCHSCHILD: Let's turn to Commissioner McAllister.

COMMISSIONER MCALLISTER: Yeah, just briefly, very, you know, heartily support this item. Earlier in the meeting, we talked about all of the programs and, you know, initiatives that we're going to have pushing out into the world. It's going to put a lot of people to work at all levels and all skill levels across the state.

And I just want to hold up particularly Mr. Booker's comment, just that I think, you know, we live in a very diverse state, obviously, and each region of the state, each locality in the state, actually, looks

different and has a different institutional setting and really just needs that kind of engagement. I think formalizing this and bringing in the expertise, you know, Derek, that you talked about, and across even more agencies is essential to kind of get it right in each place, and I want to just really acknowledge the work of you and your colleagues in the workforce space.

And, you know, the previous item, I think, you know, under Commissioner Gallardo's leadership as well, you know, I think we're seeing just so much, so many threads that are just getting stronger and stronger as we go forward. And this is another one I think that will really provide a lot of value. We have a lot of contractors out there who, maybe they don't even know it necessarily, but they will benefit from this partnership as well. You know, the State License Board does amazing work that complements this. And I think, you know, building those at that nexus as well is important, so just a lot of commonality.

I meant to hold up in the last item, actually, and I'll do it now, the report, the Low Income Barriers Study, the SB350 report. And I just want to acknowledge Mike Sokol, actually, because he now leads the Efficiency Division, but he was really instrumental in getting that report really fully relevant, really developed and relevant, working, obviously, with a team across the

Commission. But I think those kinds of resources, it has staying power. That's been now, what, four or five years, and that document still continues to inspire.

And so I think just really want to acknowledge your leadership, Commissioner Gallardo, in really holding all these themes and making sure that we're continuing to make those linkages across all these themes. That, you know, in a bureaucracy in a kind of state context might tend to silo over time, and just keeping these conversations vital. And this is another one, so thanks, Derek, for being with us and partnering.

CHAIR HOCHSCHILD: Great. Well, my thanks as well and happy to support this item.

And I just, again, want to point out climate policy, industrial policy, are once again, inextricably intertwined here, and the things we get going in California have benefits, not just for our state, but for across the country.

We have about 350,000 solar and wind jobs in the United States today versus only about 50,000 or less, uh, old jobs. And, you know, these are industries that are born in California, incubated here, grown here through, through policy and investments in R&D. And we want those jobs to keep increasing, and we want to see as inclusive an economy as possible as we move towards 100 percent clean

energy. So again, I really want to thank Commissioner Gallardo and her terrific team, Erik Stokes and everyone else, for the support on this.

And with that, I'd welcome a motion on Item 7 from Commissioner Gallardo.

COMMISSIONER GALLARDO: I move to approve Item 7.

CHAIR HOCHSCHILD: Is there a second?

COMMISSIONER MCALLISTER: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 7 passes four to zero.

At this point we will recess for lunch and return at one o'clock in an hour.

Thanks.

(Off the record at 11:59 a.m.)

(On the record at 1:05 p.m.)

CHAIR HOCHSCHILD: Alright. Welcome back from lunch, everyone.

I believe we left off at Item 8. So let's go

ahead and take up Item 8, the Regents of the University of California.

On behalf of the Berkeley campus, I welcome Pooya to present.

MS. KHOADAPARAST: Good afternoon, Chair, Commissioners. My name is Pooya Khodaparast. I am with the Energy Research and Development Division.

Today I am presenting a proposed award to University of California, Berkeley. This project was selected through a gas R&D program solicitation titled Gas Pipeline Safety and Integrity Research to Support Decarbonization, under which two previous awards have been presented and approved in the business meeting in August of 2023, and this is the final award final award under this solicitation to be recommended for funding.

Next slide, please.

California has an extensive gas system that requires investments in ongoing maintenance, repair, and replacement to ensure safety and reliability. Pipeline failure incidents, including those caused by natural forces such as flooding or ground movement, have resulted in costly damages and methane emissions, as seen in the image on the right. Current utility practices to address these risks involve regular inspection cycles and emergency inspections which can be resource intensive and

insufficient for predicting and preventing future issues.

The proposed project will develop an innovative approach for monitoring gas infrastructure, analyzing data, and informing more strategic and targeted application of risk mitigation measures, which may include repair, replacement, or decommissioning. This project will improve gas system safety and reliability, mitigate potential for incidents or leakage, and support affordability for ratepayers as gas infrastructure transitions over time due to California's decarbonization goals.

Next slide, please.

The proposed project with the University of California and its project partners will deploy and collect data from remote and embedded sensing technologies to advance the development of a user-friendly free and open-source software tool called OpenSRA 2 to inform gas pipeline operator decision making.

The first iteration of OpenSRA was developed through a previous CSC award as a seismic risk assessment tool that incorporated multiple geohazards with infrastructure capacity, also known as fragility models, to determine the potential for gas system failure. However, in the absence of field data and infrastructure testing, OpenSRA currently uses generic fragility models that may not accurately reflect asset risk in response to seismic

conditions in California. This agreement would advance OpenSRA by incorporating actual field-collected monitoring data. UC Berkeley will test and collect data from two field sites using a variety of remote sensing technologies, including satellite-based interferometric synthetic aperture radar, or INSAR; technology, light detection and ranging, or LIDAR; and optical, infrared, and multispectral cameras. Additionally, embedded sensors, including three distributed fiber-optic sensors, or DFOS, namely static strain, dynamic acoustic, and temperature sensors, along with a low-cost, long-range wireless sensor network will be deployed. An example of the DFOS installation on a water pipeline near Hayward Fault is shown in the picture on the bottom. Collectively, these sensors and the resulting data will allow OpenSRA to more accurately link surface ground and pipeline movement, estimate peak pipe strain, and provide early warning of pipeline failure.

The field sites include one transmission and distribution site in the East Bay Hills San Pablo, located adjacent to the Hayward Fault, and a new transmission line at the Gilroy Field Site located along the Calaveras Fault, both of which are known to have significant seismic activity.

To test the feasibility of using these sensing technologies to predict pipeline failure, large-scale

experiments will be conducted at either the Black Hawk Geological Hazard Abatement District Test Site or the large-scale split-basing soil pipeline testing device at UC Berkeley's Richmond Field Station, as shown in the top picture. UC Berkeley will create models of the test sites and use data from the sensors to continuously monitor, map ground activity, and perform risk simulations to understand the impacts of ongoing seismic activity and future scenarios on the gas pipeline system. Data will also be used in the data analytics tool of OpenSRA 2 to predict the probability of failure of gas pipelines in response to natural hazards in near-real time.

This project will therefore enable gas utilities to better assess risk of gas infrastructure assets to natural hazards, predict probabilities of failure, and make informed decisions around mitigation measures to improve safety, reliability, and ratepayer affordability.

Next slide, please.

Staff recommends adoption of staff's determination that this action is exempt from CEQA, and approval of this agreement with UC Berkeley.

This concludes my presentation and I am available for any questions.

CHAIR HOCHSCHILD: Thank you so much.

With that, let's go to public comment on Item 8.

MS. BADIE: Good afternoon. This is Mona Badie, the Public Advisor for the Energy Commission.

The Commission welcomes public comment on item 8.

If you're joining us in the room, we're asking folks to use the QR code that's posted in the room. And if you're joining us online, please use the raise hand feature on your screen. And if you're joining us by phone, please press star 9. That will let us know you'd like to make a comment.

And so checking for in the room. There are no in-room comments, so I'll transition to Zoom.

Call-in user 2, I'm going to open your line. If you could please state and spell your name for the record. We are asking for comments to be two minutes or less.

MR. UHLER: Hello, it's Steve Uhler, U-H-L-E-R.

I'm wondering if any of this assessment and sensors can detect the result of hydrogen embrittlement.

In the future, these lines may be used for hydrogen, or a high quantity of hydrogen. Hydrogen is one of those elements, the first one, that's in all kinds of things, and it likes to cause cracks in steel. I'm hoping to hear that somebody's (indiscernible) deal with that and (indiscernible) valve points inside.

I also would like to know if any of the data that the Commission has in their Tableau system -- or whatever

your, you know, your visualization system -- will be confirmed by the individuals actually being at the site to see if it's really built the way your data set is.

And then also, will they be looking at the results from pigging? Pigging is cleaning, and what kind of materials does the pig have on it once it comes out the end of the pipe? You know, looking for natural hazards such as lead 210, which is a result of decay of radon gas and such. With gas traveling at approximately 30 miles an hour, there's a field in New Mexico would be -- radon would be lead by the time it got to Northern California.

So, yeah. I'm hoping to hear that they're looking into the future for hydrogen.

Thank you.

MS. BADIE: Thank you for your comment.

And that concludes public comment.

Back to you, Chair.

CHAIR HOCHSCHILD: Thank you.

Pooya, did you want to respond to the question about hydrogen?

MR. KHODAPARAST: So, I would keep it short by saying that, in principle, any type of seismic demand, or any type of demand on the pipeline that may cause measurable movement on the pipe, can be detected and that is the focus of this award and this project.

CHAIR HOCHSCHILD: Okay. Thank you.

So, just want to say thanks for this item.

And I still recall in September, 2010, where I live in the East Bay, you can see San Bruno where we had the explosion on September 9th of 2010. In that event, which was a natural gas pipeline, you know, eight people died. And so just with our gas infrastructure, I want to remind us it's not just about climate, but also about public health and safety. Obviously we have a lot of seismic activity in California, so I really just want to validate, I think this is a wise use of the funds and if we can do anything to help strengthen and better protect the public from those kinds of events, I'm all for it.

So unless there's other comments. Okay.

Alright, I would welcome a motion from Commissioner McAllister on Item 8.

COMMISSIONER MCALLISTER: Move Item 8.

CHAIR HOCHSCHILD: Is there a second from Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Item 8 passes four to zero.

We'll turn now to Item 9, which is Hydrogen Blending and Lower Oxides from Nitrogen Emissions and Gas Fire Generation.

Welcome Nadia Richards.

COMMISSIONER MCALLISTER: Thank you, Pooya, for that. Appreciate it.

CHAIR HOCHSCHILD: Thank you so much.

COMMISSIONER MCALLISTER: And thanks for coming out from Southern California to present.

CHAIR HOCHSCHILD: Thank you so much.

MS. RICHARDS: Hopefully this is loud enough.

Good afternoon, Chair and Commissioners. My name is Nadia Richards. I am a Mechanical Engineer in the Energy Research and Development Division.

Today, I am requesting your approval of three projects recommended for award under the solicitation titled Hydrogen Blending and Lower Oxides of Nitrogen Emissions in Gas-Fired Generation, or HyBLOX for short.

Next slide, please.

HyBLOX solicitation supports the development and demonstration of emissions mitigating technologies and gas-

fired power generation technologies while using increasingly higher blends of hydrogen. The research projects awarded under this solicitation will all operate on blends of hydrogen exceeding 30 percent and remain emissions-compliant by taking varying approaches for mitigating greenhouse gas and NOx emissions. Additionally, the technologies will remain operable and running efficiently without compromising generation efficiencies and performance.

These requirements are all in place to demonstrate the use of high blends of hydrogen for meeting California's decarbonization goals and improving public health and safety.

Next slide, please.

CHAIR HOCHSCHILD: Nadia, sorry. What were we looking at there that was --

MS. RICHARDS: Yeah, that gif is just a demonstration of in-cylinder combustion for, like, an engine.

CHAIR HOCHSCHILD: Got it.

Continue.

MS. RICHARDS: The HyBLOX initiative is focused on the power sector and can provide benefits in three main areas.

First is environmental and health, where using

hydrogen will directly contribute to reductions in greenhouse gas and with mitigation strategies the NOx emissions. Assuming in 2045 these technologies cover about 10 percent of California's distributed power sector capacity, and when compared to fossil gas engines, these innovations would lead to cumulative reductions of over 1,600 tons for greenhouse gas and over 3.5 tons for NOx emissions. Therefore, cutting these emissions will lead to health gains in communities that are impacted by poor air quality.

The second benefit would be the cost of electricity, where in time, the cost benefits realized by rate payers would come from having more efficient, reliable, and resilient systems that can accommodate the transition away from fossil power generation.

And for the third benefit of safety, that will come from developing and demonstrating improved standard procedures for handling and using hydrogen and gas-fired generation.

Next, I will go over the three projects selected for award under the HyBlox solicitation.

Next slide please.

This project is with Tour Engine to develop and demonstrate its engine to use high blends of hydrogen over 30 percent and run efficiently while using emissions

mitigating technologies to achieve low greenhouse gas and NOx emissions. The Tour Engine uses a novel split cycle that separates and independently optimizes the compression circuit -- excuse me, the compression, combustion, and expansion steps in the power cycle. The hydrogen-capable engine will be hybridized with a battery generator system to form a micro combined heat and power generation system to allow for resiliency.

The development work under this project would support the use of smaller, distributed generation systems that are emissions-compliant to help with California's energy needs. The system will be demonstrated at an existing research facility in San Diego, California.

Next slide, please.

The second project is with Noble Thermodynamic Systems. This project will develop and demonstrate the argon power cycle, or APC for short, to operate with hydrogen blends exceeding 30 percent, maintaining benchmark fuel-to-electricity efficiency and generation system performance, all without outputting greenhouse gas or NOx emissions. The APC is a retrofittable thermodynamic power cycle that uses argon instead of air, which eliminates any nitrogen into the system, resulting in zero NOx emissions.

I'd like to emphasize that, like, this point, because normally hydrogen is not a winner when it comes to

NO_x, when it's burnt, but since Argonne is used, the innovation makes the hydrogen use case strong. The APC also captures and recirculates carbon dioxide to reduce the greenhouse gas emissions.

Through this project, a retrofittable system can be used to show significant abatements of GHG and NO_x emissions for gas-fired generation. This system is planned for demonstration at a Southern California Edison site in Ponoma, California.

Next slide, please.

And the third project is with Enchanted Rock. This project will develop and demonstrate an advanced reciprocating engine generator optimized for the highest percentages of hydrogen, greater than 30 percent, the best engine performance metrics, and the lowest NO_x emissions, expected at 98 percent lower than current leading gas-fired technologies blending 30 percent hydrogen. This will be accomplished by using in-cylinder combustion and cooled high-pressure exhaust gas recirculation in conjunction with a secondary catalyst to reduce NO_x and CO₂. Through this development project, the technology will support the use of hydrogen in power generation and advances maturity to be readily available for end users. The system will be demonstrated at an existing community college in San Marcos, California.

Next slide, please.

All three recommended projects aim to incorporate high blends of hydrogen in generation systems while maintaining performance and ensuring low emissions, ultimately benefiting California's gas rate payers.

Staff recommends approval of these grant awards and adoption of staff's determination that these projects are exempt from CEQA.

Thank you. I'm available for questions, and the project representatives are in the queue to make their public comments.

CHAIR HOCHSCHILD: Thank you so much for the presentation.

With that, let's go to public comment.

MS. BADIE: Hello. This is Mona Badie, the Public Advisor for the Energy Commission.

Energy Commission welcomes public comment on Item 9 at this time.

We'll start with folks in the room and then we'll transition to Zoom. So we've got some folks in the QR code queue.

First, I'll ask that Lavanya Ben Daru, if you could please approach the podium to make your comment. Please spell your name for the record, announce any affiliation, and we're asking for comments to be two

minutes or less.

Okay, so was that Ian or is that Miguel who's going to speak on behalf of Enchanted Rock? Okay.

Ian, if you want to approach the podium, please spell your name for the record, and we are asking for comments to be two minutes or less.

MR. BLAKELY: Thank you. Good afternoon. I'm Ian Blakely, I-A-N, B-L-A-K-E-L-Y, and I'm the Chief Strategy Officer at Enchanted Rock.

Enchanted Rock is a leading provider of dual-purpose microgrids in California and across the country. We have a team in Stockton that is working to bring electrical resiliency to local communities with 248 megawatts under development throughout the San Joaquin Valley and the San Francisco Bay Area.

On behalf of Enchanted Rock's leadership team and our over 300 employees, I'd first like to thank Chair Hochschild and the balance of the Commissioners for the opportunity to be here today, and your consideration of this significant grant opportunity. Most importantly, we want to publicly thank the invaluable staff from the Energy Research and Development Division for their tireless efforts and support in bringing this process to the Commission for approval today.

Since its inception, Enchanted Rock has focused

on utilizing the cleanest fuels and technologies available to provide reliable, resilient power to our customers in the grid, and we view this potential grant as the next step in our work that we've been doing in California. That work started with our work with the California Air Resources Board to achieve CARB DG certification for our reciprocating engine, which was the first and only reciprocating engine to have received that certification, as well as our work building 148 megawatts of sites within central California in the Central Valley region, and continuing with our work with Microsoft to build the first fully decarbonized backup power for a data center.

The role of hydrogen in decarbonizing our electrical grid is extremely important, and we view this grant and the supporting activities as helping further advance the work to decarbonize the grid. We look forward to working with our key partners on this project including the University of California, Riverside, Palomar College, and Southern California Gas Company to deliver a project to benefit all Californians.

We appreciate the time, and our team is here to answer any questions you may have. Thank you for your time and consideration.

CHAIR HOCHSCHILD: I do have a question but let's go to public comment first.

MS. BADIE: Thank you.

Okay. Unless there's any other comments in the room I'm going to transition to Zoom.

CHAIR HOCHSCHILD: Oh yes. Come on up sir.

MS. BADIE: If you could please state and spell your name for the record.

Oh, Miguel. Okay. Thank you, Miguel.

MR. AZNAR: Well, first of all, thank you, everybody. Good afternoon.

I'm Miguel Sierra Aznar. I'm speaking on behalf of Noble Thermodynamics. I'm its CEO.

Noble Thermodynamics is a California-born and based company in a mission to radically and quickly reduce the world's energy-derived carbon emissions. We would like to express our gratitude to our fellow Californians for the support, that through the CEC High Blocks Program is being dedicated to the development of emission mitigating energy technologies that support a cleaner and a healthier California.

We will be honored to be provided with the opportunity to actively and directly help our beloved state reach carbon neutrality, and do it while also creating high-quality, local paying jobs, strengthening the future California labor force, and bringing equitable energy solutions that provide not only access but affordable

access to clean energy to all California ratepayers.

Noble Thermodynamics and the rest of our project team -- MTR, EPRI, College of Alameda, Sandia National Lab -- are committed to bringing technology that merges the need for reliable electricity and clean air in order to maintain the quality of life we enjoy today and the economy that provides Californians with continuous opportunity.

Thank you for your time.

MS. BADIE: Thank you.

Any other commenters in the room? If not, I'm going to transition to Zoom.

First, we have Oded Tour.

I'm going to open your line, Oded, if you can please state and spell your name for the record. And we're asking for comments to be two minutes or less.

Oded, your line is open.

MS. TOUR: Yes, I unmuted myself. Thank you.

My name is Oded Tour, O-D-E-D, T-O-U-R, and I'm the CEO and co-founder of Tour Engine, Inc. TourEngine is a San Diego-based startup, which also receives substantial awards from DOE ARPA-E program.

I first want to thank Nadia for the excellent introduction to our technology, our split-cycle engine. And I would just like to add that we use our ability to optimize from a dedicated compressor, a dedicated

combustion chamber, and a dedicated expander to have all of them in substantial low operation, about 400 to 600 Fahrenheit lower for all of them. So it's a cold-operation engine that actually gives us the opportunity to lower NOx emissions.

With the kind support of the CEC, we are developing and commercializing a hydrogen-compatible near-zero NOx emission, and with our partners at Johnson Matthey, a world leader in aftertreatment, we're currently in the lab achieving NOx level that are compatible with CARB prime power generation. As far as I know, this was never achieved with small engines, 5 kilowatts, and that's the engine that we're developing, and the future of distributed generation, adding resiliency and a widespread transition from centralized power to distributed power relies on such systems working together with solar and wind, but adding the much needed resiliency.

I'd really like to thank all of the organization, and looking forward to working with the CC.

Thank you.

MS. BADIE: Thank you.

Next, we have call-in user two. I'm going to open your line. If you could please state and spell your name for the record. We're asking for comments to be two minutes or less.

Call-in user two, you'll have to unmute on your end.

MR. UHLER: Excuse me. This is Steve Uhler, U-H-L-E-R.

This is about Tour. One of my first visits to Michigan was to find out what's happening with combined heat and power on a microscale, or nanoscale. I'm interested in this novel design that uses a pair of cylinders, looks like under an oversquare crank and piston arrangement to provide the situation of a cooler burning cycle. And actually wondering if you shrink it down and make a one kilowatt (indiscernible) with surface area to volume ratios that could even make a colder charge, whether or not water injection could be used to bring down (indiscernible) energy storage.

And then also instead of driving an alternator, drive a heat pump. A heat pump. And then be able to allow heating and cooling without any more load on the grid.

So, I'm very excited. Like I say, my first visit to the Commission was for combined heat and power. At that time, Honda had something called the freewatt with an Atkinson cycle. Looked very good. Hopefully this will work.

And this one also would offer the ability to not have to use common carrier pipeline with that hydrogen.

And I would love to be able to get bottled gas and use it in my home, so I look forward to Tour and their design.

Thank you.

MS. BADIE: Thank you.

Next we have Sarah Taheri.

Sarah, I'm going to open your line. If you could please spell your name for the record. We're asking for comments to be two minutes or less.

MS. TAHERI: Good afternoon, Mr. Chair and Commissioners.

I am Sarah Taheri. That's S-A-R-A-H, T-A-H-E-R-I. I'm here today on behalf of San Diego Gas and Electric, or SDG&E.

SDG&E is committed to creating a sustainable future by providing clean electricity, modernizing energy infrastructure, accelerating the adoption of electric vehicles, and investing in innovative technologies to ensure the reliable operation of our region's infrastructure for generations to come.

Today I'm pleased to speak in support of Agenda Item 9a, the proposed grant agreement with TourEngine. This proposed project and demonstration site is located within SDG&E's service territory. And in particular, we were pleased to see that the project intends to use on-site grid-connected electrolysis to produce the required clean

hydrogen rather than trucking the fuel in.

Because this project demonstrates important GHG and NOx emissions mitigation while maintaining or increasing engine efficiency, we believe it fits well and aligns well with our vision for a clean energy future that includes fuels like clean hydrogen.

Commissioners, we encourage your aye votes on this item.

Thank you.

MS. BADIE: Thank you.

Next we have Adam Jorge.

Adam, I'm going to open your line. If you could please spell your name for the record. We're asking for comments to be two minutes or less.

MR. JORGE: Good afternoon, chair Commissioners and staff. I'm Adam Jorge with Southern California Gas Company.

SoCal gas would like to save its support for items 9b and c, the Noble Thermodynamic Systems and Enchanted Rock hydrogen projects. Both offer potential to advance decarbonization technologies in industrial and reliability applications.

And to continue our support in advancing reliable decarbonization investments, SoCalGas has proposed support funding at 500,000 and 200,000, respectively.

We appreciate the CEC's time and consideration, and encourage aye votes.

Thank you.

MS. BADIE: Thank you.

That was the last commenter for Item 9.

Back to you, Chair.

CHAIR HOCHSCHILD: I do have a question for Nadia, and perhaps for others, just related to ARCHES and how this intersects in any way with ARCHES as a hydrogen -- and what we're expecting, if there's anything from that that will support this or any nexus.

MS. RICHARDS: Okay, so I can just give a brief overview, and I can hopefully follow up with more detailed comments after.

So, our understanding with this is that Arches is looking at much larger scale hydrogen production under the California hub. And so with this project, it's really focused on the usage of the hydrogen. And so it's at a much smaller distributed scale that we're focused with these projects.

So not entirely any overlap with that, but definitely something that it would help support, like, once ARCHES is in place, then these types of projects would have that supply that they need for the hydrogen.

CHAIR HOCHSCHILD: Okay. Thanks.

That was it for me.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Nadia, I just wanted to thank you for the briefing in depth, and I won't repeat my technical questions which I felt like I got answered well.

And all three of these projects just use really cool technology, and quite innovative, and really happy to support.

Maybe just one question which I did not ask during our briefing was, which of these technologies has the -- you know, I noticed they're greater than 30 percent, but really, you know, our goal needs to be sort of at least a hundred percent carbon free, right?

So, any ideas sort of what the long game is with this tech as a group or individually?

MR. RICHARDS: Yeah.

So, speaking individually, I think about all the projects are aiming to get up to 100 percent. Some have, I believe it's Enchanted Rock, they've already had some testing done at the lower blends of hydrogen. So, I think they all are trying to start at least 50 percent going up with their testing. But all the others will be starting above about 30 percent with the intention of getting up to 100 percent on this.

COMMISSIONER MCALLISTER: Okay. Thank you.

I'm sure in broad support. Yes.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Quickly I wanted to say thank you, Nadia, for your great presentation. Also the briefing that you gave to my office. And I wanted to thank Ian and Miguel for being here in person to show their enthusiasm, and also emphasizing the jobs piece, because I think that's a really helpful component for Californians as well. And also grateful to Oded for joining virtually to show his enthusiasm.

So overall, gratitude and looking forward to hopefully a follow-up where we can see, you know, on the jobs front what is happening there aside from the technology progress.

Thank you.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Seems like we were all curious about this when we -- and Nadia briefed all of us.

And I want to say that I found out when my fever is the highest, I have no filter. So, I was really like just peppering Nadia with random questions and she was brilliant. So thank you, Nadia, for that.

Yeah. It's a good lesson. Don't have briefings when you're really sick, or the staff gets tortured.

And one of the things we talked about was this

Noble Thermodynamic Systems and the use of argon, which I just want to highlight, I've never heard of that strategy. Like get rid of air, get rid of the nitrogen in the air, and then you don't have NOx. It's kind of obvious, but as somebody who's been working in this space for a long time around emission controls, I'd never heard of that before. So I'm just very curious about how that all pans out.

And one question, Nadia, just kind of building off, I mean, what Commissioner McAllister asked -- and the Chair, I guess -- I mean, couldn't these technologies scale up to bigger? Like, these are tiny little projects, but can't the same technologies be applied on a much bigger scale that would intersect with ARCHES and other kind of bigger projects?

MS. RICHARDS: Yeah, absolutely. Good question. Yes. Short answer, yes.

Right now, I think there's a lot of R&D that's still needed to understand as you're blending in hydrogen, how is that going to change any of, you know, your fuel injection or mixing or anything like that. So those are some of the areas of exploration that need to really be understood as we start with these smaller systems before we develop larger scale systems. And so, you know, some of that would also entail lots of modeling and, you know, that type of development work.

But absolutely. Like, this could be something that could be scaled up to, like, larger. Like, in the megawatt potentially.

COMMISSIONER MONAHAN: Yeah.

And I want to just sort of emphasize a point you made in your presentation that really it's the aftertreatment technologies, or this magical use of argon, that would reduce emissions relative to a natural gas engine. You need these technologies to work because if it just combusts, you will have more NOx. Like, it's a higher temperature combustion process that results in more NOx unless it's controlled.

So, that's why these projects are really interesting. We're trying to figure out strategies where we can integrate hydrogen but not lead to an increase in criteria pollutant emissions as we do so.

And that's all I had to say.

Thank you.

CHAIR HOCHSCHILD: Alright. Thank you so much, Nadia. With that, I would welcome a motion on Item 9 from Commissioner McAllister.

COMMISSIONER MCALLISTER: I move Item 9.

CHAIR HOCHSCHILD: Is there a second from Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye.
Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Item 9 passes four to zero.

Thank you, Nadia.

We'll turn now to Item 10 which is Peer-Hydro:
Precipitation Enhancement and Environmental Research for
Hydropower Generation.

I welcome Joe O'Hagan to present.

MR. O'HAGAN: Good afternoon, Chairman and
Commissioners.

My name is Joe O'Hagan. I'm in the
Sustainability and Health Unit of the Research and
Development Division.

Next slide, please.

I'm bringing before you two proposed agreements
that were awarded under a solicitation looking at
environmental research for hydropower generation.

As you know, hydropower is a critical component
of the state's electricity system, but it does come at a

high electricity cost. As you also know, all non-federal hydroelectric projects in California are licensed by the Federal Energy Regulatory Commission.

These licenses are issued from 30 to 50 years. Some of the most recent ones have been for 40 years.

This licensing process is also very complex, involves many studies, and involves many parties, agencies, non-governmental organizations, and individuals in the process, and lawsuits are not unknown to the process either.

Usually the process is also quite lengthy. Nationwide, the average process takes about eight years for the licensing to occur.

Thus, given the length of these permits, the FERC relicensing process presents us an excellent opportunity to develop information and tools to reduce the environmental effects of hydropower generation in the state.

Next slide, please.

Potential benefits to California from this is, of course, reducing environmental effects of hydropower and contributing to a sustainable hydropower system in California. But the results from this proposed research would also inform the relicensing process for approximately 50 permitted hydroelectric facilities in the state that are going to be up for relicensing next year, and these

facilities represent about two and a half gigawatts in capacity.

Also, the tools and information developed in these projects will be applicable to other water energy issues in California, not just the FERC relicensing, and also applicable out of state.

Next slide, please.

One of the most contentious environmental issues in FERC relicensing is determining the appropriate in-stream flow levels. In-stream flows is, of course, the amount of water released downstream from the dam that is necessary to sustain a healthy ecosystem. This is very critical for the ecosystem services. It is also dictated by permit conditions, and the FERC relicense is also a prolonged, dragged-out argument.

The other major issue for the operators is that increasing -- since water release for in-stream flows is often not routed through the turbines -- increasing in-stream flows often means reduced hydropower generations.

So, this project is trying to utilize the California Environmental Flows Framework, which is a technical guide highlighting specific tools and methods, to make environmentally protective downstream flows for all stream types in California. As opposed to the historic approaches which are generally focused on one species, this

approach allows for evaluation of overall conditions, multiple species, and provides guidance on how to deal with changing factors such as water uses, climate change, and land use.

The proposed research would develop resources for the application of the CEFF in the FERC relicensing process. Some of the main objectives would be to assess recent FERC relicensing projects to see how using the CEFF would have affected conditions, demonstrate application of the CEFF as part of the McCloud-Pit hydroelectric project relicensing amendment, and then develop resources to be posted on the web to make them accessible to other users.

Next slide, please.

This proposed research from UC Merced aims to improve FERC relicensing by providing a decision support tool to allow decision makers to balance environmental protection, specifically in-stream flows, and hydropower generation. This would be achieved by conducting a current assessment of existing facilities, their operating rules and ecological flow requirements; developing a hydrologic model incorporating the latest hydrologic scenarios developed by high-resolution climate projections; incorporate into the model the grid demands and system vulnerabilities assessment modules to allow you to simulate different management scenarios to see how it would affect

generation and cost for the operators, addressing both energy and ancillary services. The updated model would then be used for a variety of scenarios under different climate change conditions and other factors to model how these situations affect the project and develop a user-friendly interface that would be used for many parties who are involved in FERC relicensing.

Next slide, please.

Of course, staff recommends that the Commissioners adopt our recommendation that the agreements are exempt from CEQA and approve the grant agreement with both UC Davis and with UC Merced.

I'm available for any questions.

MS. BADIE: This is Mona Badie with the Energy Commission.

The Commission welcomes public comment on Item 10 at this time.

If you're joining us in the room, we ask you to use the QR code or visit the Public Advisors table in the back of the room. And if you're joining by Zoom, please use the raise hand feature on your screen and star nine if you're joining us by phone.

So we have no raised hands for this item.

Chair, back to you.

CHAIR HOCHSCHILD: Okay.

Well, you know, we're obviously in a period of very heavy rains now, and yet that is no reason not to move forward with this stuff because I think as we've all seen over the last decade, you know, we have long cycles of drought. And that also goes for the four water efficiency standards we're going to be seeking to move forward over the course of the next year here.

So happy to support this, and just want to thank the team for bringing that forward.

Let's go to Commissioner discussion.

And Commissioner McAllister, anything you'd like to add?

COMMISSIONER MCALLISTER: Not much to add.

I appreciate the briefing on this from staff, and just, you know, would sort of reinforce your comments.

You know, drought is always going to be with us, we have to just assume that. And management of our water resources is critical, and making sure our dams, our, you know, our hydroelectric facilities are able to contribute to our renewables transition and be there in a reliable way is essential. So I really support these two projects.

CHAIR HOCHSCHILD: Yeah.

I would just add, I think a good posture for us with water is like, assume worst case scenario with drought, and be happily surprised as we have been the last

two years to get some significant rain.

COMMISSIONER MCALLISTER: Yeah.

CHAIR HOCHSCHILD: But remember, you know, Australia had a 13-year drought, super severe, and that could always happen.

COMMISSIONER MCALLISTER: Well, and it's raining right now, you know, and we've gotten a lot of precipitation lately, but the snowpack is still way below normal.

CHAIR HOCHSCHILD: Yes.

COMMISSIONER MCALLISTER: So, you know, we have to be planning.

CHAIR HOCHSCHILD: A fair point.

Any other comments from my colleagues? Okay.

With that, I welcome a motion from Commissioner McAllister on Item 10.

COMMISSIONER MCALLISTER: I move Item 10.

CHAIR HOCHSCHILD: Is there a second from Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye.
Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Item 11 was adopted earlier, so let's turn now to Item 12, which is the Information Item AB 590 Briefing on overview of the Assembly Bill 590 and the impacts on CEC's grant programs.

And I welcome Brady Borcharding from OGIA to present.

MR. BORCHERDING: Alright. Good afternoon, Chair, Vice Chair, and other Commissioners. My name is Brady Borcharding. I'm the Director of the Office of Governmental International Affairs at the CEC. I'm joined by Viet Vo, my analyst in OGIA as well.

And we're here just to present quickly on Item 12, which is a briefing on Assembly Bill 590, which passed last year and was signed by the governor and went into effect at the beginning of 2024, and will impact programs across the CEC.

Next slide.

590 permits state agencies administering grant programs to provide advance payments of up to 25 percent of the grant amount to a nonprofit entity that qualifies under 501(c)(3) of the IRS code. The bill permits advance payments for all CEC grant programs if certain requirements

are met sort of under this bill and through the administering agencies themselves.

Next slide, please.

590 requires agencies to do the following, and we'll just run through those requirements quickly. Prioritize nonprofits and projects that serve disadvantaged and low-income communities. Number two, set an advanced payment structure and request process within the grant agreement or contract, and ensure that advance payment amounts do not exceed 25 percent of the total grant contract amount unless there's a justification, and 25 percent is determined by the administering agency, and the recipient entity provides sufficient justification for a larger advance.

Next slide, please.

Slide four is just AB 590 requires nonprofit recipients to satisfy the following minimum requirements in order to be eligible for this advance payment option here. One is provide an itemized budget, like a spending timeline, and a work plan as well; two is submit a documentation to support the need for advance payment to demonstrate current status and good standing as a 501(c)(3); obtain insurance in an amount equal to the assessed risk if required; deposit advance payment funding into a federally assured account, that would be by the

grant administering agency; and provide quarterly progress reports back to the agency on the expenditure of advanced paid funds; and then provide a progress report on the overall summary of work completed and proof of the expenditure.

This was just a high-level overview to allow you all to have a conversation, and that concludes my presentation.

CHAIR HOCHSCHILD: Thank you, Randy.

And let's go to commissioner discussion.

Commissioner Gallardo?

COMMISSIONER GALLARDO: I'm thrilled about this, you know, this ability that we'll have to do advance payment. We've heard from a lot of nonprofits, specifically community-based organizations, about the need for advance payment. So even though it won't be full payment, 25 percent I think will be really helpful.

And I think this is also an item that if we wanted to discuss further, particularly with the public, it could fit really well with the proceeding we just approved today, the JAEDI proceeding.

So thank you so much, Brady, for being willing to inform us further about this legislation. It'll give us an opportunity to do even more for Californians.

And I did want to ask you about the documentation

of need. I was curious if there are specific thresholds that nonprofits have to meet to show need, or is that just, you know, more flexible, general, like -- could you talk a little bit more about that piece, if you have any information?

MR. BORCHERDING: I think we're -- do you have specifics on this? I think we're still --

MR. VO: Hi Commissioner.

COMMISSIONER GALLARDO: Hi.

MR. VO: I can help answer that.

So the requirements that Brady mentioned earlier -- and that's the last slide -- pertain to the minimum qualifications. So, state agencies are able to adopt further requirements if necessary, but the ones described are just the minimum or the advance payment.

COMMISSIONER GALLARDO: Understood. Thank you.

MR. VO: We could see an example or an environment in which a nonprofit might be applying where that 25 percent of the funds might go towards materials costs that otherwise wouldn't be able to be borne by the organization in advance of it, or be carrying out the grant. So, some sort of demonstration of that kind of need would be at a minimum necessary, but my understanding is that this will probably evolve as the bill is implemented across state governments, so we can look to other agencies

as well for guidance.

COMMISSIONER GALLARDO: Alright. Thank you.

CHAIR HOCHSCHILD: Commissioner McAllister.

COMMISSIONER MCALLISTER: I just wanted to express support, having run a nonprofit before coming to the Energy Commission. You know, that working capital to get things moving at the beginning of a project or, you know, an enterprise is critical. Otherwise you have to go dip into your fund balance -- hopefully you have a fund balance -- or you have to go find some kind of a bridge financing.

And so this, you know, avoiding that is incredibly useful. I think it'll give us more partnerships across the state. Of course, we have to do it accountably. And so I think it seems like the infrastructure is set up to do that.

So thanks for the update and really appreciate your diligence here.

CHAIR HOCHSCHILD: I just am curious, what are the things we should be mindful of just to protect the public here from -- this would be a sort of a change of practice, and clearly, I think, you know, in many cases, it's indicated, but also there's some risk there, because you're prepaying for somebody hasn't happened yet.

What are the like, how do we feel about the stage

gates? You know, we have, you know -- I'm going to just open this up, by the way, to other staff, Executive Office, would like to chime in, but Brady, starting with you -- you know, in terms of being able to provide assurance that the money would be well-spent before, you know, the work is done? You know, do you feel comfortable with that set of criteria? Are there other things we should be mindful of?

MR. BORCHERDING: Well, I would imagine we would want to really take a hard look at every program that we administer on a case-by-case basis, look at what would be the type of expenditure that an advance payment would cover that we could verify, that we could see, you know, if it's steel on the ground, if it's people that are hired, if it's something with documentation that could show that the money has both been out the door and to a purpose that's advancing the award that they're being given from the CEC.

Obviously we're, you know, administering public funds here, and I imagine every agency is going to have a different approach, but, you know, we really want to avoid clearly the example where someone takes 25 percent of a grant award and is never to be seen again. So, I think it would probably depend on the grant program within the CEC, our comfort level for that risk, the state's comfort level generally across the board for risk, but I would imagine it would be something along the lines of documentation.

CHAIR HOCHSCHILD: I'm just going to ask also, you know, for this, if we could get input from the CEC auditor as well on what those stage gates ought to be? And maybe -- I don't know if that's already happened.

MR. BORCHERDING: Not through our office, but we can check.

CHAIR HOCHSCHILD: Okay. And Commissioner Gallardo is a lead for the CEC audits committee, but that's one suggestion I have for that.

MS. MARTIN-GALLARDO: Brady, would you be able to share a little bit about the insurance requirements?

MR. BORCHERDING: We'll have to follow up on that. That was one of the minimum stated requirements in the bill when it passed just as an amendment to statute.

We don't have additional information on what type of insurance requirement might be -- I think the premise of the idea is that it has to be an FDIC-insured account into which that money is being deposited so that there's some oversight and some ability for that money to be insured, but I will have to check to see that that is in fact what the intent of the statute was and how it's being interpreted.

MS. MARTIN-GALLARDO: Super. I think that was my understanding that that was that purpose for protectiveness of that money that you're advancing.

Thanks for following up.

CHAIR HOCHSCHILD: Any other -- Commissioner Gallardo?

COMMISSIONER GALLARDO: I just wanted to respond, Chair, that I think that's a great idea to speak with our auditor, so I'll take that on as a responsibility of mine.

And then additionally, you know, there is reporting requirements that I heard that are minimum. So I think that'll also be a guardrail in terms of, you know, finding out more information about how the funds are being spent and used wisely, et cetera.

So I think that's also helpful that it's in there.

CHAIR HOCHSCHILD: Yeah.

And I would just ask our acting chief counsel, any other thoughts on this from your perspective, Lisa?

MS. DECARLO: I mean, certainly we echo the need to have safeguards to ensure that if we are advancing funds, there's some protection and some confirmation that that there'll be something to show for those funds.

CHAIR HOCHSCHILD: Great. Thank you.

Appreciate it, Brady.

Okay, with that, we'll turn now to Item 13, which is the minutes of the December 13th business meeting.

Any public comment on Item 13?

MS. BADIE: This is Mona, the Public Advisor for the Energy Commission.

If you'd like to comment on Item 13, if you could please let us know using the QR code if you're in the room, and if you're on Zoom please use the raise hand feature on your screen, and star nine if you're joining us by phone.

And I am not seeing any raised hands, so back to you, Chair.

CHAIR HOCHSCHILD: Is there a motion from Commissioner McAllister on Item 13?

COMMISSIONER MCALLISTER: Move Item 13.

CHAIR HOCHSCHILD: Is there a second from Commissioner Gallardo?

COMMISSIONER GALLARDO: I second.

CHAIR HOCHSCHILD: All in favor say aye. Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gallardo?

COMMISSIONER GALLARDO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Item 13 passes four to zero.

We'll turn now to Item 14, Lead Commissioner and Presiding Member, reports starting with Commissioner

McAllister.

COMMISSIONER MCALLISTER: Great.

Just really briefly, I think last time I announced my new executive assistant, Dori Floyd, and she's jumped in with both feet and is doing a great job.

And but just last week, the final sort of transition appearance of Jan, my interim executive assistant, I just want to thank her for just an amazing job helping us through the last six months or so. Really helping my office function. And she's just a star.

So thanks, Jan.

Really just wanted to thank -- the extent of my report in the new year here is just to thank a couple of our teams in the efficiency division.

The Title 24 building standards team has just been doing incredible work. It's a big team. It's a very diverse, multi-talented team. And as many of you know, the three-year code update is a massive lift for multiple agencies, but as we own Part 6 and part of Part 11, the CALGreen, that's our piece of this big enterprise, and we are the adopting agency, so we -- soup to nuts, we do the whole energy piece of the building code. And just with leadership from Mike Sokol, Will Descent, and the whole team of specialists that they oversee, they put together a really, I think, very innovative and aggressive but very

well-grounded package that will be starting sort of, you know, the formal process, review, finishing review, going to the Building Standards Commission, and then going through the formal rulemaking process to then get to adoption down the road, hopefully in the August business meeting. So I just wanted to thank that team for all the great work. Tricky issues.

You know, we're trying to decarbonize our buildings, trying to do that in the most cost-effective way for Californians. We also are very, very conscious of the housing crunch that we're in as a state. And so the building code really is in the middle of this maelstrom of issues, and the staff just does an incredibly thorough job and really keeps it grounded. Good relationships with all diverse stakeholders across the state, the builders, the equipment suppliers, the designers, local jurisdictions that do all the permitting. So just a multifaceted effort that really is moving forward nicely.

And then second, I wanted to thank the load management standards team, Stephanie and Gavin and Heather Bird and the team working to implement the load management standards. That is a key resource to enable load flexibility, to automate. And we had a workshop last week that really brought all the stakeholders together and was super productive in helping to move the ball forward on

load management standards implementation. So really excited about both these efforts. Really, they're going to, in their own way, be transformational for the state and help us reach our climate goals.

So, I wanted to just make sure to thank those teams that are doing yeoman's work.

CHAIR HOCHSCHILD: Thank you.

Commissioner Gallardo?

COMMISSIONER GALLARDO: Alright. I'll start out quickly with a change in my office. So Ollie Awolowo, who was my assistant since I became commissioner, has recently retired, and we want to wish her well. She provided many years of service at the Energy Commission, so we thank her for that.

And then I wanted to talk about three different activities. I had two from last year in December, since our last business meeting, and then one from this year.

So we'll go to the next slide there.

I wanted to highlight some tribal affairs.

Going back to the other slide.

Yes. That one, correct.

So we did a visit to the Morongo Band of Mission Indians. They're located in Banning, California, which is in the Riverside County area. This was a wonderful visit. We got to see and learn about the Morongo Band and how they

are leaders in their community. They generate about 3 billion in regional activity. They generate about 3,000 jobs, and are one of the largest employers in Riverside County. So not only are they serving their tribe, they're also serving the entire community and region. And so it was exciting to hear them talk about their desire to be leaders in clean energy as well.

One of the things that we learned is that they're the first tribe in the nation to be authorized by the federal government to own or operate power lines with the launch of the Morongo Transmission LLC. So it's just significant in the types of steps that they're taking. They're very interested in our EcoLoan program, and also in EV charging, and other programs that we have. So, we look forward to collaborating further with them and working with them as partners.

So I want to just highlight the pictures I have here. So one of them is Chair Hochschild and our interim tribal lead, Sierra Graves. So, they put together this visit, and I'm grateful to them for inviting me and my team to join. You can see behind them is the solar panels that --

CHAIR HOCHSCHILD: I thought we agreed you're going to take out the gray hair in post-production there.

COMMISSIONER GALLARDO: I'll get Lindsay and MPC

to work on it.

And then I have a picture here of the Tribal Council. There was a full Tribal Council at the meeting with us, which is a lot. And so I wanted to thank Chairman Martin for hosting us and having the entire council there.

And then also just a photo of a few of the folks who came out with us, Armand Angulo and Patrick Brecht, who were able to talk about the programs that the tribe was interested in. And then Jimmy's there too from my office. We were airport buddies. Our flight got delayed, so we got to hang out extra time.

We'll go to the next slide now.

I wanted to also highlight the Unity Celebration, and the JAEDI awards that we had December 15th. So this is an opportunity for the entire Energy Commission to celebrate our unity through our diversity. And I thank my partners on this effort, Carousel Gore and Mona Badie.

We put on this event, which was really fun. We had delicious food that people donated. We had our CEC Minors Band play some tunes. Carousel Gore, you know, using our powerful voice to entertain us as well.

And we also heard stories from several members of our CEC family, and I want to thank them on behalf of the entire CEC for being willing to share those personal experiences that make a big difference in connecting us

all. And they also delivered powerful messages as well, even if that wasn't their intent. So that's Fritz Foo from ERDD, Ronnie Raxter from ERDD, Eunice Lemos-Adair from CGS, Mona Badie, our Public Advisor, and Jimmy Qaqundah from my office.

And it was also an opportunity to honor our JAEDI awardees. So these are the folks who exemplify the various principles that we have. So I wanted to say congrats to Katrina Leni-Konig for the Justice Award, Christi Savong for Access Award, Hilary Poore and Martin Flores for Equity, Pierre Washington for Diversity, and Dorothy Murimi for Inclusion. And then we also have three special awards, the JAEDI Master, which went to Tuan Lam, the Yoda Wisdom and Mentorship to Armand Angulo, and the JAEDI Padawan Award, which went to Josie Crosby. So thank you all for your service and your commitment to all we do.

And then the next slide is highlighting my Rules Committee hearing for my Senate confirmation process, and mostly here is just to express gratitude to everyone who went through this process with me. In particular, my advisors, Erik Stokes and Jimmy Qaqundah, who you can see there in the photos. Also my CEC family. Several of you showed up and I wasn't expecting that. So it was really fun to have you in the audience and made me feel more confident about everything, including Kat, Brady, who went

through the whole process with me, Elizabeth Huber, again, my advisors. There's a photo there of me sitting in the hot seat and I actually enjoyed the process. You know, tough questions, but it was a great growth moment for me to just go through that experience and being able to represent the Energy Commission and, you know, answer these questions that -- some of them, you know, I wasn't expecting.

And then also I had my family there, which was really important to me. My parents were there basically witnessing all the sacrifices they made throughout their life to get me an education, help me get to this point where, you know, I have an amazing job. Sorry, to get sentimental. So for them to witness that, I think was really a special milestone. And then also my kids, who I put there in the heart. They think I sit, you know, and type at the computer all day, like that's my job. So it was nice for them to see me in action in a different setting and they behaved really well, so I was really proud of that. My brother and my niece also came out all the way from Texas to be there with me. So it was nice, you know, to have them also witness that, especially for my niece, who's also my goddaughter. Just showing her, you know, what leadership looks like, what service looks like, and commitment. And she was really grateful for that opportunity.

And then my partner was also there, my father-in-law, and my stepson. So I had a full crew. The rules committee was really surprised that it filled up a couple of rows of people there in support. But I was really grateful to them, how welcoming they were of my both my CC family and my biological family.

So thank you to everybody for going through that process with me, and just really grateful to be able to serve California. I'm a California girl, and this is the best way I think for me to give back all that I have received and opportunities.

So, thank you.

CHAIR HOCHSCHILD: I'll just say I was able to see some of that hearing and you made us all proud. I thought you conducted yourself so impressively and were just spectacular.

So we're just so grateful to have you.

So, let's go to Commissioner Monahan.

COMMISSIONER MONAHAN: Well, first, I got to say, Commissioner Gallardo, I can get teared up when you get teared up. So you have to stop tearing up because it leads to, like, a cascading effect.

I just feel, you know, when you talk about being the first Latina commissioner, like I feel such gratitude to see you in this role and to just, like, witness your

leadership and benefit from it. So just thank you for bringing so much heart to the work, and I just think we all benefit from that. So I just appreciate that you're part of this CEC team and we're working together to make sure this is a clean energy future for all.

So just thank you.

COMMISSIONER GALLARDO: You're going to make me cry again.

COMMISSIONER MONAHAN: Yeah, well, you deserve it. Gotcha.

So we did -- actually, at our last business meeting, we didn't do a report out because we had all the thank-yous -- I've got to wipe my tears out. Get back to business here.

And I just wanted to mention that I did go to China with Yunshi Wang from UC Davis led a trip and it was in part to help implement the MOU that we have with Hainan province in China, and it was an incredible trip. I know the Chair was just there, so he too has seen this, but I saw battery swapping for cars, battery swapping for trucks, hydrogen for hydrogen stations, and what they're planning on the hydrogen side, and it was amazing.

But one of the most amazing parts of it was how happy the leadership was. China, the Hainan province, and actually we went with a -- I don't know what, you can call

it a vice president, but Chairman Wang Gong, and they were so happy to hear about California's commitment to zero-emission transportation because a lot of the news there is that the United States is backtracking, the automakers are stepping away from zero-emission vehicles. And I can't tell you how many people were so gratified to hear that California was leaning in, that we weren't slowing down, that we were, like, fully accelerating into a zero-emission transportation future.

So it was really an amazing trip. I hadn't been there since COVID. So, yeah, I think there's a lot of opportunity for California and China to work together to speed this transition.

And Noemi and I also went to commemorate the groundbreaking of four DC fast chargers down in Calexico with Comite Civico, who's leading it. I thought about that when we were talking about the 25 percent helping nonprofits, because they do struggle more with just getting the financing for these kinds of projects. So that was very gratifying to see.

And I also, I think the final thing I just want to say, kind of on the heels of some things that Commissioner McAllister said, was a big shout-out of thank you to the Fuels and Transportation Division. I want to say there's been some hard challenges, just --

implementation is hard. Implementation is hard. Being good stewards of state dollars is hard work. And building out charges as fast as possible, as we're being good stewards, that's hard work. And the Fuels and Transportation Division is just working on these hard issues. And they're working nights and they're working weekends. And I just want to shout, give a shout-out of appreciation.

They're also working on charger reliability standards, which will be -- the draft is out on the street final, you know, the next version will come out soon. And we're really leaning in on reliability. We know we have to make this system work for everybody.

And I think I will stop there.

CHAIR HOCHSCHILD: Alright.

Well, I'll go next.

I did want to share some good news. We got a \$426 million federal infrastructure grant to the port of Humboldt, which is a big piece of our offshore wind infrastructure work and a good example of the state, you know, seed-planting. We did an earlier \$10.5 million dollar grant to Humboldt for technical surveys. And a good way in which, you know, we can get the ball rolling and then leverage a much more substantial federal investment. So I hope we rinse and repeat with many of our priorities

across the state.

At the end of this week, I'll be heading down to San Diego for our two-day retreat with the Department of Defense, principally the Navy and the Marine Corps on all sorts of issues. We're working on demonstration projects for long-duration energy storage, building efficiency, grid reliability, ZEV charging, and so forth.

And then finally, I will be lead on the IEPR this year with the Vice Chair as the second, and really the theme is going to be the great implementation. I think we are all at a point now where we have the landmark legislation that we need on carbon neutrality by 2045, a hundred percent clean energy grid, a hundred percent zero-emission vehicles, and all of the rest of these incredible goals, seven, you know, gigs for load flex and all the rest. And we just need to focus on implementation, tying those pieces together so that everything that connects to the grid is a good citizen of the grid. And that's going to be the focus.

I will stop there. And with that, we'll go to Item 15, the Executive Director's Report.

EXECUTIVE DIRECTOR BOHAN: Chair, you finished a little more quickly than I expected there.

I just want to get on camera per our way we handle the processes, only to say I don't have a report

today.

Thank you.

CHAIR HOCHSCHILD: Alright.

Item 16, Public Advisor's Report?

MS. BADIE: No report for the Public Advisor's
Office.

CHAIR HOCHSCHILD: Item 17, Chief Counsel's
Report?

MS. DECARLO: No report for the Chief Counsel's
Office.

CHAIR HOCHSCHILD: Alright.

Thanks, everybody. We're adjourned.

(The meeting adjourned at 2:17 p.m.)

CERTIFICATE OF REPORTER

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of February, 2024.




MARTHA L. NELSON, CERT**367

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under Ramona Cota 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 6th day of February, 2024.



Myra Severtson
Certified Transcriber
AAERT No. CET**D-852