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BUSINESS MEETING
BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the Matter of:  
) 20-BUSMTG-01
Business Meeting  
______________________________

REMOTE ACCESS ONLY

The California Energy Commission's August 12, 2020 Business Meeting will be held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage physical distancing to slow the spread of COVID-19. The public is able to participate and observe the meeting consistent with the direction in these Executive Orders. Instructions for remote participation can be found in the notice for this meeting and as set forth below in this agenda.

WEDNESDAY, October 14, 2020

10:00 A.M.

Reported by:
Peter Petty
APPEARANCES

Commissioners (Via Remote)

David Hochschild, Chair
Janea Scott, Vice Chair
Karen Douglas
Andrew McAllister
Patricia Monahan

Staff Present: (Via Remote)

Drew Bohan, Executive Director
Darcie Houck, Chief Counsel
Noemi Gallardo, Public Advisor
Cody Goldthrite, Secretariat

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Eleanor Oliver 5
Joshua Croft 5
Quenby Lum 6
Larry Rillera 8
Danuta Drozdowicz 9

Others Present (Via Remote)

Interested Parties

Gia Vacin, GO-Biz 1
Stan Greschner, GRID Alternatives, and DACAG 1
Jeff Harris, Ellison, Schneider, Harris & Donlan
for Geysers Power Co, LLC 3
Barbara McBride, Calpine Corporation 3
Joy Larson, CalSEED, New Energy Nexus 5
Bert Wank, infiniRel Corporation 5
Dennis Nickerson, Portable Solar, Inc. 5
Wilson Hago, Hago Energetics 5
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PROCEEDINGS

10:00 A.M.

WEDNESDAY, OCTOBER 14, 2020

CHAIR HOCHSCHILD: Good morning and welcome, everybody. Today is Wednesday, October 14th. We’ll begin the Energy Commission’s October business meeting, and I’ve asked the Vice Chair to say the Pledge of Allegiance on behalf of all of us. Go ahead, Madam Vice Chair.

VICE CHAIR SCOTT: Good morning, everyone.

(Whereupon the Pledge of Allegiance is recited.)

CHAIR HOCHSCHILD: Thank you, so much, and again, with COVID, although we are making some progress, we want to encourage everybody to please continue to wear a facemask when you’re in public, wash your hands frequently and keep physical distancing, and we’re going to stay on that per the Governor’s directives.

So, again, this is a census year, and we’re in the very final moment of the completion of the census. This is a really, really important service that we all have to participate in, and we’re going to make sure California gets the resources that’s due. You can go online to complete the census at the census website, Census.gov.

And finally, before we get in the meeting
agenda, the election, as everyone knows, is on November 3rd. You are now in California able to register the day of the election at polling locations. That is available to everyone, but we encourage everyone who has registered to vote as early as possible and make sure your votes get in.

So, with that, let’s get into -- I have to read this disclaimer here. Today’s business meeting is being held remotely without a physical location for any participant consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage social distancing in order to slow the spread of COVID-19.

The public may participate or observe the meeting consistent with the direction in these Executive Orders. Instruction for remote participation can be found in the Notice Meeting of this meeting.

We will be using a combination of Zoom and Verizon for remote access. If Zoom shuts down, we will continue the meeting on our Verizon phone line, and we’ll wait 30 minutes before starting to give people time to join. The Verizon number is 888-823-5065, and the passcode is Business Meeting.

Pursuant to California Code of Regulations Title 20, Section 1104, any person may make oral comment on
any agenda item to insure the orderly conduct of business. Such comments will be limited to three minutes per person as to each item listed on the agenda that will be voted on today. Any person wishing to comment on information items or reports, nonvoting items, shall reserve their comment for the general public comment portion of the meeting agenda and have three minutes total to state all their remaining comments.

And as we get in the agenda, I just wanted to remind everybody, you can click gallery on Zoom in the top right corner to see all the speakers during today’s discussions.

We will be approving, if all the items get approved today, about six million dollars in projects, which is going to help support California’s economic recovery.

So, with that, let’s get into Item 1, the 2020 through 2023 Investment Plan Update for the Clean Transportation Program.

Patrick Brecht.

MR. BRECHT: Thank you, and good morning Chair and Commissioners. My name is Patrick Brecht. I’m the Project Manager for the 2020 to 2023 Investment Plan Update for the Clean Transportation Program.
Today we are seeking your approval of this Investment Plan Update. If approved, the current revised lead Commissioner report version, originally published on September 30th and then reissued with a nonmaterial clarification on October 13th, will be reissued as the final Commission report. This will also approve the plan’s proposed funding allocations for fiscal year 2020 to 2021 and signal the planning funding allocations for the subsequent two-and-a-half fiscal years.

Next slide.

The Clean Transportation Program provides funding support for projects that reduce greenhouse gas emissions within the transportation sector which accounts for roughly 50 percent of state greenhouse gas emissions.

Furthermore, the program plays an important role in achieving the following: petroleum reduction, adoption of zero emissions vehicles, improved air quality standards, economic development and recovery, investment in low income in disadvantaged communities, job growth and workforce development.

Now in its 12th year, the Clean Transportation Program has provided nearly 900 million to projects covering a broad spectrum of alternative fuels and
technologies in communities that can immediately accrue health, environmental and economic benefits from these investments.

Next slide. Excuse me.

This chart captures the total amount of funding allocated in various fuel types, including over 40 percent in dark green toward electric vehicle charging infrastructure, vehicle demonstrations, incentives in manufacturing; nearly a fifth in dark yellow in hydrogen fueling infrastructure and vehicle demonstrations; nearly 15 percent toward natural gas and ethanol technologies in light yellow; over 20 percent to biofuel’s production and distribution shown in shades of dark blue, and about four percent in workforce training and development in light blue, and light green shows the remainder of projects that incorporate multiple fuel types or does not address specific fuel types.

Next slide, please.

This slide shows key outcomes from the Clean Transportation Program to date, including percentage of funding in low income or disadvantaged communities, as well as the amount of matched funding committed by project partners.

The program has funded over 11,000 installed or planned chargers for plug-in electric vehicles. We’ve
supported the largest network of hydrogen fuel stations in the nation with 62 funded new or upgraded publicly available hydrogen refueling stations or fueling stations.

Next slide.

The Clean Transportation Program was established by California Assembly Bill 118 in 2007. The program is funded through a small surcharge on vehicle registrations and provides up to 100 million per year, and California Assembly Bill 8 extended the program to generate for 2024.

Next slide.

The purpose of the Investment Plan. Guides the transportation program’s investments towards meeting the state’s clean transportation goals.

Allocates funding for multiple fuel and vehicle technologies, transportation sectors, and supporting activities such as workforce development.

Takes into consideration state regulations and other funding programs to promote coordination across agencies.

Integrates feedback from the Advisory Committee, Disadvantaged Communities Advisory Group, and public.

For this Investment Plan we had two Advisory Committee meetings, consultations with the Disadvantaged
Communities Advisory Group and over 100 comments to the CEC docket.

And new to this Investment Plan cycle, it now identifies multiple-year funding allocations to improve consistency and transparency for potential funding partners.

Next slide.

The Advisory Committee was reconstituted for this Investment Plan and beyond, and expanded to better reflect California communities and provide increased representation from program beneficiaries, including environmental justice communities, rural communities, tribes, and other public organizations.

Next slide.

In developing our funding allocations, we are focused on key -- six key priorities. First, we focused on opportunities to quickly address the need for economic stimulus and response to COVID-19, to the COVID-19 pandemic.

Second, a program-wide emphasis on creating high-quality job opportunities.

Third, an early focus on the needs of light-duty passenger vehicles within the ZEV infrastructure allocation. It is vital to ensure the public adoption of ZEVs is not stymied by lack of infrastructure.
The program also benefited from a one-time $51 million legislatively appropriated expenditure to increase EV charging structure.

And, fourth, we propose to follow this with a long-term focus on ZEV infrastructure for trucks, buses and off-road equipment.

Fifth, we are interested in supporting projects that can help overcome market and technological barriers associated with ZEV commercialization and thereby encourage more private investment.

And, finally, we are seeking to prioritize investments into project types that provide direct benefits toward disadvantaged communities.

And, last point leads me to the next slide.

This chart shows program funds awarded to projects located within disadvantaged and/or low-income communities around 33 percent. When excluding projects that occur outside -- excuse me -- occurred statewide or without an applicable site address the funding share is closer to 50 percent.

Next slide.

This Investment Plan reflects the principles of inclusion, diversity equity and access. This has included collaboration with Disadvantaged Communities Advisory Group on equity, outreach and engagement,
workforce training and development and soliciting feedback on the Investment Plan development.

Second, prioritizing and investing in equity communities using clean transportation funding.

Third, partnering with community-based organizations such as our partnership with the Fresno Metro Black Chamber of Commerce that advocates for clean transportation mobility.

Fourth, researching and implementing benefit metrics that go beyond the expenditure of program dollars to -- in census tracks.

To this Investment Plan we are seeking to provide at least 50 percent of funds from the multi-year Investment Plan towards projects that benefit low income and disadvantaged communities.

Next slide.

I would like to pivot to context regarding the Clean Transportation Program and the development of the Investment Plan.

The implementation of the Clean Transportation Program reflects the effect of numerous policies and goals by legislation, regulation and Executive Order. Such policies include achieving 100 percent zero carbon electricity as well as a carbon-neutral economy by 2045. By 2031 by achieving 80 percent reduction in smog
forming NOx. We recognize that reaching these goals will require a major transition toward zero emission vehicles or ZEVs, as stated, as outlined in the next slide.

Next slide.

Previous Executive Orders set goals for reaching 1.5 million zero emission vehicles by 2025 and 5 million ZEVs by 2030. Executive Order N-79-20 issued last month sets a new goal of having 100 percent of new sales of passenger vehicles and trucks by ZEVs by 2035.

We also have 2025 targets for ZEV infrastructure, including 250,000 electric vehicle chargers and 200 refueling stations.

Recognizing the disproportionate air quality and climate impacts of medium and heavy duty, the new Executive Order also set goals for transitioning 100 percent of off-road vehicles and equipment to ZEVs by 2035, alongside of 100 percent of drayage trucks. By 2045 all trucks and buses are expected to be ZEVs.

Next slide.

Our proposed funding allocations also are informed by vehicle and fuel regulations developed by the California Air Resources Board, or CARB. These include ZEV regulation for passenger vehicles, which require auto manufacturers to offer for sale specific
numbers of the cleanest cars available, including full battery electric vehicles, hydrogen fuel cell electric vehicles and plug-in hybrid electric vehicles.

The Innovative Clean Transit Regulation set milestones for all public transit agencies to transition toward a 100 percent zero emission bus lead by 2040, the Advanced Clean Truck Regulation, which requires manufacturers to transition to zero emission trucks beginning in 2024.

Finally, the low-carbon fuel standard requires a 20 percent reduction in overall transportation fuel carbon intensity by 2030.

Next slide.

A vital step in developing the Clean Transportation Program Investment Plan is to coordinate with other state funding programs.

Major examples include CARB’s low carbon transportation incentives, which are generally focused on a development of ZEVs, major settlement agreements such as with VW and NRG for the developing of electric vehicles and charging infrastructure, and lastly, the charging infrastructure investments of major investor-owned utilities.

Next slide.

This slide reflects our proposed funding
allocations for fiscal year 2020 to 2021, as well as the planned funding for the next two-and-a-half years.

I should mention once again the light-duty EV charging infrastructure and emobility category is benefitting from a one-time 51 million legislative expenditure.

We are proposing to make big contributions toward building out light-duty charging infrastructure in the upcoming fiscal year, while future fiscal years would focus more funding toward medium and heavy-duty ZEVs and infrastructure, which leads me to the next slide.

Speaking of charging infrastructure, this graphic shows some of the progress California has made toward our 2025 goals. At the bottom you can see we have approximately 56,000 existing level two chargers plus 117,000 expected from the allocated funds from our program utilities and the aforementioned settlements. A gap of approximately 66,000 level two chargers remains, as does a gap of 800 DC fast chargers.

Next slide, please.

One efficient way to narrow the charging infrastructure gap is through the very successful California Electric Vehicle Infrastructure Project, or CALeVIP. In partnership with the Center for Sustainable
Energy the CALeVIP provides a simplified process for providing charging incentives in high priority regions. Dedicated funding amounts and/or higher incentive amounts are also made available for sites located within disadvantaged communities. This slide shows the progress to date as well as planned projects.

Next slide.

With funds from this Investment Plan the Energy Commission will also be looking for opportunities to simultaneously address clean transportation and improve mobility in communities of need, opportunities to support innovative charging technologies and business models, and the opportunities to provide funding for nonhardware projects that can accelerate the state’s charging infrastructure goals such as regional ZEV readiness plans and the EV communities’ challenge.

Next slide.

This slide indicates the proposed allocation for the light-duty charging infrastructure and emobility category. As you can see, for fiscal year 2020 to ’21 there is a one-time legislatively approved appropriation specific to this category with the purpose of accelerating EV charging infrastructure.

Next slide.

Medium and heavy duty zero emission category
focuses on the needs of medium and heavy-duty vehicles typically found in freight and fleet applications. These vehicles represent a small share of California’s registered vehicle stock, but also emit an outsized share of GHG, NOx and P 2.5 emissions.

Next slide.

For fiscal year 2020, 2021 this Investment Plan allocates 20 million dedicated to medium and heavy-duty ZEV and infrastructure.

In subsequent years we expect the need of medium and heavy-duty ZEV infrastructure to ramp up drastically. For this reason, the allocations will increase dramatically in subsequent fiscal years to meet the growing needs of charging and hydrogen refueling for fueling infrastructure for medium and heavy-duty ZEVs as well as demonstrate the state’s commitment to improving air quality.

Next slide.

The Clean Transportation Program is the primary source of public funding for hydrogen refueling stations in the state. Assembly Bill 8 directs the CEC to allocate 20 million annually to fund the initial network of 100 hydrogen refueling stations.

Looking further out, Executive Order B-48-18 set a target of 200 stations by 2025. The CEC’s most recent
multiyear grant funding opportunity for public available hydrogen refueling infrastructure will provide between 100 and 110 stations based on the availability of funds in this and upcoming fiscal years.

This list stations also encourages projects with fueling agreements with fleets and commercial vehicles and transit buses to increase station throughput and to aid in the transition of California’s commercial vehicle and bus fleet to zero -- to a zero-emission alternative.

The CEC has already funded 62 from previous list stations -- 62 stations from previous list stations, so adding these new stations, the new total of the total number of stations funded under the Clean Transportation Program is expected to be between 162 and 172 stations.

Next slide.

This graphic captures the progress and the gap that exists for hydrogen refueling stations in terms of meeting the goal of 200 stations.

As you can see, there is a gap of 28 stations anticipated by 2025.

Next slide.

For this fiscal year, the Investment Plan proposes a 20 million allocation for hydrogen refueling stations. For the remaining two-and-a-half fiscal years it is also -- it also proposes a proportionate 50
million in funding for this activity. For the final
half fiscal year, the Investment Plan proposes to split
the 10 million allocation, which would be 20 percent of
the expected funds between light duty and heavy-duty
hydrogen refueling infrastructure.

Next slide.

Our zero and near-zero carbon fuel production
category has included a broad range of alternative
fuels. Biofuels, defined as nonpetroleum diesel
substitutes, gasoline substitutes and biomethane
represent the largest existing stock of alternative fuel
in California.

In addition, demand for renewal hydrogen will
increase in the coming years as more fuel cell electric
vehicles are sold.

Investments in this area have the potential to
produce high volumes of low carbon alternative fuels and
demonstrate new, more efficient production technologies.

Next slide.

The Investment Plan proposes to pause additional
funding for this category for this fiscal year while
planning for further allocations in subsequent fiscal
years. These are all -- there also remains
approximately 10 million in available funds from
previous Investment Plans to conduct new funding
activities in the near term.

Next slide.

The Clean Transportation Program also invested in related needs and opportunities to accelerate the adoption of clean transportation options. The Clean Transportation Program has issued five list stations for manufacturing since its inception of the program. These have focused on complete ZEVs, ZEV components and ZEV infrastructure with over 20 companies in our funding portfolio. Projects have created over 800 manufacturing jobs. Examples include Proterra, Chargepoint, Transpower and Free Wire.

Next slide.

This slide shows how successful overall California has been with supporting ZEV manufacturing, many due to Clean Transportation Program investments. There are 14 in-state manufacturers designing and building cars, buses, motorcycles and trucks.

Next slide.

We also have been active in workforce training and development. Initial investments from this program focused on partnerships with state workforce entities. Most recent investments have shifted toward more targeted investments in equity communities, career pathway developments from high school automotive
programs to community college auto programs, curriculum
development for ZEVs, training for electric school bus
technicians and a freight workforce pilot project.

Third is the newly dedicated recovery and
reinvestment funding category. For this category we are
reviewing ideas for projects that can accelerate
transportation growth in California while addressing the
devastating social and economic fallout from COVID-19.

Next slide.

As you can see, the manufacturing and workforce
development and training allocations are proposed for
funding throughout the remainder of the program, while
the recovery and reinvestment allocation is only
proposed for this fiscal year.

Next slide.

This slide summarizes our aforementioned funding
allocations. The graphic shows the proposed funding
priorities for 2020 to 2023. As mentioned, the CEC is
proposing to make big contributions toward reducing
light duty -- the light duty charging infrastructure gap
with the upcoming fiscal year while future fiscal years
would focus more funding toward medium and heavy-duty
ZEVs and infrastructure.

Allocations for hydrogen refueling
infrastructure and zero and near-zero fuel production
and supply would remain steady over time. Allocations for ZEV and ZEV infrastructure manufacturing and workforce training and development have been leveled over the remaining life of the program with the shared aim of supporting in-state economic development and hastening ZEV adoption.

This brings me to our recommendation, last slide.

Staff recommends approval of the 2020 to 2023 Investment Plan update. This will approve the plans proposed funding allocations for fiscal year 2020 to 2021 and signal the planned funding allocations for the subsequent two-and-a-half fiscal years. Staff also recommends that termination of this plan is exempt from CEQA.

Thank you, and I’m happy to answer questions that you may have. I believe Charles Smith, Office Manager from the Transportation Policy and Analysis Office is on line two. And I will also mention we have three representatives from three organizations who would like to either speak or provide a statement about the plan shortly.

CHAIRMAN HOCHSCHILD: Thank you, Patrick, and let me thank also Commissioner Monahan for her incredible dedication and hard work on getting us to this
point, and Hannon Rasool as well, really coming on in late summer and helping the team put this altogether is phenomenal.

I also want to recognize Drew and Rob and the whole budget team as well. That additional 51 million that we got to support EV charging was a process that began over a year ago and it turned out to be very prescient given the Governor’s Executive Order, so really glad to be in that position that we’re in.

So, let’s begin with Gia Vacin from GO-Biz, to be followed by Stan Greschner from the Disadvantaged Communities Advisory Group.

MS. VACIN: Good morning. Can you hear me?

CHAIRMAN HOCHSCHILD: Yes, we can. Good morning.

MS. VACIN: Good morning, Commissioners. I’m Gia Vacin, the Assistant Deputy Director of Zero Emission Vehicle Market Development at GO-Biz.

And I want to start by recognizing the tremendous effort of the Energy Commission and the leadership of Commissioner Monahan and the Clean Transportation Program Advisory Committee and Disadvantaged Communities Advisory Group, and, of course, the hard work by the CEC staff.

GO-Biz fully supports this multi-year Investment
Plan, and we appreciate the collaboration and focus on creating this solid plan that we believe will help advance our zero emission vehicle goals.

Now is absolutely the time to focus on zero emissions as underscored by Governor Newsom’s recent Executive Order and 79-20, which Patrick reviewed but really focused on zero emission -- a hundred percent zero emission vehicles in just, you know, 15 and 25 years.

And the Clean Transportation Program is one key part of this bigger effort. So, this plan, I think, really helps support that focus that we have, and we are undertaking at GO-Biz an effort to help organize the state’s efforts in close collaboration with our sister agencies and with external stakeholders in the development of the zero-emission vehicle market development strategy as directed in Governor Newsom’s Executive Order.

And the Clean Transportation Program is clearly a critical element in this. It plays a pivotal role in building market confidence and, of course, in funding support as well. GO-Biz appreciates the plan’s identification of our zero-emission vehicle infrastructure gaps on both the battery electric charging side and the hydrogen fuel cell electric side,
as well as how the plan lays out how it’s aimed to help address these gaps.

GO-Biz is also very supportive of that edit that CEC made from the previous draft. In some cases, the edits are subtle, but they’re also very meaningful. And the signals that we send to industry really matter and words also really matter, particularly when we’re working to encourage more private investment, and especially from such an important agency and program. And this plan really does a nice job with both.

So, in closing I’d like to reiterate GO-Biz’s support for the multi-year Investment Plan, and we look forward to continuing to work together to make sure that we keep sending strong market signals and advancing our mutual goal of helping to achieve market scale, and ultimately in achieving our mission to realize the benefits of zero emissions that all Californians deserve.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you, Gia. Let’s move on to Stan Greschner from DACAG.

MR. GRESCHNER: Good morning, Commissioners.

Can you hear me?

CHAIRMAN HOCHSCHILD: Yes, we can. Good morning, Stan.
MR. GRESHNER: Good morning. Thank you for inviting me again this year to join the voting meeting for the Clean Transportation Plan ensuring the DACAG’s perspective.

As you all know, I serve as the Chair of the Disadvantaged Community Advisory Group.

I wanted to share, first of all, that DACAG strongly supports this proposed three-year Clean Transportation Plan. Encourage all of you to vote and adopt the plan today.

I especially want to thank Commissioner Monahan who joined the DACAG’s public meetings two, maybe three, times to discuss the development of this plan and also had several members of the transportation team join our meetings and our subcommittee meetings to discuss the equity issues related to this plan. I just want to thank them for their engagement with us.

I believe that this CTP plan has taken a substantial step in expanding its equity programs and refining equity metrics and --

(Whereupon, audio cut out)

-- technology and programming options come available over the next three years while centering equity throughout.

So, just to recap some of the specific
investment areas that we work most closely with the
Commissioner and Transportation Team on.

The first is the medium and heavy-duty side. We
initially had recommended establishing a 40-million-
dollar budget for medium and heavy duty in 2020 and 2021
budget cycle, this first year, as opposed to the 20
million. The DACAG recognizes that the most harmful
vehicle emissions and particulate matter in California
come from the long-haul truck, the drayage vehicles --

(Whereupon, audio cut out)

-- in disadvantaged communities. We worked closely with
Commissioner Monahan and the team and we did also come
to support the $20 million proposal for this year for
medium and heavy duty with more funding from the program
being brought to medium and heavy duty in the last two
years and just appreciate the Commissioner’s willingness
to work with us on those concerns.

Secondly is the workforce development in
manufacturing. The DACAG numbers recognize that as
California transitions to a hundred percent clean
vehicles considerations for developing and training
skilled workers must be at the forefront of our state’s
investments, especially to open up new career
opportunities for individual’s living index and to help
build our vehicles and the infrastructure and to ensure
that those workers have careers with a living wage. So, we’re glad to see the changes to the final Investment Plan here to ensure there is annual funding allocations for workforce development in manufacturing as opposed to the start and stop investment cycles that were initially proposed.

And finally, the funding benefits to DACs was something we had a concern about, how the CEC was measuring its success with its equity investments, and I appreciate, again, Commissioner Monahan and the transportation team’s efforts to wrestle with this issue and to continue to engage with the (indiscernible) on finding the right metrics to measure the benefits and impacts to DACs.

We want to see more than just how much money was invested in a particular group of census tracts. We want to measure how those investments are actually impacting and benefitting residents in those census tracts, and we look forward to continuing engaging with the Commission on that issue.

And we appreciate that 50 percent of the funding is targeted towards DACs, and hope that is seen as a floor, not a ceiling with the investments.

Of course, as they had indicated last year and this year again, we see a hundred percent of these
limited resources to target DACs and overcome their unique barriers to participating in California’s clean transportation transition.

My final point here is just to acknowledge that this plan is a great framework to build upon as we narrow through all of our assumptions that we used to develop this plan out the window, and now must plan for and reach the new, exciting goals that Patrick talked about and the Governor announced in his Executive Order, for a trend to get a hundred percent light, medium and heavy duty vehicles within the next couple of decades.

So, it’s exciting work ahead for all of us on that front.

So, please support and approve the clean transportation plan. Thank you all for letting me join you. And let me just put a plug in for the Disadvantaged Community Advisory Group has its own public meeting this Friday beginning at 1:00 o’clock, and the Commissioners McAllister and Douglas who, I believe, are planning on joining us at our meeting, and our invite all on this call to join one of our discussions if you haven’t yet, so, thank you.

CHAIRMAN HOCHSCHILD: Thank you, Stan. I believe, Madam Public Advisor, we have a comment you’re going to read from CARB; is that correct?
PUBLIC ADVISOR GALLARDO: Yes, that’s correct.

So, this comment is from Steve Cliff, that’s spelled, S-T-E-V-E, C-L-I-F-F. He’s the Deputy Executive Officer at the California Air Resources Board and a member of the CTP Advisory Committee.

“I regret that I’m unable to provide these comments in person this morning. I would like to thank the Commissioners, especially Commissioner Monahan for her leadership, Energy Commission staff, members of the CTP Advisory Committee and members of the Disadvantaged Communities Advisory Group for the collaboration, thoughtful discussion and review and effort in developing this multi-year Investment Plan.”

“Importantly, the CTP Advisory Committee was completely reconstituted this cycle to ensure commitment to inclusion, diversity, equity and access. CARB appreciates and strongly supports the plan’s emphasis on collaboration between our agencies and with other funding agencies.”

“CARB and the Energy Commission have a long history of working together on this and many other programs, and this Investment Plan continues that history of the effective collaboration. This not only improves the outcomes of our programs, but also insures they are complementary and not duplicative.”
“A perfect example is the ZE-drayage pilot solicitation which will allow an applicant to compete for CARB funding for vehicles and CEC funding for infrastructure in a single application.”

“CARB agrees with and applauds the Energy Commission for taking a new multi-year approach as a valuable new direction for the Investment Plan.”

“The proposed 385 million dollar investment will provide certain stakeholders of the ongoing and future commitments that California is making to transform our transportation system. This multi-year Investment Plan also continues an appropriate emphasis on charging and fueling infrastructure for zero emission vehicles.”

“The direction of these planned investments is especially appropriate in light of Governor Newsom’s recently release Executive Order and 79-20 that directs state agencies to leverage existing authorities to ensure full transition wherever feasible to zero emission technologies within the next 15 to 25 years. These steps will help the state meet our climate change mitigation goals and achieve health space ambient air quality standards.”

“With Executive Order N-79-20 establishing the most ambitious zero emission goal targets to date in California, future Investment Plans may likely need to
consider even more ambitious vehicle and infrastructure targets than reflected in this Investment Plan.”

“The Investment Plan appropriately recognizes the immediate challenges ahead with a need to infuse early investment in light of the economic challenges we face as a result of COVID-19.”

“Importantly, the plan also continues significant investment in workforce training and development in the area that will need continued focus over the next decade to ensure successful transition to a clean transportation system.”

“CARB appreciates the appropriate gravity of the Investment Plan’s considerations of the challenges ahead to achieve those targets, especially with respect to zero emission, charging and fueling infrastructure. The Investment Plan correctly identifies a significant gap in battery electric vehicle charging infrastructure, as well as a gap in hydrogen fueling infrastructure and plans investments accordingly.”

“There is urgent need to address the sizeable gap in level 2 and DC fast charging as the report appropriately highlights. Installation of charging points in more locations across California is vital to maintaining and accelerating the future deployment of battery electric vehicles in California.”
“CARB supports the proposed amounts of funding for light duty electric vehicle charging infrastructure, including the one-time legislative appropriation of 51 million dollars. The Energy Commission’s proposed strategy of heavily frontloading the availability of charging infrastructure funds can provide a significant opportunity to further advance zero emission vehicle deployment in the state.”

“This Investment Plan is the first to directly adopt not only the hundred hydrogen station milestone of ADA, but also the 200-station target of Governor Brown’s Executive Order B-48-18.”

“The Energy Commission recently released proposed awards for three multi-year light-duty hydrogen station development grants that can bring the state very close to the 200-station target by 2025.”

“CARB and the Energy Commission have been planning for the CTP and the LCFS programs to be the main pathways to achieving the 200-station target, and the Energy Commission’s commitment to hydrogen in this Investment Plan provides solid support for that goal.”

“By CARB’s estimate the proposed awards could enable deployment of up to roughly 100,000 fuel cell electric vehicles in the state and prove to be a major stepping stone to achieving financial self-sufficiency"
in the hydrogen fueling network."

“The Investment Plan’s commitment of up to 70 million through 2023 will be crucial to delivering on this potential.”

“Given the rapid development of zero emissions technology across the medium and heavy-duty sector, CARB sees a value in considering the possibility to later reallocate some hydrogen station funding from the light duty sector to medium and heavy-duty sectors.”

“We look forward to working with you on considerations for potential reallocation.”

“Transformation of the medium and heavy-duty sectors to zero emission option hold significant promise for climate change mitigation, improving local air quality and protecting public health, especially in communities that are disproportionately affected by the operations in the medium and heavy-duty transportation sector.”

“Governor Newsom’s Executive Order N-79-20 directs the agencies to ensure that that this transition occurs quickly wherever feasible.”

“At the same time, CARB recognizes that zero emission vehicles in this sector are not yet at the same stage of market readiness as their light duty counterparts. CARB, therefore, supports the Investment
Plan strategy to focus on the light duty market in the
near term and place greater emphasis on medium and heavy
duty zero emission transportation in later years of the
Investment Plan.”

“In conclusion, I would again like to thank the
Energy Commission for the collaborative effort with CARB
and others and our ongoing working relationship in the
clean transportation and other programs.”

“Thank you for allowing CARB to share our
comments on this important Investment Plan.”

So, that concludes the comment share and we do
have several people on the line for public comment when
you’re ready.

CHAIRMAN HOCHSCHILD: Let’s move on to public
comments. Go ahead. Thank you.

PUBLIC ADVISOR GALLARDO: Cody, the Secretariat,
will announce the names.

SECRETARIAT GOLDTHRITE: Apparently we have 11
speakers on the line, and we’ll start with Zac Thompson
from East Bay Community Energy.

CHAIRMAN HOCHSCHILD: Yeah. Can I just ask the
speakers, in the interest of brevity, if the point has
already been made it’s fine just to briefly say you
support and no need to go on at length. But we want to
hear from everybody just to allow time for everyone to
MR. THOMPSON: Good morning, Commissioners. Thank you for your time today. My name is Zac Thompson, and I’m with East Bay Community Energy which is the GCA serving Almeida County. And I’m also a member of the Clean Transportation Program Investment Plan Advisory Committee.

I wanted to voice support on behalf of East Bay Community Energy for the Commission’s report on the 2020-2023 Investment Plan Update for the Clean Transportation Program. We strongly support the Commission approving this Investment Plan Update and we’re very pleased to see the inclusion of the one-time legislative appropriation for 51 million dollars to increase and accelerate EV charging infrastructure.

And for the sake of brevity I’ll skip over why I support the program, but I just wanted to say that with the Investment Plan having a near term focus on coming (indiscernible) ready infrastructure deployment projects we encourage the CEC to work with the investor-owned utilities to ensure the electrical grid upgrades and interconnection processes needed to support these projects are not barriers to deployment.
So, again, just wanted to reiterate, EBCE supports the Investment Plan update, and I’d like to thank the Commission for its efforts to transition the state to zero emission transportation system and a 100 percent clean energy future. Thank you.

CHAIRMAN HOCHSCHILD: Thank you for your support and your brevity. Let’s go to the next speaker.

SECRETARIAT GOLDTHRITE: Next we have Heidi Sickler from Silicon Valley Leadership Group.

CHAIRMAN HOCHSCHILD: Heidi, can you hear us?

Go to the next speaker, please.

PUBLIC ADVISOR GALLARDO: This is Noemi, the public advisor. I’d like to remind the speakers to spell their first and last names so we can have a clear record.


Chair Hochschild, Commissioner Monahan, thank you so much for the opportunity to provide public comment on the FR-20-23 Clean Transportation Investment Plan Update. As you know, we represent more than 350 employers on issues that affect economic health and quality of life in Silicon Valley.

Member companies include TESLA, Cetera, Ford,
BYD, ChargePoint, NOx, Volta Charging, General Motors and PG&E. And they’re leading in the electrification of public and private and commercial vehicles.

We know that California needs to install charging ports at about 20 times the current -- (Whereupon, audio dropped out)

PUBLIC ADVISOR GALLARDO: This is Noemi, the public advisor. Heidi, we cannot hear you. Can you try again.

MR. GOLDTHRITE: The call dropped.

PUBLIC ADVISOR GALLARDO: Okay, thank you, Cody.

SECRETARIAT GOLDTHRITE: We’ll go to Leslie Aguayo from Greenlining Institute.

MS. AGUAYO: Hi, good morning. This is Leslie Aguayo from the Greenlining Institute. I just want to say thank you to the Commissioners and staff and DACAG members for allowing me the chance to provide opportunity to comment on this Investment Plan.

As part of Greenlining, which focuses on racial equity, we want to applaud the CEC for their investment and commitment to the process of equity as well as recognizing DACAG’s encouragement of investing part of the investment in outreach in disadvantaged communities and partnership with CBO’s.

Additionally, I would also like to recognize the
importance of SC-1000 and the preliminary findings of accessibility versus deployment, and would also hope to encourage the CEC to consider a couple of additional equity considerations.

Greenlining provides four set processes for operationalizing equity, and through those have committed to these standards in encouraging agencies to follow as well.

A couple of points that I think would be important and relevant to the practice of equity is considering emerging BETA trends. So, we need to see a few of these found in emerging COVID-19 data as well as flood and fire risk data, zoning and land use population and demographic production.

And I would also like to flag the potential of Prop. 16. Until November 3, 2020 has passed, Prop. 16 would have potential to reverse Proposition 209 in which case would provide an opportunity to disaggregate data and really see disadvantaged communities, and low-income communities, and communities of color as no longer a monolith but as unique communities with different nuance needs that could be applicable to the CEC Investment Plan and equity framework.

I also would like to commend the CEC for their research and investment in workforce development in
training opportunities. Greenlining strongly promotes this as a pathway for economic mobility and also encourages the CEC to look at just transition principles in their design of some of these workforce development opportunities.

And, lastly, again I would just like to thank the Commission for providing me the opportunity to provide comments and be part of the Advisory Committee.

Thank you so much.

CHAIRMAN HOCHSCHILD: Thank you. Next speaker.

MR. GOLDTHRITE: Next speaker, we’ve got Kevin Maggay from SoCalGas.

MR. MAGGAY: Hi, good morning. Can you hear me okay?

CHAIRMAN HOCHSCHILD: Yes, we can. Good morning.


Thank you for the opportunity to comment on the Investment Plan and for the opportunity for SoCalGas to sit on the Advisory Committee. The plan has a longstanding history of contributing their GHG and criteria for reductions. There’s been very important stimulus to the involvement of biofuel production, and
these programs have provided jobs in California contributing to local property tax revenues from biofuel production facilities.

Regarding hydrogen funding, we appreciate the shifting of zero emission vehicle funding to the hydrogen refueling category. However, it appears the marketing exclusively to medium and heavy-duty infrastructure while it comports to the (indiscernible) infrastructure, these funds should not be limited to larger vehicles. This change does not address the comments raised by parties regarding the need for more funding for light duty hydrogen fueling infrastructure.

Chair Jim Frazier along with other members of the Senate and assembly Transportation Committee submitted comments highlighting AD-5 and the Governor’s Executive Order which calls for 200 publicly available passenger vehicle hydrogen refueling stations to meet the five million zero emission target.

Their letter states that, “The Investment Plan does not fully allocate the 20 million annual set aside for hydrogen refueling infrastructure through 2023. This undermines California’s ability to reach five million zero emission vehicles through the buildout of 200 publicly available stations as called for by the Executive Order.”
We strongly encourage the Energy Commission to allocate the full 200 million towards meeting the goal of 200 stations by 2025.”

Allocating funds to medium and heavy-duty infrastructure will not necessarily meet those objectives.

Further, the Health and Safety Codes states that the program should promote a transition to a diverse portfolio of alternative transportation fuels and reduce petroleum dependency.

The planning for this current fiscal year allocates 100 percent of the funds to zero emission technologies, and that doesn’t comply with the program statute for promoting a diverse portfolio.

With the shift from the draft Investment Plan to the lead Commission Investment Plan which removed all funding from the zero and near zero fuel supply production category and put into recovery and reinvestment category, zero and near zero fuel production projects have created millions and millions of dollars in local revenue to property taxes and long-term high-paying jobs in the areas hardest hit by unemployment.

Regarding biofuel production, we would recommend CEC elaborate on the $10 million recovery and
reinvestment and how they will be prioritized to
different projects. There is a limited discussion and
they report on how these funds will be distributed. CEC
should consider spending the money on this industry to
turn waste products into zero and negative carbon fuels
that produce long-term jobs and millions of dollars of
revenue.

Further, because the Committee was able to
reallocate 51 million to light duty charging stations,
they do not need the 10 million now for this category.
The 10 million should be reallocated to zero and near
zero emission fuel supply production category as was the
case in the staff’s draft.

PUBLIC ADVISOR GALLARDO: Sorry to interrupt.
This is Neomi, the public advisor just letting you know
your time is up.

MR. MAGGAY: Thank you.

PUBLIC ADVISOR GALLARDO: Can you please wrap
up, please.

MR. MAGGAY: Thank you.

CHAIRMAN HOCHSCHILD: Thank you. Let’s go to
the next speaker.

SECRETARIAT GOLDTHRITE: Next we’ll go back to
Heidi Sickler with Silicon Valley Leadership Group.

MS. SICKLER: Yes, my apologies. I got cut off.
I’ll wrap up really quickly.

In conclusion the Leadership Group supports the proposed multi-year clean transportation Investment Plan, and we look forward to continuing to work with Commissioner Monahan and Chair Hochschild and other Commissioners on further refining the plan to ensure its in strong market (indiscernible). Thank you very much.

SECRETARIAT GOLDTHRITE: Next is Kitty Adams, the Executive Director of Adopt a Charger.


I’m not sure that I totally understand the process. I’m going to make comments from my understanding, but I wanted to invite the Commissioners to set me straight if I’m misunderstanding the process.

There are a couple of things in the plan that I do not agree with. One is phasing out funding for electric vehicle infrastructure in 2028. The requirements for EV charging stations, including ADA regulations, adherence to SB-454, standard weights and
measures, Energy Star certifications and upcoming requirements for vehicle to GRID have increased average cost per charge port from about $9,000 in 2012 to close to $16,000 currently. And at a time when costs are doubling I don’t think it’s a good idea to phase out funding for this category.

The other thing I’m not sure I understand is transferring money from EV infrastructure to hydrogen infrastructure. And this basically just comes from the urgency of climate change, and hydrogen is not scaling as quickly as plug-in electric vehicles. In the last 10 years 7.2 million EVs have been sold worldwide compared to only 6,500 battery electric vehicles.

So, I think because of our urgency in order to meet Governor Newsom’s goals and in order to phase out fossil fuel cars completely by 2035, I think we need to focus on what is working here.

I also wanted to point out that there will be 100 different models of electric vehicles available by 2023.

And one other thing I noticed in the presentation is that the Electrify America, the VW settlement funds, are being added in and factored in as funding for EV charging infrastructure, but that’s not a competitive process. You know, people have to adhere to
Electrify America’s goals, so it’s like actually something that people can have guaranteed access to.

Thank you for considering my comments in light of the presentation.

SECRETARIAT GOLDTHRITE: Next is Irene Tutt from California Electric Transportation Coalition.

MS. TUTT: Thank you. My name is Eileen, E-I-L-E-E-N, Tutt, T-U-T-T.

I want to thank you for the opportunity to comment on this very important plan. I am a member of the Advisory Committee, as well as being at the California Electric Transportation Coalition.

I consider these plans to be an indication of the CECs and the administration’s priorities like most budgets and Investment Plans, and, so, I would like you to please take my comments with this in mind.

I am disappointed that the CEC did not consider the California Electric T-C’s and others comments on the need for further in charging infrastructure in 2023 and the need to ensure the Clean Transportation Program is funded beyond 2023. I think that would have been an important signal.

We do support the approval of the plan, but with some reservation given some of the modifications that came out relative to the staff proposal and the current
plan presented today, particularly in the year 2023. We were disappointed to see that hydrogen refueling infrastructure was granted an additional five million in 2023 for light-duty hydrogen fueling, up from five million, so doubled. It’s now 10 million, and that charging infrastructure and emobility was completely zeroed out. This just doesn’t make sense.

And, also, that the five million was cut from investments in medium and heavy-duty ZEVs and infrastructure.

If the Energy Commission intends to use part of that 10 million currently allocated towards light-duty hydrogen for medium and heavy duty, then why would it have reallocated from the medium, heavy duty to light duty? That doesn’t make sense, and it’s internally inconsistent. So, I really -- I don’t understand that.

As we stated in our comment, charging infrastructure in 2023 is problematic. We hope that efforts to reauthorize the Clean Transportation Plan funding in 2023 and beyond will be successful and result in the essential need for public funding for charging infrastructure as well as for hydrogen infrastructure and other investments in zero emission vehicles, particularly given the Governor’s N-79-20 Executive Order which we were very pleased to see.
We know right now and the CEC has confirmed that we don’t have adequate accessible and affordable charging infrastructure to meet the demand today, and it’s getting worse by the day. So, we’re getting farther behind by each day.

So, again, I want to support the approval of this plan and we will work with the CEC team and the Advisory Committee in 2021 to update the plan to reflect a commitment to both charging infrastructure and hydrogen infrastructure and prioritize medium and heavy-duty ZEV investments.

Thank you so much.

SECRETARIAT GOLDTHRITE: Next we have Emanuel Wagner from the California Hydrogen Business Council.

MR. WAGNER: All right. Can you hear me?

CHAIRMAN HOCHSCHILD: Yes.

PUBLIC ADVISOR GALLARDO: Yes, we can.

CHAIRMAN HOCHSCHILD: Yes, we can. Good morning.

MR. WAGNER: All righty. Okay. Thank you so much.

All right. So, your -- oh, first Emanuel Wagner, E-M-A-N-U-E-L, Wagner, W-A-G-N-E-R. Dear Commissioners, dear CEC staff, my name is Emanuel Wagner. I’m the Deputy Director of the
California Hydrogen Business Council. The Hydrogen Business Council is the hydrogen fuel cell industry’s trade association, and we represent over 120 organizations in this state, including hydrogen refueling space developers and light and heavy-duty electric vehicle manufacturers.

First up, thank you so much for your continued investment in zero emission transportation and for your leadership, Commissioner Monahan.

On August 21 of 2020, the assembly and Senate Transportation Committee filed comments. Chair Frazier, Assembly Member Stalli, O’Donnell and Senator Roth submitted the letter to you, Commissioner Monahan, requesting that the CEC’s Investment Plan fully allocates fully the 20 million annually set aside for light-duty hydrogen refueling infrastructures through 2023 as per statute.

However, this Investment Plan does not seem to allocate those full funds outlined by ADA which undermines our ability to reach five million zero emission vehicles trying to build out up to 100 publicly available hydrogen fueling stations as called by Executive Order B-48-18.

The five million ZEV goal is for light duty passenger vehicles only, same as the goal for at least
100 hydrogen refueling stations that is in statute and
the 200 refueling stations in the Executive Order.

Furthermore, September 23, 2020, Governor Newsom
signed the very important Executive Order N-79-20 which
sets a goal of 100 percent of in-state sales of new
passenger cars and trucks to be zero emission by 2035.

This is especially important because as the
legislative letter indicates, 46 percent of Californians
living in multi-family dwellings and 10 percent of super
commuter workforce would travel more than 90 minutes per
day with ZEV option light fuel cell electric vehicles
that have a long range and faster fueling, and we must
have adequate infrastructure for those vehicles.

Part of the reason why we don’t have as many
fuel cell electric vehicles as we have battery electric
vehicles on the road is because of lack in
infrastructure.

The CHBC, therefore, urges you to fully fund
light duty hydrogen fueling station investment at $20
million and do so not by redirecting funds from heavy
duty hydrogen station investment.

To meet our ambitious goals, we need you to
support both sectors, light as well as heavy-duty
fueling stations and not at the expense of each other.

Thank you so much for your consideration.
SECRETARIAT GOLDBRITHE: Next we have Bill Magavern with Clean Transportation.

MR. MAGAVERN: Good morning, Commissioners.

This is Bill, B-I-L-L, Magavern, M-A-G-A-V-E-R-N. I’m Policy Director with Coalition for Clean Air and also a member of the Advisory Committee.

And we support the plan that’s before you today. I want to particularly focus on a couple of elements. On the Advisory Committee I had called for a commitment to make sure that at least 50 percent of the funds go to disadvantaged communities. So, I thank the Commission and the staff for including that.

We know that it’s our low-income communities of color that are bearing the worse burdens of our current transportation system with the pollution and the inequities that it embodies. So, we need to make sure that we’re doing everything that we can to correct those injustices, and I would urge the Commission to seek to go above the 50 percent minimum, but we appreciate that for the first time there is a commitment here to help out those communities with this funding.

Secondly, we have prioritized cleaning up medium and heavy-duty vehicles because they are predominantly now fueled by diesel, and toxic diesel exhaust is plaguing California’s air, and, again, this has a
disproportionate effect on low income communities of color. I very much agree with the comment that Stan Greschner made. So, we need to put as much focus as we can on cleaning up medium and heavy-duty vehicles, so we support the plan’s focus in future years of shifting funding for the infrastructure to fuel and charge those vehicles.

I would say that we would like for future hydrogen fuel cell funding, which we do support, to reflect that emphasis on medium and heavy-duty vehicles. We have a lot of hope in the potential for hydrogen fuel cell vehicles in the heavy-duty sector and want to make sure that that is adequately funded.

So, I agree with Steve Cliff’s comments representing the Air Resources Board that in the future you may want to look at shifting more of that hydrogen infrastructure funding to the medium and heavy-duty sector.

That concludes my comments, and I want to again thank the Commission, especially Lead Commissioner Monahan.

SECRETARIAT GOLDTHRITE: Next we have Teresa Cooke from the California Hydrogen Coalition.

MS. COOKE: Good morning and thank you. Teresa Cooke, T-E-R-E-S-A, Cooke, C-O-O-K-E, on behalf of the
California Hydrogen Coalition.

I want to say that we deeply appreciate the improved signaling for the growing passenger fuel cell electric vehicle market, and think that a multi-year Investment Plan will be a real game changer for development.

Obviously, coming up at the heels of the Governor’s Executive Order we have a great deal of work to do and there is absolutely a complementary goal for both the battery electric vehicle and fuel cell electric vehicle market with 25 million registered vehicles on the road. You know, the growth in the fuel cell electric vehicle market depends largely on early support from programs like the CTP and positive signals to the private sector that is coming en masse to invest in the hydrogen fueling network in California, more helpful to continue working with the Energy Commission to close the gap that not only exists for charging infrastructure but for hydrogen infrastructure as well.

Thank you.

SECRETARIAT GOLDTHRITE: So, next we have Cory Bullis with the Electric Vehicle Charging, followed by Rebecca Baskins with California Advanced Biofuels Alliance.

MR. BULLIS: Good morning. You have Cory Bullis
here with the Electric Vehicle Charging Association.

First name spelled C-O-R-Y. Last name spelled B-U-L-L-I-S.

We’re supportive of varied elements of the plan for reasons stated by other folks on the phone, so I won’t repeat that.

And I also just wanted to cite that we are also concerned, like the comment from CalETC and Adopt a Charger given the plan zeroes out funding for charging infrastructure in 2023.

The only additional maybe tidbit I’d add to some of our thought process behind our concerns on this is really zeroing out funding in 2023 kind of sends a conflicting market signal in the face of the Executive Order at a time when we need to scale up even more, get more aggressive with infrastructure deployment state funding is getting pulled away from charging infrastructure.

The other thing I’d want to note is that, at least based on what’s in the plan, we’re concerned that perhaps the zeroing out of funding in 2023 overlooks potentially implementation of the Clean Mile Standard and electrifying TNCs and other ride-sharing fleets. You know, those charging market segments and infrastructure deployment strategies are certainly more
nascent compared to other segments in the market, and we’re concerned that this is going to be a time that that segment more so than others is really going to need some additional attention and state support separate from just the overall picture of needing to meet the goals of the Executive Order.

So, we would just respectfully ask the Commission to take another look at that. We understand the Investment Plan is a living, flexible document, that is an ongoing concern for us.

Thank you.

SECRETARIAT GOLDTHRITE: Rebecca Baskins with California Advanced Biofuels Alliance.

MS. BASKINS: Hi, good morning. This is Rebecca Baskins, R-E-B-E-C-C-A, B-A-S-K-I-N-S with the California Advanced Biofuels Alliance. We are the state’s trade association for biodiesel and renewal diesel.

Thanks for allowing us to comment on the Clean Transportation Program’s Investment Plan. We thank you for your investing in near zero fuels and support this overall.

We want to point out the disparity between the allocation of monies between ZEVs and near zero. Our fuel carbon intensity scores are on par with
electricity, yet ZEVs have been allocated 13 times more money than near zero alternatives. We appreciate the state’s climate policies, but we believe we need more fuel-neutral policies and Investment Plans, especially in that long-haul heavy-duty sector in order to achieve the state’s climate goals.

We thank you for your continued work on this issue and we look forward to continuing working with you. Thank you.

CHAIRMAN HOCHSCHILD: How many more speakers do we have?

SECRETARIAT GOLDTHRITE: We have no other speakers on the line.

CHAIRMAN HOCHSCHILD: Okay. I think we had a written comment. Public Advisor, are you going to read that?

PUBLIC ADVISOR GALLARDO: Yes, I’ll do that now.


"Nikola Corporation would like to express our support for the approval of the proposed resolution of the 2020, 2023 Update for the Clean Transportation Program. We greatly appreciate the recognition of the importance of reducing the carbon footprint of the
freight industry in California, the current and future investments being directed to the deployment of medium and heavy-duty ZEVs and hydrogen infrastructure will greatly help California meet its future carbon reduction goals.”

We look forward to continued engagement with the CEC and other stakeholders on the benefits and opportunities with respect to the development of renewal hydrogen infrastructure, production and fuel distribution to address California’s statewide decarbonization efforts.”

“Thank you for your leadership.”

That concludes the comment.

CHAIRMAN HOCHSCHILD: Great, thank you. Let’s turn to Commissioner discussion. Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I actually think it might be helpful, given some of the comments around hydrogen infrastructure that Patrick or Charles clarify the statutory language around the -- how much money we can spend for hydrogen public infrastructure. Charles or Patrick, are either of you able to answer that question?

MR. SMITH: This is Charles. Can you hear me okay?

COMMISSIONER MONAHAN: Yes.

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So, I do not have it in front of me but I believe our statutory requirement is that we allocate $20 million or up to 20 percent of our available funding for publicly available hydrogen refueling stations up to the point that the state achieves the 100-station target. I believe that is our statutory mandate.

COMMISSIONER MONAHAN: Yes, and the last year funding is supposed to have been -- why did you cut from 20 to 10, and it’s actually because it’s a half a year funding for 20 percent would be half of that, and we had to do it until there’s 100 stations in operation. So, we’re following what the statutory language is. Just to clarify that.

So, I want to go back to my big comments which is I’m pretty excited about this Investment Plan and I think it really aligns well with the Governor’s Executive Order to set a course for a hundred percent zero emission vehicles by -- in the next 15 to 25 years for most applications. I think there -- we will still need some liquid fuels and I’m convinced in the Governor’s EO.

It’s clear that, where feasible, we want to electrify everything, and where it’s not, we want to get
as low carbon as we can in terms of the fuel and as low pollution as we can.

So, let me just start with this three first (indiscernible) in this Investment Plan. So, this was a new Advisory Committee, and the reconstituted Advisory Committee is now 40-ish plus members, a big group. And we really leaned in on the issue that there were community and equity interests at the table, as well as, you know, diversity of fuel interest, NGO and we really tried to make sure that there were -- we met different categories of interest on the Advisory Committee.

Second, this is the first ever multi-year plan that's prioritizing ZEVs and near ZEVs.

And the third is that we have a recovery and re-investment category centered to what’s happened in the wake of COVID-19.

And I want to emphasize that while we were doing this, COVID happened, so I just give credit to the team at Fuel and Transportation Division, the Advisory Committee, the DACAG, many other stakeholders continue to weigh in and help shape this even as we were having all this destruction across the state and I’m sure for a lot of folks, working from home with children, dogs and other intrusions in the workplace.

So, I want to emphasize that while we’re setting
allocations for the next 3.5 years, there’s going to be opportunity every year for minor -- for adjustments. We don’t envision like wholesale revisions of the direction, but for minor adjustments. So, for stakeholders who have been weighing in on concerns around later allocations I will say that there will be a process. The Advisory Committee will be reconvened, and there will be an opportunity for minor revisions on an annual basis.

I want to say also that -- that this is a really important moment for the state and that as we move forward with electrifying, we need to do it in a way that ensures that we can electrify both light-duty and heavy-duty vehicles, and this is -- you know, the targets that are laid out with both, you know, with off-road equipment, on road heavy-duty equipment and light-duty vehicles we were trying to balance all of these needs. And I feel like the team did a great job in terms of balancing those, but we are willing, to as we see the market develop, make revisions going forward.

So, I would like to thank the DACAG and particularly Stan Greschner for their helpful comments on how to incorporate equity into our plan. There’s more work to be done on that, and I’m happy to report that the DACAG is going to help us work on it, together.
with Neomi Gallardo and the idea X team here at the Energy Commission to make sure that we are looking at benefits more broadly than just project locations.

I want to thank our Advisory Committee members who have been engaged, thoughtful, proactive through this whole process. We have revised our Investment Plan to reflect their comments and reflect the comments of other stakeholders, including our goal of having 50 percent -- at least 50 percent of investments in low income and the Spanish communities.

So, the last thing, I want to thank the hardworking team at the Fuel and Transportation Division, including Patrick Brecht, who is the primary author and the Project Manager for the Investment Plan. He’s point on so many key tasks, so thank you, Patrick. Tami Hass, Charles Smith, Michael Comader, John Butler and Hannon Rasool, for all their work to get the Investment Plan to the finish line.

I also want to thank Kevin Barker who, even though he’s no longer at the Commission, with words that were helpful along the way.

So, look forward to the feedback of other Commissioners and, hopefully, to improving this Investment Plan.

CHAIRMAN HOCHSCHILD: Thank you, Commissioner
Monahan. And I would just note it’s 11:15. We have 15 items on the agenda. We’re still on item one, so, brevity is certainly appreciated as we go to commission discussion as well as the other items.

Any Commissioners wishing to make a comment, maybe you’d wave your hand. Okay. Let’s begin with Commissioner McAllister.

COMMISSIONER McALLISTER: Yes, just quickly. I’ll be very brief.

I want to just congratulate the team for the good presentation and all their hard work to get us here, Commissioner Monahan for your leadership, and Vice Chair Scott for her, you know, laying a lot of the groundwork over the years.

And also, just to draw a little bit of a connection within the hydrogen world, you know, a lot of discussion about hydrogen in this plan. But there is a broader landscape there in terms of hydrogen for the power sector and the infrastructure investment that we need, and a lot of these the need for coordination across that, you know, existing but also, you know, perceptively growing part of the energy economy.

So, I look forward to working with Commissioner Monahan and others in the industry on, you know, connecting those dots and making sure that our overall
investment as a state towards decarbonization leverages hydrogen in the most optimal way.

CHAIRMAN HOCHSCHILD: Thank you, Commissioner.

Let’s go to Vice Chair Scott.

VICE CHAIR SCOTT: Thank you. I will also be brief. I just -- you guys already know how much I love the Clean Transportation Program, so I probably don’t need to add too much there. But, you know, it’s a strong program with a solid foundation, and I think the Energy Commission really does play a critical and impactful role in transforming our transportation sector. And you all know, of course, that’s important because of climate, because of clean air, it helps create jobs, that whole -- you all know all the reasons why so I won’t go into that.

But I just wanted to say thank you to Commissioner Monahan and to the Clean Transportation Team for the great work, and again, you guys know how much I love this program, so --

CHAIRMAN HOCHSCHILD: Thank you. Commissioner Douglas.

COMMISSIONER DOUGLAS: Well, I just wanted to also thank Commissioner Monahan and the team, the DACAG, you know, everybody, the Advisory Committee, just a lot of hard work went into this. It’s never easy.
You know, as we move forward implementing the new Executive Order it does put a fine point on what we need to focus on next, and I realize that we didn’t have the benefit of having it in front of us as this plan was developed, but to the degree that we need to, you know, make some adjustments or think about, you know, what needs to be accelerated in order to meet those goals.

Obviously speakers have brought up medium, heavy duty, you know, rural areas. It’s one thing to go, you know, all ZEV in more urban areas with more infrastructure. It’s a lot tougher in some of our rural areas, and, you know, I’m very interested in just following the conversation on hydrogen and interactions between the energy sector at large and opportunities in the transportation sector. I think we’ve got our work cut out for us here.

So, anyway, I’m in strong support of this and just thank everyone for their work on this.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you Commissioner Douglas.

Well, thunderous support from me and thank you, again, to Commissioner Monahan.

What I’d like to do is invite Commissioner Monahan to make the motion and Vice Chair Scott to
second, given all of your hard work that led up to this moment, if that’s all right. Commissioner Monahan, would you make the motion?

COMMISSIONER MONAHAN: I move to approve this item.

CHAIRMAN HOCHSCHILD: Vice Chair Scott, would you be willing to second?

VICE CHAIR SCOTT: I second.

CHAIRMAN HOCHSCHILD: All right. Let’s take the roll. All in favor say aye. Vice Chair Scott.

VICE CHAIR SCOTT: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIRMAN HOCHSCHILD: Commissioner McAllister.

COMMISSIONER McALLISTER: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.

CHAIRMAN HOCHSCHILD: And I vote aye as well. That item passes unanimously. Congratulations to all the stakeholders, and staff, and team.

Let’s turn now to item two, Order Instituting Rulemaking Proceeding Around Senate Bill 49.

MR. STRUVEN: Good morning Chair and Commissioners. My name is Nick Struven. I work in the Efficiency Division Appliance Office and I’m here to
present the Order Instituting Rulemaking to Implement Senate Bill 49.

Next slide, please.

Senate Bill 49 requires California Energy Commission to develop flexible demand appliance standards in consultation with load-serving entities and the Public Utilities Commission.

Developing and implementing these standards will be critical to realizing load flexibility as a resource in California of the California Energy Commission’s effort to lead the state to a hundred percent clean energy in the coming years.

Senate Bill 49 directs the California Energy Commission to establish standards and labeling requirements to facilitate the deployment of flexible demand technologies for appliances. This is a new authority under the Warren Alquist Act for the Commission.

The new regulations will be placed in a separate section, Title 20, to differentiate them from the efficiency regulatory authority for appliances. These standards and labeling requirements must show that they are cost effective to the consumer, will enable appliance operations to be scheduled, shifted or curtailed to reduce emissions of greenhouse gases.
associated with energy generation, all requiring the consent of consumers.

These standards shall contain cybersecurity protocols, communications shall be open source, interoperable and user friendly.

It is anticipated that this rulemaking will implement directives of Senate Bill 49 to establish standards for appliances that facilitate the deployment of flexible demand technologies and a framework for enforcement to achieve the objectives consistent with state greenhouse gas reduction policies and mandates.

Staff will also work with the California Independent System Operator, the California Air Resources Board, the U.S. Department of Energy and other organizations focused on this topic.

Next slide, please.

This figure illustrates the capabilities showing aggregate typical demand patterns for several shiftable load types in California. This is forecasted for 2025 along with the net load and times of need to shift.

These shapes represent both commercial and industrial, as well as residential appliance end uses. Sources of load shift can be found across commercial, industrial and residential customer classes both from tested and emerging technologies.
Electricity end uses that can readily provide load shift include air conditioning, refrigerated warehouse, water supply and treatment, commercial and industrial batch processes, electric space and water heating.

Emerging technologies stand to contribute as well, especially battery storage and electric vehicle charging. These end uses are better prepared -- these end uses are better prepared than ever to quickly and reliably deliver shift through automated responses due to dispatch signals or preset schedules.

The new requirement for the California Energy Commission’s appliance standards to consider flexible demand technologies to help maintain GRID reliability will require close coordination between the load management standards development and the next generation of appliance efficiency standards.

Next slide, please.

The flexible demand standards for appliance will be based on feasible improvements that can enable appliance operations to be scheduled, shifted and curtailed to reduce emissions of greenhouse gases associated with electricity generation. This capability to shift the timing of the demand will also reduce the need to curtail renewable generation.
One of the benefits to consumers from flexible demand technologies is the opportunity to reduce electricity charges by shifting their consumption to periods of the day with lower rates.

Another benefit to providing consumers the ability to access time-bearing electricity rates, greenhouse gas signals and load schedules to prompt consumers to increase or decrease their use of energy in line with available zero margin cost renewable generation.

For the load serving entities a benefit of flexible demand and load shift is the reduction of resources necessary to meet requirements of the electric GRID system.

Appliance standards that enable widespread deployment of flexible loads along with energy storage will provide a lower cost means to reducing greenhouse gas emissions. These standards will reduce further investment requirements for electricity networks generation and transmission infrastructure that would have been necessary to meet growing peak electricity demand and network cost arising from the rapid growth in consumer side renewable generation.

Next slide, please.

These are the steps toward a 2022 adoption of
initial flexible demand appliance standards. The staff report is anticipated to focus on a narrow set of measures to establish this new authority under Title 20 in an expeditious manner.

Next slide, please.

Staff recommends Commission approval of the Order Instituting Rulemaking for Flexible Demand Appliances. This concludes my presentation, and I am available to answer any questions you may have on this agenda item.

CHAIRMAN HOCHSCHILD: Thank you. Shall we go to public comment.

PUBLIC ADVISOR GALLARDO: This is Noemi Gallardo, the Public Advisor. We have no written comment. We do have someone in the queue, Kevin Messner. Kevin, we’re going to open your line, and please spell your name and indicate your affiliation, if any, before speaking.

MR. MESSNER: Great. Thank you. This is Kevin Messner, M-E-S-S-N-E-R, with AHAM, the Association of Home Appliance Manufacturers.

Thanks for the opportunity to comment on this. I find this very interesting in many respects. I think back 10 years ago when we were really pushing the efficiency advocates on the benefits of how demand
response in appliances can be used in a really good and helpful way on energy efficiency. And we were really pushing hard and ended up, I think, convincing them and Energy Star to include that in some of the Energy Star credit. So, that literally was in 2010, and here we are 10 years later and I think kind of all agree there hasn’t been a whole lot of progress.

We did see the bill that moved forward and did not oppose it. Hope was that CEC might use some of its authority to really help move the demand response in there, so we are very supportive of that concept and have been for 10 years.

Unfortunately, there was always a worry of CEC getting new authority and using it in a way that we don’t like, and this CTA port you picked the one that we -- the one thing out of all the areas out there that we really don’t like as the first one out of the box. But, the CTA port is just -- it’s been a long 10-year effort by utilities to slap these things on appliances and require appliances to have their specified docks, docks or energy management, whatever you want to call it. This is just another iteration of that.

It’s a bad idea. We’ll just outline two reasons why. One is security. This CTA port is like going back to dial-up modems. We are now on a high security, more
secure way to deal with multilayers of security through cloud base and apps. Putting a port in a home is a step backward on that. It removes a layer of security and protection that hackers can get into the appliance, can get into the home.

Another issue is liability. Once you get that in their who’s liable? What if a utility sends a signal and it interrupts the appliance’s function, it spoils food in the refrigerator, it bleaches clothes because it stops the cycle in the middle with bleach in there? There’s leak waters. There’s really problems with putting this port on home appliances that are in a home. And we can talk through others.

We really, really would like to work with CEC to try to promote demand response capable appliances. We’ve been wanting to do it for 10 years. We kind of after dealing with the CPSC, quite frankly, and others just was like banging our head against the wall. But with this new authority we would love to look at ways to try do that, not the CTA port, but there’s other ways to do it, so hopefully we can switch this to something and we can work together on it, so thank you for listening.

CHAIRMAN HOCHSCHILD: Thank you. Let’s move now to Commission discussion. Commissioner McAllister.

COMMISSIONER McALLISTER: Yeah, thanks. So,
thank you, Nick. I want to thank you and the whole staff, Sean and all the others who have been working on this, Pierre.

I’m very excited about this, so just to be clear, this is opening the rulemaking, so this is not, you know, voting on the substance. So, certainly to Mr. Messner’s point there are myriad opportunities going forward to talk about what this landscape of low flexible appliances actually will look like. That’s exactly what the discussion is for and what this platform is for. And so, you know, that will happen on the merit, you know, across all the stakeholders. We’ll get inputs from everyone and focus on developing this new authority.

And I think, you know, Nick appropriately distinguished it from our Title 20 appliances efficiency authority that you’re all familiar with. This is completely distinct from that, so the cost effectiveness, all these -- the development of test procedures and all that really is completely independent because the goal here is to not overlap with efficiency authority that, you know, for some devices actually sits over at the Federal level. So, you know, obviously we’re being assiduous about that.

Got to give some kudos to Senator Skinner,
Nancy Skinner, whose bill this is, SP-49, that we’re implementing.

You know, this idea, as Mr. Messner said, and I think many of you know, the demand response has been around for quite a while, and there’s been this vision as our economy moves to a more digital economy to be able to take loads ever more granularly and send them signals that help them better comport with the GRID, and for any number of reasons, and many of them were brought up in the transportation plan vote. But having flexible loads is a cheap, elegant low hassle way for our GRID to be operated optimally and reliably.

So, this isn’t going to be a way for us to get a big wedge of resources built into the hardware of the electricity GRID that can help with both decarbonization and reliability.

And, so, in the context of our new commitment to the Governor after the stresses of the last couple of months in the electricity GRID to really lift up the potential, expand the potential of distributed load flexibility and DERs generally as a solution to our reliability challenges, this fits perfectly with that.

So, it’s a marathon, not a sprint. Lots of stages to go through and, you know, picking categories that have the most potential and working through those
with stakeholders.

But I’m really pleased to have this process formally beginning and excited about the potential here alongside, as Nick said, the load management standards, eventually getting to a point where we can actually build some of these, you know, when we get rock solid solutions and the marketplaces supporting them we can build them into building code, for example and really focus on load flexibility across the state in literally millions and billions of points that help us operate the GRID reliably and in a low carbon fashion.

So, that’s really the broader context here, this effort under SP-49 fits into. So, I want to just thank everybody for getting this to us, and, obviously, I’m in strong support.

CHAIRMAN HOCHSCHILD: Thank you, Commissioner, for all your leadership on this. You’ve been phenomenal and relentless, and it’s great to see the progress.

Other Commissioners wish to comment? No, okay. So, with that, let’s take a motion. Commissioner McAllister, are you willing to make the motion?

COMMISSIONER McALLISTER: Yeah. I’ll move to cite them. Okay.

CHAIRMAN HOCHSCHILD: Commissioner Monahan, would you be willing to second?
COMMISSIONER MONAHAN: I second.

CHAIRMAN HOCHSCHILD: Okay. All in favor say aye. Commissioner McAllister.

COMMISSIONER McALLISTER: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIRMAN HOCHSCHILD: Vice Chair Scott.

VICE CHAIR SCOTT: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.

CHAIRMAN HOCHSCHILD: And I vote aye as well. That item passes unanimously. Thank you to the team for that.

Let’s move on to Item three, Calistoga Geothermal.

MR. VEERKAMP: Good morning Chair, Commissioners. My name is Eric Veerkamp. I work in the Compliance Office of the Siting Transmission and Environmental Protection Division. I’m the Project Manager for the Calistoga Unit 19 Geothermal Project, and that’s docket number 81-AFC-01C.

STEP Division staff requests approval this morning of nearly identical proposed modifications for the Sonoma Unit Three Plant, which is 80-AFC-01C, and for Calistoga Unit 19.
With me this morning is Jerrod Gagula (phonetic), staff counsel, and Nancy Fletcher from our Air Quality Engineering Unit as well.

Next slide, please.

Calistoga Unit 19 is an operational geothermal facility located in Sonoma County, owned and operated by Geysers Power Company, LLC.

The petition for modification requests the addition of a stationary, permanent emergency diesel engine for the cooling tower wet down system. The emergency diesel engine would be used to prevent fire damage to the cooling tower from wildfires.

The approximately 250 horsepower, or .19-megawatt equivalent engine with water pump is designed for deployment in wildfire emergencies when the facility is evacuated. The pump will wet the cooling towers to reduce the chance that an ember landing on the cooling tower deck will start a fire. This proposed modification is similar to the amendments you’ve already approved for Grant, Socrates and Quicksilver, and most recently for the Lakeview Geothermal plant approved by the Commission in January of 2020.

Next slide, please.

In order to provide clarity and eliminate confusion between air district conditions and CEC...
conditions of certification, the staff has proposed revised, renumbered and reordered air quality conditions of certification for consistency with the Lake County Air Quality Management District permit language for this project. Staff concluded that with the adoption of the amended conditions of certification approval of the petition will not have a significant effect on the environment and will not affect the project’s ability to continue to comply with applicable LORS.

Next slide.

Staff is recommending Commission approval of the petition to install a new permanent diesel engine driven pump for the cooling tower wet down system at Calistoga, along with the revised proposed air quality conditions of certification set forth in staff’s analysis.

That concludes my presentation, and I’d be happy to take any questions you might have.

CHAIRMAN HOCHSCHILD: Thank you. Let’s move on to public comment. Madam Public Advisor, do we have anyone who wishes to make a comment?

PUBLIC ADVISOR GALLARDO: This is Noemi, the public advisor. We do not have any written comment. We do have some people in the queue for the phone. I’ll differ to Cody, the Secretariat, to give us those names. And I’ll just remind speakers to please spell out your
first and last names and indicate your affiliation, if any. Thank you.

Cody, can you let us know who’s first?

SECRETARIAT GOLDTHRITE: We have two public comments. We have Jeff Harris with Geyser Power and then followed by Barbara McBride from Calpine Corporation.

CHAIRMAN HOCHSCHILD: Okay, go ahead.

MR. HARRIS: This is Jeff Harris, J-E-F-F, H-A-R-R-I-S. We’re just here to make us available to answer any questions and also to thank the staff for pushing these amendments for -- to make it illustrative of a good, strong working relationship between the Geyser’s projects and the Commission’s staff on these issues.

The standby diesel engine will allow for the wet down system to operate in the event of a wildfire, wildlands fire in the vicinity.

So, I know you’re pressed for time so I’ll go ahead and stop my comments there, make ourselves available for any questions. I know Ms. McBride from Calpine is also on the phone and available to answer any questions you may have, so thank you and thanks for the staff and the hard work.

CHAIRMAN HOCHSCHILD: Ms. McBride, were you wishing to make a comment or did you just want to make
yourself available if Commissioners have questions?

MS. McBRIDE: I want to thank the staff for their hard work on this. It was very expeditious and great, so that’s it.

CHAIRMAN HOCHSCHILD: Okay. Let’s move on to Commissioner discussion. Commissioner Douglas.

COMMISSIONER DOUGLAS: Sorry, I was fighting with my unmute button.

So, I appreciate the — you know, I received a briefing on this. I think the presentation was very good. These upgrades are really important. They’re important for safety, they’re important for reliability and, so, I’m in strong favor and recommend this to the Commission’s approval.

CHAIRMAN HOCHSCHILD: Okay. Any Commissioner discussion? Seeing none, Commissioner Douglas, are you willing to make a motion?

COMMISSIONER DOUGLAS: Yes. Move approval of this item.

CHAIRMAN HOCHSCHILD: Okay. Commissioner Monahan, would you be willing to second that?

COMMISSIONER MONAHAN: I second it.

CHAIRMAN HOCHSCHILD: Okay. All in favor say aye. Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.
CHAIRMAN HOCHSCHILD: Commissioner Monahan.
COMMISSIONER MONAHAN: Aye.
CHAIRMAN HOCHSCHILD: Commissioner McAllister.
COMMISSIONER McALLISTER: Aye.
CHAIRMAN HOCHSCHILD: Vice Chair Scott.
VICE CHAIR SCOTT: Aye.
CHAIRMAN HOCHSCHILD: And I vote aye as well.

That item passes unanimously. Let’s move on to item four, Sonoma Geothermal.

MR. VEERKAMP: As mentioned, I’m the Compliance Project Manager for Sonoma as well, also being proposed for modification.

Sonoma Unit Three is an operational geothermal facility located in Sonoma County, also owned and operated by Geysers Power Company.

The petition for modification requests the addition of a stationary permanent emergency diesel engine for the cooling tower wet down system. The emergency diesel engine would be used to prevent fire damage to the cooling tower from the wildfires. Thank you.

The approximately 250 horsepower, again .19-megawatt equivalent engine, with water pump is designed for deployment primarily in emergencies when the facility is to be evacuated. The pump would wet the
cooling towers to reduce the chance that an ember on the
cooling deck would start a fire. Again, Lakeview
Geothermal was most recently approved in January of 2020.

Next slide, please.

So, in order to provide clarity and eliminate
confusion between the air district conditions and the
CEC conditions of certification, staff has again
proposed revised renumbered and reordered air quality
conditions of certification for consistency with the
northern Sonoma County air pollution control district
permit language for this project.

Staff concluded that with the adoption of the
amended conditions approval of the petition will not
have a significant effect on the environment and will
not affect the project’s ability to continue to comply
with LORS.

Next slide, please.

Staff is recommending Commission approval of
this petition to install a new, permanent diesel engine
driven pump with a cooling tower wet down system at
Sonoma along with the revised air quality conditions of
certification set forth in staff’s analysis.

And that concludes my presentation.

CHAIRMAN HOCHSCHILD: Thank you. Madam Public
Advisor, do we have any public comment on this item?

PUBLIC ADVISOR GALLARDO: We do not have any written comment. We have the two same people as before who might be on the line just to answer questions.

CHAIRMAN HOCHSCHILD: Okay.

PUBLIC ADVISOR GALLARDO: But would you like us to open the lines to see if they have comment or --

CHAIRMAN HOCHSCHILD: I think it’s the same situation, I assume.

PUBLIC ADVISOR GALLARDO: Yes, they’re the same.

CHAIRMAN HOCHSCHILD: So, let’s move on to Commissioner discussion. Commissioner Douglas.

COMMISSIONER DOUGLAS: Yes. Same comments as before. These are important modifications. I recommend the approval of the item.

CHAIRMAN HOCHSCHILD: Okay. Any other Commissioner comments? Seeing none, Commissioner Douglas, would you be willing to make the motion?

COMMISSIONER DOUGLAS: Yes, move approval of this item.

CHAIRMAN HOCHSCHILD: Commissioner McAllister, would you be willing to second?

COMMISSIONER McALLISTER: I’ll second.

CHAIRMAN HOCHSCHILD: Okay. All in favor say aye. Commissioner Douglas.
COMMISSIONER DOUGLAS: Aye.
CHAIRMAN HOCHSCHILD: Commissioner McAllister.
COMMISSIONER McALLISTER: Aye.
CHAIRMAN HOCHSCHILD: Vice Chair Scott.
VICE CHAIR SCOTT: Aye.
CHAIRMAN HOCHSCHILD: Commissioner Monahan.
COMMISSIONER MONAHAN: Aye.
CHAIRMAN HOCHSCHILD: And I vote aye as well.
That item passes unanimously. Thank you to staff and stakeholders for that.
So, we move onto item five, California Energy Fund, dba CalCEF Ventures.

MS. OLIVER: Hello, Commissioners. My name is Eleanor, and today my colleague Josh and I are here to request approval of 28 awards for $150,000 each, totaling for $4.2 million from the EPIC small grant program, the CalSEED initiative.

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Since the start of this small grants program in 2017, CalSEED has so far awarded a total of 71 awards to clean energy startups with innovative technologies.

From the completion of awarded projects those start ups have been able to achieve a total of $65.8 million and various types of follow-on funding.

We can also see the growth of these companies
over the course of the program with the increased number of career opportunities created, ownership rights and successful small-scale validation of these unique technologies.

A reflection of the CEC’s commitment for diversity, CalSEED actively conducts outreach to ensure that the applicant pool is representative of all Californians, including women, low income entrepreneurs, veterans, communities of color and other underrepresented groups.

Next slide.

As you know, CalSEED provides small grants to entrepreneurs with early stage clean energy technologies. Applicants first apply for a $150,000 concept award, which also comes with technical resources and business development expertise. Those that successfully receive a concept award are then eligible to compete for 450,000 additional dollars to further develop their innovation.

The awards under consideration today are the fourth round of those $150,000 concept awards.

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CalSEED held its fourth open application period early this year and received over 200 eligible applications.
CalSEED used a screening mechanism to ensure applicants aligned with the goals and guidelines of the program.

CalSEED directed applicants to submit proposals to one of the four based on their geographic location. There are seven to eight high strength applications per region for your consideration today.

Next slide.

During this application period CalSEED expanded eligible technology areas to include advanced power electronics and power conditioning, energy storage, energy efficiency, zero and negative carbon admission generation and artificial intelligence and machine learning. With this expansion we saw more creative innovations apply and push for outside-the-box solutions to help California in reaching its climate goals.

Next slide.

These applications span a wide range of innovations over the five technology areas. Some were at concept stage, whereas others had a basic prototype tested in the lab. Their applications were evaluated for long-term potential impact, including technical, environmental and social impact business strategy and the expertise and experience of the team.

I’ll now pass it over to Josh who will overview
each of the technology areas and highlight some of the exciting small grants before you today.

Next slide.

MR. CROFT: Thanks, Eleanor. Commissioners, I’ll be summarizing the five technology groups and highlighting a project from each.

The first technology group is Advanced Power Electronics and Power Conditioning.

As California moves forward into this world of climate change reality it becomes -- it is more important than ever to support innovations that make our GRID smarter, more resilient and more responsive.

This year CalSEED is recommending subawards under this category that help the GRID manage demands, provide better and cleaner backup power and find innovative and inexpensive ways to make our transition GRID more resilient.

Take, for example, ALD Technical Solutions. Through this award they are developing a hybrid structural composite reinforcement system for existing transmission lines that increases the power capacity while decreasing the risk of sag. The add on is lightweight and easy to install and uses a unique combination of carbon and basalt fibers that will also help prevent corrosion of the metals within the
transmission line.

Next slide.

Next is energy storage. As our GRID adds clean generation, next generation energy storage solution hastens our journey to a carbon-free GRID that is consistently available and affordable.

The energy storage solutions before you today include solid state nonflammable batteries, a nanoscale battery that hopes to improve energy density by tenfold, and solutions for zero emission hydrogen technology. Hydrogen will likely be a key part of the solution, and the recommended subawarding each group technologies is developing a compact, low-cost hydrogen electrolyzer with significant performance enhancements compared to what is on the market today.

The team plans to demonstrate their electrolyzer at prototype scale, expecting to show a 50 percent increase in performance while keeping the manufacturing cost of the electrolyzer below market competitors.

Next slide.

Next are our Energy Efficiency Projects. California’s industry and building stock must also move toward becoming a better GRID resource. Creative solutions are still needed to get us to our ambitious policy goals. This year’s CalSEED program includes
I’d like to highlight Cypris Materials, Inc. The Cypris Materials team is continuing development on a transparent solar control coating that was previously supported by RPE. The coating is directly painted onto rough or smooth surfaces such as the roofs or walls of buildings. This coating uses chemicals readily available in the market and achieves a 50 percent reflection in energy. If technology is successful, they hope to show almost a 20 percent reduction in cooling costs.

Next slide.

As we shift our energy from natural gas and other carbon-producing sources of energy to zero carbon solutions, innovations in the underlying generation technology will make the transition faster and cheaper. In CalSEED cohort there are technologies that make solar energy cheaper, lighter and better performing and more durable.

There are also other technologies for better centers within geothermal wells and a dispatchable power solution designed to turn hydrogen into power on a GRID scale.

For example, Leap Photovoltaics hopes to reduce the cost of PV cell manufacturing by 50 percent. Using
their CalSEED award they hope to demonstrate a better way to manufacture thin film PV technology. They plan to verify the performance of different metal inks and show at a laboratory and prototype scale that it is valid for their manufacturing method.

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As the world makes advancement in the field of AI, some of those gains can be applied to clean energy. This year CalSEED created a group specifically to support early research ideas around this. The projects that came to the top include solutions for better and faster quality checks on batteries, predicted maintenance and energy recovery for municipal and industrial water treatment, and better electrical equipment and distribution inspection.

One applicant, Tolo, Incorporated, will use a technique called parallax imagery to create machine learning models which will improve inspection for aboveground electrical infrastructure. The innovation hopes to greatly reduce the need for slow and costly field inspection with the ability to provide consistently high-quality inspections and labeling of electric infrastructure in bulk.

Furthermore, the total AI modeling can be trained without needing to pay to produce much of the
training data. Instead, they use the data already being
gathered by inspectors and combine this with their high-
resolution imagery.

Solutions like this one will be invaluable as we
combat the devastating wildfire challenges California
has today and in the future.

Next slide.

That wraps up my summary of this year’s batch of
small grants. We recommend approval of the 28 small
grant awards and adoption of staff findings that these
projects are exempt from CIQUA.

Staff are available for questions.

CHAIRMAN HOCHSCHILD: Thank you very much.

Let’s go to public comment, if we could.

PUBLIC ADVISOR GALLARDO: This is Noemi, the
Public Advisor. We do have a written comment and four
people on the line right now. We’re going to start with
the people on the phone line. Joy Larson of CalSEED
will be first.

This is a reminder to Joy and to all speakers to
please spell their first and last names and indicate
their affiliation, if any.

Joy, you may begin.

MS. LARSON: Good morning. Thank you for the
opportunity to say a few words in support of approving
My name is Joy Larson. That’s J-O-Y, L-A-R-S-O-N. I’m the Program Director for CalSEED at New Energy Nexus. We administered a solicitation process for grants, so we’re thrilled to be on the agenda for today.

We continue to work with our partners at the Greenlining Institute to refine the impact criteria used to evaluate these applications. And we’re grateful to our partners at the CEC, Josh Croft, Anthony Neeg, Eleanor Oliver and Eric Stokes for their collaboration with the technology areas and for continuing to clarify EPIC criteria for us and the applicants.

A special thank you to the 40 technical Advisory Committee members industry, academia, not for profits, venture capital and legal firms that participated in the selection process.

I want to keep my comments brief. I just want to say that back in December and January when we were designing this solicitation we were excited for this cohort because it’s the first year we added wildfire resilience to the selection criteria.

So, a lot has happened since the application window closed in March. These CalSEED grants are really a lifeline to entrepreneurs that have watched other funding sources dry up. And while the companies that
are funded by CalSEED and EPIC will advance California’s energy goals, now these will be the business leaders that will create jobs and use supply chains in our post-COVID economic recovery.

We are all very excited to start working with them this year, and we look forward to continued collaboration with the CEC and the CalSEED program.

Thank you for your consideration.

CHAIRMAN HOCHSCHILD: You said post-COVID, and it’s a welcome phrase. We all look forward to that.

Any other comments, Madam Public Advisor?

PUBLIC ADVISOR GALLARDO: Yes, we do have other people on the line. Cody, the Secretariat, will announce those names.

SECRETARIAT GOLDTHRITE: So, next we have Bert Wank with InfiniRel Corporation.

MR. WANK: Yes. Good morning, gentleman. My name is Bert Wank, B-E-R-T. Last name is spelled W-A-N-K, but preferable pronounced Vank. I’m the founder and CEO of InfiniRel Corporation, one of the 29 proposed grant recipients of the California Clean Energy Fund. We are also finalists of the American-made Solar Challenge from three years.

And I would like to thank you, Commissioner and the rest of the team to allowing this really exciting
instrument that really has been very helpful.

As indicated before, in a world where the race to the bottom has challenged the supply chain, has challenged funds, particularly in the high stakes and high risk development where investors are really looking for a way to limit that technology risk by field trials, and this is exactly what even a limited amount of funds will tremendously add to our ability to provide the GRID or grow that GRID from a lab experiment or early test into the field, getting recognition and then attract the larger funds to actually commercialize the technologies that help California staying in the leadership role that I’ve seen from my history in Germany in the leadership in the energy transition, and that’s one of the reasons I moved to California, because this is the state that makes it happen.

Just to build a little bit of light in view of why those funds have been compromised in the last decade. Industry leader, solar industry as an example, inverter manufacturer Satcon went bankrupt. ConEdison who started PPAs in California went bankrupt. There’s a long line of equisystem failures that have pushed investors away from longer time investments and, rather, taking the low road on, okay, let’s do the software applications that are much quicker to turn into
profitability.

This means that we as entrepreneurs, particularly solving challenges that haven’t been solved before, especially now when we actually are full force in those mega electrification and the transportation system going autonomous, going distributed is so needed to get completed. I would highly support your efforts in supporting the missions and valuable aspect in domain expertise that came together here with the training and applicants that the team has selected and that we’re also very favorable and able to participate in.

I ask for your support for those innovative suitors CalSEED program. It is instrumental to implement California’s own (indiscernible) transition.

CHAIRMAN HOCHSCHILD: Thank you. As we go to other speakers I would just welcome brevity. We have a long, long agenda today, so, with that let’s go on to the next speaker.

SECRETARIAT GOLDFTHRITE: Next in line we have Dennis Nickerson from Portable Solar, Inc.

MR. NICKERSON: Hi. This is Dennis Nickerson, CEO of Portable Solar, one of the perspective grant recipients. And I’d like to thank the Commissioners and CalSEED for this opportunity.

We’re hoping to make residential solar much more
accessible to rural areas and low- and moderate-income communities in California by developing a small solar device, one, two and three kilowatt sizes, that you can easily maneuver around your yard or driveway and that you can take with you if you move.

We’re a startup and still in the design phase, but are really excited to have soon a low-cost solar solution for California ratepayers.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you.

SECRETARIAT GOLDTHRITE: Next we have Wilson Hago from Hago Energetics.

MR. HAGO: Hi. Can you hear me?

PUBLIC ADVISOR GALLARDO: Yes, we can.

MR. HAGO: Yes, this is Wilson Hago, that’s W-I-L-S-O-N, H-A-G-O. I’m founder and CEO of Hago Energetics. I want to thank the California Energy Commission and New Energy Nexus for bringing us here before you for our project to consider a funding consideration.

Our project is to develop new technology to turn biogas to hydrogen, so the biogas can be derived from animal waste or even from forest waste.

The reason why I’m doing this is basically I am deeply concerned about climate change and I want to
contribute in whatever manner I can to do that.

So, we hope to enlarge the hydrogen supply lines in the state of California and support the clean transportation program.

Ultimately we want to help farms enhance their profitability and create more jobs in the state.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you.

SECRETARIAT GOLDTHRITE: Next we have Brad Hines, Planet A Energy.

MR. HINES: Hi, this is Brad Hines. That’s H-I-N-E-S. I’m the CEO of Planet A Energy and one of the fund -- proposed CalSEED fund recipients. I want to thank the program and the Commissioners for this opportunity.

I want to just fill you in on what you’re funding in our case because it’s kind of different, because we’re funding storage, we’re funding energy generation. But imagine if you had a PV panel that was also a battery, so there was no extra storage system. The energy just got collected and stored right in the solar panel, was available 24/7 on demand. And imagine if it actually ended up costing less than a regular PV panel.

We do that with our solar thermal modules, and,
so, we concentrate and collect sunlight at up to 1000 degrees. We store it directly in the module, this high temperature heat. There’s no separate receiver needed; no separate storage system needed so the costs are dramatically lower than traditional solar thermal solutions.

And our storage material is black sand, which is literally cheaper than dirt in a lot of places and chemically inert.

And, so, it’s just a completely new paradigm. It’s solar with built in storage, and our resolve is that our incremental cost of storage works out to about a dollar per kilowatt hour.

And mostly I just wanted to speak so that you would be aware of this new paradigm that sometimes when you do two things in one you can get something that’s greater than the sum of the parts.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you.

SECRETARIAT GOLDTHRITE: Last comment on the line we have Kevin Favro from EV Life.


EV Life began in 2019 with the mission to
accelerate the adoption of electric vehicles. Since then we’ve developed innovative tools and resources on our web platform giving car buyers everything they need to confidently make the switch to an electric vehicle. This CalSEED grant will fund the building of an EV climate loan platform. The EV climate loan aims to lower the monthly cost of an EV by up $200 a month. By turning someone’s post-purchase EV incentives into a down payment we can significantly reduce the overall size of the loan, making the monthly economics of owning an electric car cheaper than owning a gas car.

We are honored to have received this CalSEED award and are excited to begin building our incentive-based finance platform that will change the economics of owning an electric car, especially for disadvantaged communities.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you. Is there any other comments?

PUBLIC ADVOCATE GALLARDO: Yes. This is Noemi, the Public Advisor. I have one written comment from Tony Jones. That’s spelled T-O-N-Y, J-O-N-E-S. He says:

“I wanted to acknowledge that my company, Waterhound Futures, Inc. is honored to receive the
California Sustainable Energy Entrepreneur Development Initiative Grant for our project entitled Predictive Modeling and Analytics Performance Optimization Software."

"We appreciate the efforts of CalCEF ventures, part of New Energy Nexus and CEC staff in reviewing the 212 applications."

"This grant is a significant recognition of our approach to the problem of industrial and municipal energy consumption in treatment of waste water."

"The fund will allow us to move forward with efforts to demonstrate the software on three real world situations. This type of interaction and feedback is critical for our new concern and we do appreciate the award."

"We look forward to meeting the other recipients and building a strong business community around energy efficiency in the state and elsewhere."

"Again, thanks to the Commission for this award. Should the Commissioners receive feedback and suggestions on who to approach for our demonstrations, we would welcome the referral."

That concludes the written comments.

CHAIRMAN HOCHSCHILD: All right. Thank you. Let’s move on to Commission discussion. Vice Chair
VICE CHAIR SCOTT: Yeah, absolutely. So, I’m really excited about this new cohort of CalSEED projects coming your way. I want to say thank you to Eleanor and Josh for their thorough and thoughtful presentation. I actually don’t have too much to add to what they laid out for you. I do just want to highlight the really smart design of the EPIC investments. We have programs like this where we’re putting $150,000 into great ideas, and then we have it set up so that you can work all the way through the innovation pipeline and get your technology ready to be pushed out into the market, and, so, I really just am continually impressed by the strategic and smart investment strategy that the EPIC team has put together for people to be able to get your idea from your head out into the market.

I think what you have before you is a fascinating set of projects. You heard from a few of the project components in their comments, and also a nice flavor for those in the presentation that Josh -- the part of the presentation that Josh did. These, I think, are really cutting-edge types of projects. They’re going to move the needle in these spaces and these projects are going to kind of push the technologies and the platforms up to the next level.
So, as you all know, I’m always excited to see like what’s next, what’s next, what comes as these (indiscernible) are wrapping up, and I know these ones are just getting started.

If you haven’t had a chance to really dig down into all of the projects I highly recommend getting a briefing from the staff or reading through some of the proposals in detail. It really is a neat cohort of projects, and I highly recommend them to you.

CHAIRMAN HOCHSCHILD: All right. Thank you, Vice Chair. Any other comments from Commissioners before we move to motion. Okay, seeing -- oh, Commissioner McAllister.

COMMISSIONER McALLISTER: Sorry. Who else wanted to go?

CHAIRMAN HOCHSCHILD: Go ahead, Commissioner.

COMMISSIONER MONAHAN: I’ll be after you.

COMMISSIONER McALLISTER: Okay. Okay, great. I did actually look at that list of projects and there are, you know, obviously too many to list. There’s some great (indiscernible). I really love the power conditioning and sort of the, you know -- we really can in this age, you know, utilize low cost electronics to do all sorts of cool things with power, slide and dice it and it’s really tremendous, you know, figurative
power that it gives us to increase reliability and leverage renewable and store.

So, I’m really excited about a whole bunch of these different projects, and we’ll be paying attention to them as they go forward, so thanks to everyone for that.

CHAIRMAN HOCHSCHILD: Great. Commissioner Monahan.

COMMISSIONER MONAHAN: Yeah, just really briefly. Well, I want to thank Josh, Eleanor and Anthony Enge who gave a great briefing and for all their hard work to get these projects up and running.

And I want to thank Vice Chair Scott. A big congratulations, especially on the heels of the EPIC renewal which is just amazing.

So, citing further investments that bring together this intersection of transportation, buildings and a clean GRID and, you know, really all moving forward for our 2045 goal of a carbon neutral economy.

And I just wanted to -- they did a great job of representing the depth and breadth of those EPICS. You know, all the R&D that we’re going to need is just really inspiring, so I just want to, again, thank the full team for the best.

CHAIRMAN HOCHSCHILD: Thank you. Commissioner
Douglas, did you want to say something?

COMMISSIONER DOUGLAS: Yes, just very briefly. I just wanted to add on. This is a really impressive set of projects, and as Commissioner Monahan had noted, the breadth of the subject matter covered here is impressive. It’s nice to see EPIC continuing to serve as a catalyst for the development of technologies that are scalable, cost effective and can really make a difference for us.

I’m really interested in all of these projects. The one involving the built-in storage, you know, I might want to learn a little more about that. The hydrogen project looks pretty interesting to me, but really all of them.

So, I appreciate the hard work that went into this and, you know, it’s always hard to wait for the results, but I guess we have to.

So, thank you.

CHAIRMAN HOCHSCHILD: Well said. Yeah, and I would just add, you know, we know going into this not every one of these companies is going to succeed. That is the nature of the innovation sector, but I think CalSEED is an appropriate name, because when you plant a lot of seeds you have a good chance some of them are going to grow to maturity and really bear a lot of
fruit, so I’m really excited by the diversity of projects and the talent that we saw today.

I want to thank everybody who has applied to the program, participated in the program and those of you who spoke today, and this certainly has my full support.

So, let’s see if, Vice Chair Scott, would you be willing to make the motion?

VICE CHAIR SCOTT: Yes. I will move approval of Item 5.

CHAIRMAN HOCHSCHILD: Okay. And Commissioner Douglas, would you be willing to second?

COMMISSIONER DOUGLAS: Second.

CHAIRMAN HOCHSCHILD: Okay. Let’s go to the vote, all in favor. Vice Chair Scott.

VICE CHAIR SCOTT: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.

CHAIRMAN HOCHSCHILD: Commissioner McAllister.

COMMISSIONER McALLISTER: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIRMAN HOCHSCHILD: And I vote aye as well. That item passes unanimously. Let’s move on to Item 6, The Pechango Band of Luiseno Indians.

MS. LUM: Good afternoon, Chair, Vice Chair and
Commissioners. I am Quenby Lum from the Energy Research and Development Division.

Today I’m presenting on an agreement that was part of the long duration energy storage solicitation where most of the projects were presented at the July 8th business meeting.

The purpose of the solicitation was to show the value of nonlithium ion energy storage technologies that can provide at least 10 hours of duration. This solicitation was divided into four distinct groups. This project is from the group that focused on demonstrating long duration energy storage systems providing direct benefits to residents of Native American tribes with a minimum power rating of at least 50 kilowatts and a minimum duration of 10 hours.

Next slide, please.

Currently, most of the energy storage available and in use today is designed for four hours to help manage the demand during peak hours, and most of this storage is in the form of lithium ion battery technology.

Long duration storage is needed to provide greater resiliency and to store excess renewable energy for later use. Longer duration storage is expected to play an important role for California in reaching its
target of 100 percent zero emission electricity by 2045.

It can help fill in the gaps to provide a consistent reliable source of energy during public safety power shutoffs when renewable energy is not available in real time and as fossil fuel power plants are phased out of use.

Diversity in technology is also needed to avoid potential raw material shortages and production bottlenecks.

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This project will be partnering with the Pechanga of Luiseno Indians where they will be demonstrating a 2000-kilowatt hour system using a vanadium redox flow battery from Invinity Energy Systems.

In conjunction with onsite solar the system will provide 10 hours or more of backup power to the recreational center and emergency shelter on the Pechanga Reservation located in Temecula.

This backup power will allow the facility to remain online during both plan N and planned outages. The storage will also enable daily shifting of solar PV generation from midday to evening, thereby reducing GRID supply electricity during peak hours.

The use of storage with onsite solar generation
during evening peak hours will reduce electricity costs
for the tribe.

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Staff recommends approval of this agreement and
adoption of staff’s determination that this action is
exempt from CEQUA.

This concludes my presentation and I’m happy to
answer any questions. Staff is on the line as well to
answer questions if needed. Thank you.

CHAIRMAN HOCHSCHILD: Thank you. Let’s go to
public comment.

PUBLIC ADVISOR GALLARDO: This is Noemi
Gallardo, the Public Advisor. There are no written or
oral comments.

CHAIRMAN HOCHSCHILD: Okay. Let’s go to
Commissioner discussion. Vice Chair Scott.

VICE CHAIR SCOTT: Thanks. Here we go. I don’t
have much to add to the presentation. I also recommend
this for your approval as well.

CHAIRMAN HOCHSCHILD: Thank you. Any
Commissioner comments? Commissioner Douglas, did you
want to add anything?

COMMISSIONER DOUGLAS: Yeah, just briefly. As
the lead Commissioner for the Energy Commission Travel
Program I’m always really excited to see tribes
participate in Energy Commission programs, and I really appreciate the great work that the EPIC program has done to create really good avenues for tribes to participate and to do outreach to tribes.

The Pechanga band of Luiseno Indians was also the sponsor and host -- you know, one of the sponsors and the host of our first Tribal Energy Summit a couple of years ago, so, you know, it’s nice to see, you know, then they had aggressive energy goals and they were organizing themselves in the energy arena, and it’s nice to see them continuing that track record and moving forward with this -- you know, with this proposal and this program. So, I’m very supportive of this.

CHAIRMAN HOCHSCHILD: Okay. Thank you. Any other comments? Hearing none, Vice Chair Scott, would you be willing to make the motion?

VICE CHAIR SCOTT: Yes. I move approval of Item 6.

CHAIRMAN HOCHSCHILD: All right. Commissioner Douglas, would you be willing to second?

COMMISSIONER DOUGLAS: Second.

CHAIRMAN HOCHSCHILD: All right. All in favor say aye. Vice Chair Scott.

VICE CHAIR SCOTT: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Douglas.
COMMISSIONER DOUGLAS: Aye.

CHAIRMAN HOCHSCHILD: Commissioner McAllister.

COMMISSIONER McALLISTER: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIRMAN HOCHSCHILD: And I vote aye as well.

And this does build on a great legacy of our improved and growing engagement with the tribal community in California, including the Blue Lake Rancheria, Montague GRID and others, and, so, I just want to congratulate the staff for all the hard work and the stakeholders as well. I’m looking forward to seeing the results of this one, so --

With that, let’s move on to Item 7, DOE, NREL.

VICE CHAIR SCOTT: Chair, before we start on number seven I need to do a disclosure.

CHAIRMAN HOCHSCHILD: Okay, yeah. Sorry, go ahead.

VICE CHAIR SCOTT: No problem. So, Chair and Commissioners, I have served on the U.S. Department of Energy Hydrogen and Fuel Cell Technical Advisory Committee, and I have received reimbursements paid by U.S. DOE through the California Energy Commission for my travel and the other expenses related to that to participate on the H-tech. So, pursuant to government
code Section 1091.5A9, I am disclosing on the record this reimbursement as a noninterest in this contract amendment.

CHAIRMAN HOCHSCHILD: Thank you, Vice Chair Scott. Okay, let’s go to staff.

MR. BRECHT: Thank you. Good afternoon Chair and Commissioners. I’m Patrick Brecht, Contract Manager for this agreement with the Fuels and Transportation Division, or FTD. I’m here to seek your approval for a proposed Amendment number 5 to the FTD’s technical assistance contract with the National Renewable Energy Laboratory or NREL.

The CEC has contracted with NREL for technical assistance services totaling approximately five million in Clean Transportation Program funds. The collaboration has been very successful. Many previous tasks are winding down as FTD staff become more capable of in-house analysis.

However, NREL’s assistance is still needed to expand on certain high-profile tasks and to conduct new tasks that either exceed current staff capabilities or require limited term assistance.

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Collaboration between NREL and the CEC will continue to inform and improve multiple CEC programs
that benefit all Californians. Such programs include the work done under the Clean Transportation Program, the charging infrastructure assessments required by AB-21-17 of 2018, and the fuel and vehicle forecasts produced for the Integrated Energy Policy Report.

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Staff is requesting to incorporate the following elements into this amendment, Amendment 5 of this contract:

First, augment to receive light-duty vehicle attribute forecasts and hydrogen price forecasts for the 2021 IEPR. In addition to benefitting the development of the IEPR, the resulting vehicle forecast will also support the development of the AB-21-27 charging infrastructure assessment. The hydrogen price forecast will be used to generate light and heavy-duty fuel cell electric vehicle forecasts for the 2021 IEPR. The Fuel Transportation Division will also benefit from the hydrogen price forecast in next year’s AB8 report on hydrogen refueling stations.

Second would be to augment to include additional EVI pro updates and related activities. This will be to improve EVI pro models to be more realistic and robust, achieves results at a finer geographic resolution to
better assess GRID impacts, links the EVI pro models
together to leverage the co-utilization of DC fast
chargers, optimize the charger network design and
conduct more accurate infrastructure and GRID impact
analyses, and informs equity goals by better
understanding the value of public charging to those
without residential charging.

Third would be to augment to support new
analyses for California Transportation Program benefit
support within the 2021 IEPR. Since 2013 NREL has been
supporting the program’s biennial benefits report with
calculations of expected benefits and market
transformation benefits.

The current contract lists 2019 as the final
benefits report addition to be supported by NREL. Under
this agreement, or, excuse me, under this amendment
staff will be working with NREL to refine the benefits
methodology for the 2021, including discussions about
the program’s transition toward the focus of ZEV
infrastructure.

Staff is also interested in NREL’s support for
-- in addressing past programs’ excesses for project
types where Clean Transportation Program is no longer
proposing investments.

Fourth, and finally, add a new task titled
HyStEP 2 to test hydrogen refueling stations that serve medium duty fuel cell electric vehicles. The current HyStEP tester built in 2015 is outdated. It can only test light duty fueling protocols. Building a brand new HyStEP will allow for light duty and commercial fueling protocols to be incorporated into the new device. New HyStEP will be able to test stations that serve medium-duty fuel cell electric vehicles that use hydrogen as a transportation fuel.

Under this agreement -- excuse me, under this amendment the CEC would provide 250,000 for NREL to design and validate a new HyStEP device. Concurrently, the CEC staff will be pursuing a separate 850,000 interagency agreement with the California Air Resources Board for a competitive solicitation to develop a new HyStEP device using NREL’s design.

All together Amendment 5 would increase the agreement’s budget by 1.47 million and would require extending the contract term from March 31, 2021 to December 31, 2023.

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Staff recommends approving this amendment which totals, as I said, approximately 1.47 million dollars in Clean Transportation Program technical support funding, and extends the contract term, as mentioned, to

This concludes my presentation, and I’m happy to answer any questions you may have. I should add that I have Margaret, or Maggie, Mann of NREL. She is available for questions, along with Mark Johnson from the Fuels and Transportation Division’s Hydrogen Unit to answer questions regarding HyStEP.

Thank you.

CHAIRMAN HOCHSCHILD: Thank you. We’ll go to public comment. Is there anyone on the line wishing to make a public comment?

PUBLIC ADVISOR GALLARDO: This is Noemi, the Public Advisor. We do not have any written comments. As Patrick mentioned, Margaret or Maggie Mann, spelled M-A-N-N, is on the line if you’d like to ask her any questions.

CHAIRMAN HOCHSCHILD: Okay. Let’s go to Commissioner discussion. If anyone has questions for her, please. Let’s start with Commissioner Monahan.

COMMISSIONER MONAHAN: As Mr. Scott knows, NREL has been a really key analytical partner for many years with Clean Transportation, and they’re doing analysis necessary for our demand forecast and for 2027 analysis in charging and 2030 is for 5 million EVs.

The one I want to focus on is the benefits
analysis, so, we just met with Maggie and her team this week to talk about the benefits report, and it’s going to be really important because it’s the last one before the Clean Transportation Program Funding expires at the end of 2023, so, we talked with Maggie and her team about what kind of expanded metrics could be used around benefits to be more responsive to just how complicated it is to give benefits like charging infrastructure and hydrogen infrastructure that we know are going to be critical to reaching our best targets but are hard to like just say, you put in this charger, this is the GHD reduction that you get.

It’s harder, so I really want to thank Maggie and her team for being willing to wrestle with us and work on different metrics and trying to think through like could we talk about how much time investment is prorating, you know, on top of the public investment to see how the public investment can help spur investments by the private sectors of, you know, utilities and other entities. So, also really being attendant to the needs of disadvantaged and low-income cases and the fact that our funding has to support electrification for all, not just electrification for the wealthy, so I just am excited to work with NREL and their team as we think about a more expanded set of metrics to articulate the
benefits in the Clean Transportation Program.

CHAIRMAN HOCHSCHILD: Thank you. Are there any other Commissioners wishing to make a comment? Seeing none, let’s see if Commissioner Monahan, will you be willing to make the motion?

COMMISSIONER MONAHAN: I move to approve Item 7.

CHAIRMAN HOCHSCHILD: Okay. Commissioner McAllister, would you be willing to second?


CHAIRMAN HOCHSCHILD: Thank you. Let’s take the vote. All in favor say aye. Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIRMAN HOCHSCHILD: Commissioner McAllister.

COMMISSIONER McALLISTER: Aye.

CHAIRMAN HOCHSCHILD: Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.

CHAIRMAN HOCHSCHILD: And Vice Chair Scott, you were just disclosing; you were not recusing, correct?

VICE CHAIR SCOTT: Correct.

CHAIRMAN HOCHSCHILD: Okay, so, Vice Chair Scott.

VICE CHAIR SCOTT: I also vote aye.

CHAIRMAN HOCHSCHILD: Okay. And I vote aye as well. That item passes unanimously.

Colleagues, it’s now 12:25. We still have quite
a bit to go in this. What I would suggest is that we take a break for lunch and reconvene at 1:00 o’clock. Would that be acceptable for everybody?

PUBLIC ADVISOR GALLARDO: Yes.

CHAIRMAN HOCHSCHILD: And we’ll take Item 8 at 1:00 o’clock. So, let’s just leave our Zoom on and is that okay, Noemi?

PUBLIC ADVISOR GALLARDO: Yes, that’s acceptable, and we’ll put on a slide indicating that we’re taking a break and returning at 1:00 p.m.

CHAIRMAN HOCHSCHILD: Thanks, everybody. See you at 1:00.

(Off the record at 12:25 p.m.)

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

CHAIR HOCHSCHILD: Okay. Welcome back, everyone. Let’s reconvene the meeting and move on to Item 8, Foundation for California Community Colleges.

MR. RILLERA: Good afternoon, Chair and Commissioners.

My name is Larry Rillera, staff with the Fields and Transportation Division. I am here to present Item Number 8. This item is a proposed $300,000 agreement with the Foundation for California Community Colleges, or Foundation, and funded through the Clean Transportation Program. As described by Patrick Brecht
in his presentation of Item Number 1, the Clean Transportation Program targets investment in the development, deployment, and scaling of zero emission vehicles, ZEV, infrastructure.

Today's approved investment plan explicitly calls out the need for inclusion of equity committees into the program's incentives, solicitations, and partnerships. This focus was also expressed by members of the program’s advisory committee, as well as the Disadvantage Advisory -- excuse me, Disadvantage Communities Advisory Group.

Next slide, please.

The benefits of the project include exclusive focus on disadvantaged and low-income communities and specified regions; building local capacity for informing and participating in clean transportation program funding opportunities; and thirdly, increasing the CEC's understanding of communities’ needs regarding zero emission transportation.

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The agreement proposed for approval today, the IDEAL Communities Partnership Project, IDEAL standing for inclusion, diversity, equity, access, and local, reflects the direction noted previously to expand, partner, and intentionally embed equity into the Clean
Transportation Program. The agreement with the Foundation proposes these activities, as noted here, through the Foundation’s existing networks and institution.

The agreement requires the Foundation to develop an assessment of the Clean Transportation Program and equity communities, conduct outreach and engagement, establish a student ambassador program with community members from rural and unincorporated areas, make recommendations for Clean Transportation Program technical assistance, and conduct a community forum in which project participants, community stakeholders, and community-based organizations can convey their findings and recommendations directly to the Energy Commission.

Next slide, please.

In closing, staff recommends approval of this agreement with the Foundation for California Community Colleges for $300,000, and approval of staff’s determination that the project is exempt from CEQA.

This concludes my presentation. I would note that a representative from the Foundation is present to provide any remarks and any questions.

Thank you for consideration of this item.

CHAIR HOCHSCHILD: Thank you. Let’s move to public comment.
MS. GALLARDO: This is Noemi Gallardo, the public advisor. We do not have any written comments but we do have Leah Abate on the line.

Leah, before you begin speaking, please spell your first and last name, and indicate your affiliation, if any.

MS. ABATE: Good afternoon, Chair, Vice Chair, and Commissioners.

My name is Leah Abate. L-E-A-H; Abate, A-B-A-T-E. With the Foundation for California Community Colleges, or Foundation CCC. Thank you to Mr. Rillera for your introduction and partnership.

The Foundation CCC has served as the auxiliary nonprofit supporting the California Community Colleges Chancellor’s Office and Board of Governor, which serves 2.2 million students and is the largest system of public higher education in the nation. Over 67 percent of enrolled students are of diverse ethnic backgrounds and many campuses are located within disadvantaged and low-income communities.

The Community Impact and Equity Departments conduct outreach programs and awareness campaigns that help build a just and equitable California. We’re currently in our fourth year working with the California Air Resources Board on outreach for California Climate
Investments Program, which is included in person and
digital outreach to potential and current program
beneficiaries, creating collateral materials, and
helping state agencies expand their network
(indiscernible) related to environmental equity.

In addition, we are involved in the One-Stop-
Shop Project administered by CARB and have years of
experience as case managers for clean mobility programs
like Replace Your Ride, also known as Clean Cars for
All.

We also manage multiple student and master
programs to really engage students at the community
colleges to raise awareness, help their peers, families,
and communities access resources and programs related to
clean mobility, environmental equity, mental health and
wellness, and public benefits like CalFresh.

We’re thrilled to work with the California
Energy Commission on the IDEAL Communities Partnership
to identify community needs, enhance communication,
build mutual capacity, and assist applicants through the
program through outreach and engagement and technical
assistance. We aim to build a strong foundation upon
which equity and community engagement efforts will
continue to thrive once transitioned back to

Mr. Rillera’s team and the Clean Transportation Program.
Thank you for your consideration of this partnership.

CHAIR HOCHSCHILD: Thank you. Are there any other comments, Noemi?

MS. GALLARDO: No other comments.

CHAIR HOCHSCHILD: Okay. Let’s move to Commissioner discussion.

Commissioner Monahan?

COMMISSIONER MONAHAN: Well, first I want to thank Larry, he’s been really such an amazing advocate for equity and workforce development for many years on the Field and Transportation Division.

And I think you all know, this isn’t a surprise, equity communities are disproportionately impacted by pollution and we’re really working hard to make sure that they can be informed of the programs and that we can be informed of community needs. So this is really like a two-way communications street. And that really, I think, builds on the Clean Transportation Program’s investment plan, that you all just approved. Thank you. So, yeah, I strongly support this program.

CHAIR HOCHSCHILD: Great. Thank you.

Any other Commissioner comments on this?

Seeing --

VICE CHAIR SCOTT: I’ll make a quick comment on
Chair Hochschild: Yes. Go ahead.

Commissioner Scott: This is Vice Chair Scott. I really like this part of the flexibility that we have within the Clean Transportation Program to help work with community colleges and support the types of curriculum that then supports folks who can come and have living wage jobs in this clean energy transition, right? So we’ve done it with the ports on some of the work they’ve got, work together with the community colleges to make sure folks can use some of the cleaner port equipment. And so I really do strongly support this. It’s one of the components of the Clean Transportation Program that I love a lot, being able to -- to train that workforce so that they can work on all of these cool clean energy technologies.

Chair Hochschild: Thank you, Vice Chair.

Unless there’s other Commissioner comments, Commissioner Monahan, would you be willing to make the motion?

Commissioner Monahan: I move to approve this item.

Chair Hochschild: And Vice Chair Scott, would you be willing to second?

Vice Chair Scott: Yes, I second.
CHAIR HOCHSCHILD: Okay. All in favor say aye.
Commissioner Monahan.
COMMISSIONER MONAHAN: Aye.
CHAIR HOCHSCHILD: Vice Chair Scott.
VICE CHAIR SCOTT: Aye.
CHAIR HOCHSCHILD: Commissioner Douglas.
COMMISSIONER DOUGLAS: Aye.
CHAIR HOCHSCHILD: Commissioner McAllister.
COMMISSIONER MCALLISTER: Aye.
CHAIR HOCHSCHILD: And I vote aye as well.
Congratulations to all those involved with this. That item passes unanimously.
Let’s move onto Item 9, local ordinance applications for the City of Burlingame.
MS. DROZDOWICZ: Good afternoon, Chair and Commissioners.
I am Danuta Drozdowicz, I work in the Efficiency Divisions Building Standards Office and I am here to present local ordinances from jurisdictions that have applied to the CEC for approval. Joining me today is Jacqueline Moore from Chief Counsel’s Office.
Next slide, please.
Local ordinances, or REACH codes, benefit California by giving local jurisdictions the opportunity to participate and even lead in the state’s effort to
address climate change.

Next slide, please.

For a local standard to be enforceable, the jurisdiction must file with the CEC its determination of its standards are cost effective. The CEC must then find that the local standards will require a reduction of energy consumption levels compared to the current statewide energy code.

Next slide, please.

To date, under this code cycle, 30 ordinances from 28 jurisdictions have been submitted and approved by the CEC. One in three Californians currently live in a community with an energy code that exceeds state standards.

Next slide, please.

One jurisdiction has applied for Commission consideration at this business meeting, the City of Burlingame. Their application includes three ordinances.

Next slide, please.

Staff posted the complete application including the local ordinances and adopted cost effective analysis on the CEC’s website, under Docket Number 19-BSTD-06 for the required public comment period. Staff reviewed the applications to determine if these local ordinance
standards would result in the reduction of the energy consumption levels permitted by the 2019 energy code, per the requirements in the public resources code.

Staff finds that the standards will reduce the amount of energy consumed and will not lead to increases in energy consumption in consistent with state law.

Staff further confirms that the jurisdiction publicly adopted a finding of cost effectiveness for the standards. Because staff has found that the application meets all the requirements of the public resources code, staff recommends approval enforcement of the three following ordinances.

Next slide, please.

Ordinance Number 1979 applies to new single-family construction and requires that these homes, as well as substantial additions and improvements, are all electric. Gas cooking appliances and fireplaces are omitted. Exemptions are allowed for old electric buildings not feasible and for gases installed, prewiring for electric equipment and appliances is required.

Next slide, please.

Ordinance Number 1980 applies to new multifamily construction and requires that these buildings are all electric. Exemptions are allowed for all electric
buildings not feasible. Prewiring for electric equipment and appliances is required for gases installed. And photovoltaic, or solar thermal hot water systems, are required with some exemptions allowed.

Next slide, please.

Ordinance Number 1981 applies to new nonresidential construction and requires that these buildings are all electric. Gas cooking appliances are permitted in public or commercial kitchens. Exemptions are allowed where all electric buildings are not feasible and prewiring for electric equipment and appliances is required for gases installed. Photovoltaic, or thermal hot water systems, are required and some exemptions allowed.

Energy related, but not subject to CEC approval, all three ordinances also include provisions for electric vehicle charging infrastructure.

This concludes my presentation and I am available to answer any questions that you may have.

CHAIR HOCHSCHILD: Thank you. Let’s move on to public comment.

MS. GALLARDO: We do have people on the line. I’m going to give the reminder to the speakers now that they spell out their first and last names and also indicate affiliation, if any. And I will defer to Cody,
our secretariat, to announce the speakers.

MR. GOLDTHRITE: We have Ben Thompson from Peralta Energy, LLC.

MR. THOMPSON: Hi. Good afternoon. My name is Ben, B-E-N; Thompson, T-H-O-M-P-S-O-N, with Peralta Energy. We work with providers of affordable housing to meet building energy code and to qualify for state tax credits and tax-exempt bonds.

I’m speaking today in favor of adoption of the Burlingame REACH code. And applaud the city for adopting the ordinance and for showing leadership in this area. I’m also speaking more generally in favor of a single all-electric baseline in the 2022 code cycle. We know that single fuel buildings are cheaper to build. We know that all electric buildings are better for occupant health and safety. And it’s time to give developers and builders clear direction and incentive to go all electric, without further delay, across the state.

If we go through another code cycle with gas installed in new buildings, we’re simply making the inevitable retrofit problem bigger and dumping more GHGs into the atmosphere and the oceans. You will be told to let the market decide, that government should not pick winners and losers. As we all know, there are
tremendous costs associated with natural gas that are not on the ballot sheets and I think it’s appropriate for you to step in and set guidelines when the market’s distorted by gross externalized costs. You will also be accused again of waging a war on gas, but this is just to skirmish the actual wars for the future of our planet.

Thank you very much.

CHAIR HOCHSCHILD: Thank you.

MR. GOLDTHRITE: So next we have Eric Arens from the League of Women’s Voters of California.

MR. ARENS: Yeah, hi. I am Eric Arens, and I would like to say that the League of California is very concerned about global warming and the League strongly supports electrifying buildings. And that means electrifying all new buildings now or as soon as possible. Electrifying all buildings in a few years from now.

And we can’t put this off because the forest fires and hurricanes are growing in number and intensity. And so all the details that have been said by other people. But the League of Women Voters of California, and I might add also of the United States, is very concerned about global warming.

Thank you.
CHAIR HOCHSCHILD: Thank you.

MR. GOLDTHRITE: Next we have Lauren Cullum from the Sierra Club of California.

MS. CULLUM: Hi. Can you hear me?

CHAIR HOCHSCHILD: Yes.

MS. CULLUM: Hi. Good Afternoon, Chair and Commissioners.

Lauren Cullum, L-A-U-R-E-N, C-U-L-L-U-M, with Sierra Club California, representing 13 local chapters in California and half of million members and supporters throughout the state. I am speaking today to express our strong support for the Energy Commission’s approval of the Burlingame ordinance before the Commission today.

This local democratic process is leading the way for the state to implement decarbonization pollution that are critical to combat climate change, reduce air pollution, and improve housing and energy affordability.

All electric buildings are necessary to achieve a cleaner, healthier, safer California which is why we support the Commission’s approval of REACH codes and encourage all electric construction, as well as support an all-electric baseline in the 2022 code.

The evidence of rapid climate change is abundantly clear and it is devastating. We need our state leaders to establish policies that reflect the
urgency of the climate crisis. It is simply not possible for us to hit our climate targets while continuing to burn gas in our homes. Gas appliances are responsible for 50 million tons of greenhouse gas pollution each year. This is why we need more all-electric buildings and why moving to an all-electric baseline across building types in the 2022 code is critical. Postponing electrification for three more years until the 2025 code cycle will lock us into decades of climate pollution.

At current emission rates, a three-year delay will result in over 4 million additional metric tons of carbon emissions by 2030, and cause California more than $1 billion in unnecessary gas infrastructure. We cannot afford this.

An all-electric baseline in the 2022 code will ensure that any new homes that are built with gas after 2022, are held to the same greenhouse gas limits as the efficient electrical alternative and help us achieve our climate targets. Fossil fuel free homes and buildings are already becoming standard in California with local ordinances such as the one before the Commission today. Cities representing nearly 10 percent of the state’s population have committed to gas-free new construction, with more cities joining all the time. And we need for
the Commission to build on this and extend these 
measures statewide to an all-electric baseline in the 
2022 code.

Again, Sierra Club urges the Commission to join 
local leaders and get polluting fossil fuels out of 
California’s homes and buildings. We urge the CEC to 
commit to prioritizing the health of Californians and 
put the state on a determined path to achieve its 
climate goals by committing to an all-electric baseline 
for the 2022 code.

Thank you so much for the opportunity to provide 
these comments at this time.

CHAIR HOCHSCHILD: Thank you.

MR. GOLDTHRITE: Next we have Sven Thesen from 
Project Green Home.

MR. THESEN: Good afternoon, Sven Thesen. I am 
hoping you can hear me. Would someone please confirm?

CHAIR HOCHSCHILD: Yes. We can hear you fine, 
Sven.

MR. THESEN: Splendid. Thank you. So, I am 
calling on behalf of Project Green Home, my wife, my 
children, and my children to come.

First of all, I would like to invite you to tour 
Project Green Home. It’s an all-electric home that was 
designed and engineered in 2008 and finished in 2011.
We’ve been living, my family, have been living the all-electric lifestyle for the last nine years, and we’ve had over 4,000 people tour the home so far. And again, I would like you guys to come and see what living the all-electric life is like. Because it’s more convenient. It’s more comfortable. And total cost of ownership, it’s cheaper.

There are five important things about the all-electric home that I would like to bring up and it applies to multiunit dwellings as well as single-family dwellings.

One, it’s safer. It’s safer because it has an induction stove for my children so they don’t burn themselves and we don’t generate excess heat from natural gas, the combustion of natural gas in the summertime.

Second, the air quality in the home, because there is no live flame, is much better. You’ve seen the graphs before that talk about carbon monoxide and unburnt or partly combustive hydrocarbons from natural gas. Spike in air quality in the home directly related to natural gas combustion. Too, it would have been cheaper had I listened to my architect. Back in 2008 and ’09 when we were engineering the home, I didn’t know about induction stoves. I didn’t know about heat pumps.
I didn’t know about condensing to wires. They all work, as we learned later. But I had the house plumbed for natural gas. And we were connected to natural gas. And in 2013, I disconnected from natural gas because we never used it. I had put the system in as a safety. We didn’t need it. And that was nine years ago.

It’s more resilient during blackouts and earthquakes because it only runs on electricity and should Palo Alto have a blackout, it would be very easy connect batteries to my solar system. If I connected batteries, say a 20 kilowatt hour system to my house right now, I wouldn’t need to take any energy off the grid from literally April to October.

Again, I’ve talked about how much more pleasant and convenient the home is. And finally, and this is the part about the children, my children’s children, and your children’s children, is that the home has a much lower carbon and much lower energy footprint than the conventional or equivalent dual fuel home. And this is important.

Given the climate crisis, given the incredibly poor air quality we have just experienced, we really need to go this way to all electric. It’s critical. When I think about the sort of story from a movie perspective, to me it’s clear. There are heroes and
there are villains out there. And the villains aren’t really bad people. They’re just being told by their companies what to do and they are being told that it’s not as bad it is. It’s bad. And they’re --

MS. GALLARDO: This is Noemi, the public advisor. Sorry to interrupt you but your time is up and I want to be fair to everyone else on the line. Could you please spell your name before you hop off?

MR. THESEN: Okay. First name is Sven, S-V-E-N. Last name Thesen, T-H-E-S-E-N. And it’s Project Green Home.org. Pin me and come tour. Thanks, cheerio.

MS. GALLARDO: Thank you.

MR. GOLDTHRITE: Next we have Jonny Kocher from the Rocky Mountain Institute.

MR. KOCHER: Hello, can you hear me?

MS. GALLARDO: Yes, we can.

MR. KOCHER: Hello, can you hear me? Yep?

Okay.

MS. GALLARDO: Yes.

MR. KOCHER: Good afternoon and thank you for the opportunity to comment. My name is Jonny Kocher, J-O-N-N-Y, K-O-C-H-E-R. And I work in the Oakland office of Rocky Mountain Institute, an independent nonprofit working to shift towards the world carbon future.
In the certification ordinance that of our local government -- the last certification ordinances that our local governments have passed this year shows the exact type of leadership we need during this unique time in history. These ordinances not only reduce emissions but also create a cleaner, safer, healthier communities. The CEC has also shown great leadership to date to address the California’s climate and air quality issues, including approving over 30 local REACH codes and ordinances.

The next step in leadership would be to help usher in a statewide electrification by adopting a single all-electric baseline in the 2022 code cycle. California doesn’t have a plan to reduce buildings sector emissions and that is part of the reason why we are on track -- we are not on track to meet our 2030 emissions goals. California strives to be a climate leader but it’s also adding more gas customers than any other state.

A recent report by E3 produced by the California Air Resources Board suggests that building electrification is the least regrets option for achieving our economy-wide goal of carbon neutrality by 2045. In all scenarios, in this report at least two-thirds of all homes are required to be all -- to have
all electric heating by 2045.

If we want to reach -- if we want to meet our state’s climate goals, we need the CEC to act on the results of this report and jumpstart the shift towards all electric building statewide. If we wait until 2025 to pass an all-electric code, many buildings won’t go into operational under that code until 2028 and 2029. How are we possibly going to reach our decarbonization goals as described in this report if we delay another three years?

If we continue to build and make fuel buildings, we are locking in more carbon emissions and increasing (indiscernible) risks. If we wait until 2025, we lock in six more years of carbon emitting buildings and emit several million tons of emissions by 2030. That can be avoided now. We spend a billion dollars on new gas structure and we leave ratepayers to bear hundreds of millions of dollars (indiscernible) costs.

These don’t include the great costs to our health and our planet. You’d also be exposing Californians to the health risk of gas pollution including increased asthma. 1 in 8 Californians already has asthma and that correlation is higher in low-income communities and communities of color. Let’s not increase that number.
Beyond approving City of Burlingame’s REACH code as assessed today, I ask the California Energy Commission to adopt a single all-electric baseline in the 2022 code cycle for all cities statewide. I’m confident with the CEC’s leadership on building electrification, that we will have a cleaner and healthier California.

Thank you for your time and consideration.

MR. GOLDTHRITTE: Last caller on the line, we have Freya Chay.

MS. CHAY: Can you hear me?

MS. GALLARDO: Yes, we can.

MS. CHAY: Great. My name is Freya Chay, F-R-E-Y-A, C-H-A-Y. I recently finished a master’s program at Stanford University and hope to spend my career promoting decarbonization and a just clean energy transition.

I would love to build on -- on Jonny’s comments. First of all, thank you for your leadership and for approving past REACH codes. And I urge you to continue on and approve Burlingame’s REACH code today. Beyond that, I will echo all the commenters before me in desires to see the CEC’s leadership by adopting all of the (indiscernible) in the 2022 code cycle.

For me, the simplest argument really is to zoom
out to a national scale. The 1.5 degree target required near 100 percent electrified substitution in the building in transportation sectors starting in five years or else our window is gone. The scale and speed of the transition needed I think really will rely on standards and intelligence support such that all Californians and all United States citizens can participate in that transition.

This is the CEC’s opportunity to rise to that scale and speed and the example already set by California communities pursuing REACH codes.

So I -- I anticipate your continued leadership. And thank you for your time.

MR. GOLDTHRITE: We have one more. We have --

MS. GALLARDO: I have --

MR. GOLDTHRITE: Sorry. We have Alice Sung with Greenbank Associates.

MS. SUNG: Yes, hello, good afternoon. Can you hear me?

CHAIR HOCHSCHILD: Yeah, we hear you fine.

MS. GALLARDO: Yes, we can.


I’d like to commend the Commission for having
these hearings and holding true public comment on the all-electric baseline. I’m here to support the all-electric baseline not just for residential but in particular for public sector commercial properties. And that in particular will be our public schools all across the state.

As everyone knows or maybe not everyone knows, REACH codes are great but in fact, they don’t apply to our public school districts. They are separate local educational agencies that are under a different jurisdiction; in fact, the Division of State Architect. So what we need now is a titling for it and the code that actually applies to public schools.

So this community, as you know, is over a thousand public school districts, over 6.3 million diverse school-aged children. And over half of those, 3.6 million qualify for free reduced price lunch eligibility. And those are the districts that are in areas that are most disadvantaged with most low-income children and that are most impacted from health consequences from both indoor and outdoor air pollution.

So this community represents over 10,000 school sites in all 58 counties. And they’re all estimated that two-thirds of them that are greater than 25 years old, the recent Government Accountability Office report
says that 50 percent of all school districts across the nation require HVAC systems upgrades. Seventy-five -- 70 percent, excuse me, of these are gas-fired HVAC heating, cooking systems in California.

And we know that CARB has estimated the natural gas use as of 2018 as an annual about 428,000 tons of CO₂ per year. If you multiple that over the next decade, that’s 4.3 million tons of possible avoided gas emissions from gas over our existing buildings. In fact, does not include the new buildings to be upgraded or installed in the years to come.

So for this reason, I urge you not to -- not to leave behind public school districts as we move to electrify and decarbonize our residential sector and other buildings across the state for the following reasons. To reduce utility expenses and increase funding to general education funds. To increase health and the health of our children, the most vulnerable population, to better (indiscernible) and better --

CHAIR HOCHSCHILD: Thank you. Unfortunately, we have to stop you there.

Next speaker, please.

MS. SUNG: Sure. I -- for all the same reasons that they’re good for residential population, they’re the same for school population and even more.
Thank you for this opportunity.

CHAIR HOCHSCHILD: Thank you.

MR. GOLDSHRITE: That’s the last one on the line.

CHAIR HOCHSCHILD: Okay. Let’s move to --

MS. GALLARDO: I have --

CHAIR HOCHSCHILD: Oh, did you have written -- some written comments, Noemi?


I have a comment from Kimberly Burr, that’s spelled K-I-M-B-E-R-L-Y, B-U-R-R. She’s with public -- she’s a public interest environmental lawyer and restoration volunteer with Green Valley Creek Forestville, Sonoma County.

She says, I support the approval of Item 9. I believe going in direction of all electrification versus more gas infrastructure is critically important at the local level such as Burlingame and at the state level and hopes CEC embraces this strategy.

That concludes the written comment.

CHAIR HOCHSCHILD: Thank you. Let’s move to commissioner discussion.

Commissioner McAllister.

COMMISSIONER MCALLISTER: Yeah, great. Well, first of all, I want to thank everybody for -- for your
comments, your extensive comments and thoughtfulness on this.

I guess I would just sort of play schoolmarm a little bit here just at the outset. You know, at least one of the comments didn’t even mention the item that we’re actually voting on. So went straight to the all-electric baseline. So that’s fine. More appropriately, if it’s not going to address, you know, if the comment does not address the item we’re actually voting on, it would be more appropriate in the public comment at the end of the meeting.

So I want to -- so just say, you know, kudos for Burlingame for working through the process and, you know, bringing us this -- their finding, their cost effectiveness, and their proposal for REACH code and staff check the boxes in terms of showing that it does actually improve the energy performance, the efficiency of those buildings and so support this item.

I did want to take the opportunity just very briefly to, you know, point out that our decarbonization goals actually have a lot of different facets and different timelines for different parts of the economy, different sectors. And so I wanted to just point to, you know, the commenters of this meeting and previous meetings for around the local ordinances. And I think
people have characterized them in their leadership role appropriately in general.

But commend you to look at some other platforms, then, within Title 24 for your comments as well. In particular, the Assembly Bill 3232 Building Decarbonization Plan, someone mentioned there is no plan. Well, that plan is required of us, actually, under that piece of legislation. And Energy Efficiency Division staff are working on that and they need to get a draft out by the end of the year. So that is the decarbonization plan for California’s buildings will include new construction and existing buildings.

We’re going to follow that conversation in the Integrated Energy Policy Report next year in 2021. And so that, again, more -- a much more integrated conversation about our building and decarbonization of our buildings in order to really make sure that they help us meet our interim goals and our long-term goal by 2045 if not before. So.

So those are a couple of platforms that I think really do lend themselves to a wide range of discussion about the technologies and the market trajectories and the -- all the different levers that we have to pull in not just in this Commission but across the state agencies. You know, as we’ve heard, there are a number
of agencies involved in this, including ARB, and the
Division of State Architect, et cetera.

So I want to just make sure people have the
broad view so that they cannot just -- and build
comments around the local ordinances but also
participate in the other platforms and the other
rulemakings that are going to create the tools for us to
shift marketplaces, you know, aggressively towards
decarbonization.

So with that, I think -- then I’ll just invite
you to get in touch with Noemi Gallardo, our public
advisor if you need connection with those proceedings or
directly with the Efficiency Division staff working on
the AB 3232 report. And so the public advisor can help
connect you with those -- with those staff. And so want
to get on those service lists and make sure that you see
those opportunities come up to chime in on, you know, as
appropriate because your comments will be valuable there
as well.

So with that, I support the Burlingame overall
proposal with all its three elements. I think it’s --
I’ll be really interested, I’ll say, in seeing how the
exemption processes that they’re going to put in place
kind of pan out and how that looks, you know, in terms
of the specific sort of building subsectors and types of
situations that they’re going to work through in the course of receiving applications to build under the new ordinance.

So with that, I’ll move Item 9.

CHAIR HOCHSCHILD: Let me just first see if there are other comments from my colleagues on Item 9? Hearing none, Commissioner McAllister has made a motion. Is there a second?

Commissioner Douglas, do you want to second that?

COMMISSIONER DOUGLAS: Yes, second.

CHAIR HOCHSCHILD: Okay. Let’s take the roll. All in favor, Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Vice Chair Scott?

VICE CHAIR SCOTT: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

So congratulations to Burlingame. Let me just reiterate, I do really want to highlight how important the leadership of local cities and counties is on our decarbonization efforts. A lot of the path breaking
policies we’re seeing not just in this case but over the years is now over 100 local ordinances that we have approved to get out ahead of state code over the last 20 years. And really have been incredibly pioneering. So thank you for your leadership at the local level.

Let’s turn now to Item 10, approval of the business meeting minutes.

Any comments on this -- any public comments on this, Noemi?

MS. GALLARDO: This is Noemi, the public advisor. No comments.

CHAIR HOCHSCHILD: Okay. Unless there’s comments from the Commissioners, I’d entertain a motion.

Commissioner Douglas, would you be willing to move that? The -- finding the unmute button is such --

COMMISSIONER DOUGLAS: Yeah, you know, my -- occasionally, the window shifts on me, then I have to reopen the window and then find the unmute button.

So, yes, so moved.

CHAIR HOCHSCHILD: Thank you for moving that.

Vice Chair Scott, would you be willing to second that?

VICE CHAIR SCOTT: Yes, I second it.

CHAIR HOCHSCHILD: Okay. All in favor of approving the minutes, say aye.
Vice Chair Scott.

VICE CHAIR SCOTT: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas.

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister.

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

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

Let’s move on to Item 11, Lead Commissioner presiding member of reports. Let’s start with Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I feel like I belabor the executive order of the governor but I just feel like I can’t say it enough because it’s so exciting. The study enforce the 100 percent ZEVs in the next 15 to 25 years including off-road equipment, including diesel equipment. I know the chair did a lot to help with that development. And Vice Chair Scott has really laid the groundwork with a lot of this work that she’s done over the years. So it’s just really, really exciting.

I feel like it put California right at the forefront globally on transportation electrification.
That’s where we want to be. So now we’ve got to help the governor achieve these goals and I, you know, I’m confident that we can, it’s just going to take all hands on deck to make sure that we can have the rates, that infrastructure, and that we’re -- we’re fueling these vehicles in a way that helps support the grid and lowers rates for everybody. So it’s just really exciting.

It was a busy week, lots of public -- lots of media requests and, you know, really trying to develop that message of like, yeah, we’re a little behind on where we need to be but, you know, if we all marshal our resources, we can get there is kind of a, you know, the tension that we’re seeing in terms of yeah, we’re not quite there, but let’s, you know, if we all work together, we’ll be able to reach these goals. So.

And with that, you know, the 51 million that we got as the Chair mentioned, we have great support for that really trying to figure out how to leverage that for economic recovery in jobs in the near term. As you offered in the clean transportation program (indiscernible), we’ve done a lot of engagement with the DACAG and well even in SAHA as well. So in the last month, I’ve met with the DACAG, I’ve met with SAHA and we’re trying to just really expand that definition of what events it is to a low-income community.
So the last thing I would just say is that the draft IEPR is on -- it’s not on the streets because it’s just in my inbox, it’s not in yours yet. But I’m pretty excited about what it says in terms of it brings the three revolutions of electrification, automation, mobility of service, it really talks about how the global market is scaling up on battery electric vehicles and why fuel cells are a little behind where battery electric vehicles are I think in terms of their contribution, and especially with the medium and heavy duty sector, it’s going to be important.

So just, you know, hopefully that will be in your inbox soon. But I think the team did a really good job with going -- well, kind of further than they usually, I would say, go in terms of this kind of more expansive really deep dive into transportation.

So that’s all. Sorry I said it really fast, but I know it’s been a long day already.

CHAIR HOCHSCHILD: Thank you, Commissioner Monahan.

Let’s move on to Vice Chair Scott.

VICE CHAIR SCOTT: All right. Well, I always like the opportunity to get to talk with you all a little bit about what I’ve been working on and hear about what you’ve been working on as well.
The EPIC symposium is coming up next week so that is Monday, October 19th through Wednesday, October 21st. I think all of you have a role at this symposium so I’m really excited for that. We’ll be joined also by some Commissioners from the Public Utilities Commission, legislators, and lots of other fantastic folks. So I’m very much looking forward to our virtual EPIC symposium coming up next week.

A few things that I have been doing. We did another virtual innovation tour. And this one was focused on California-based clean energy manufacturing. That was really great to see. The folks are doing these really wonderful presentations where you just get a short video but it’s -- and it’s not the same as getting to go and walk around the factory or the manufacturing space, but it is really neat to kind of see the video, see what the scientists and the different labs are working on. So they’ve done a nice job putting that together. So we can still get a great feel for the types of things that EPIC is funding. We’re also doing that with our preproduction investment program as well.

I had a chance to talk to some folks in the Stanford Energy Group which was really wonderful. Hopefully I inspired a few students to think about coming into state service and the impactful work that
they would be able to carry out at a wonderful agency like the Energy Commission. I talked broadly about our mission and then spent some focus on of course the research portfolio at the Commission.

And it’s pretty exciting when you have I think those broad overviews. Because the Commission really does do a lot of amazing work all across the energy sector and it’s fun to talk about and take questions and see what folks, especially the students, are thinking in this space.

Had a chance to participate in LACI, the clean tech incubator power day a few weeks ago, which was fantastic. And also the DOE Storage Summit. So those are just a few places that I have been virtually over the last little bit.

And then I just wanted to close by noting I had a great opportunity to talk with the administrative division at the Energy Commission. So I really appreciate Rob inviting me to be part of the dialog. He has kind of an all-hands admin meeting periodically. And, you know, just the work that that team does for us each and every day. And the fact that -- and one of the things that Rob says is that if we don’t notice it, that means they’re doing a great job. And I said, well, we rarely do. So. You know, they’re just really doing a
great job getting everything set up for us, whether it’s, you know, the IT, getting our contracts out the door. I mean, it’s just -- everything that that team does. So I was honored to have a chance to talk with them.

And also to thank folks. Again, as you all know, it’s such a challenge to work virtually. And, you know, sometimes we’re sitting under smoke, people are worried about COVID. We don’t know if schools are going to be in person or continue to be online. Like, there’s just lots of challenges that people are juggling and so the fact that they bring their A-game to the Energy Commission every day is really appreciated. And I just want to keep saying that because I hope people do feel appreciated. And they’re doing a great job, I think, juggling all the different challenges. And I was happy to get a chance to talk to the admin division.

So those are my updates for you all.

CHAIR HOCHSCHILD: Thank you, Vice Chair.

Let’s go to Commissioner McAllister.

VICE CHAIR SCOTT: You’re muted.

CHAIR HOCHSCHILD: Commissioner, you’re muted.

Can you unmute?

COMMISSIONER MCALLISTER: Sorry. Sorry. Sorry. Every now and then, you know, working (indiscernible).
CHAIR HOCHSCHILD: I think that is the single most common -- since the beginning of COVID, it's the most common --

COMMISSIONER MCALLISTER: Yeah. It's like -- yeah, exactly. And you, you know, you can use your space bar, that comes in handy every now and then.

CHAIR HOCHSCHILD: Yeah.

COMMISSIONER MCALLISTER: For example, if you lose the video.

So, yeah, let's see. I guess I wanted to -- first start out by thanking you, Chair Hochschild, because just for carrying what really has been quite a burden over the last, you know, months, weeks and months, over a month now, month and a half, but who's counting, in terms of dealing with the stresses that we had and the heatwaves and the, obviously, outages a couple of days. And then some tense moments subsequent to those but without further outages at least due to inadequacy of resource. So.

But I wanted also to thank the teams, in particular Siva Gunda, Assessments Division, who really stepped up and his team. Melissa Jones and others who really stepped up to do great analysis about what happened and proposing solutions both on the supply side and the market side, and the demand side, working with
the other agencies, PUC and ISO to come up with our
analysis of what happened and also recommendations for
how to avoid that in the future.

And it’s really actually, despite the
challenges, it’s giving me a lot of optimism that we
actually have, you know, much more congealed and focused
discussion about what we need to do going forward. And
obviously, I focus a lot on the demand side, on the
local side of distribution grid and sort of digitization
of our energy use. But there are a wide array of
solutions both, you know, from wholesale large-scale,
all the way down to individual devices. And so
California really can mobilize all these resources. We
have the innovation, we have the know-how, we have the
people, we have the investment. And so I’m really, you
know, buoyed in a way. With challenge comes
opportunity, right? They’re sort of the yin and the
yang. So. So going forward I think we have a clearer
view of what’s necessary even if it’s not always going
to be easy. So.

And then I’ll focus in on just a few things that
I’ve been doing as well. The -- on this front of active
efficiency and, you know, grid flexibility, really
excited to have the SB 49 process kicked off. And then
also the load management standards moving forward
relatively expeditiously and that’ll be -- we’ll be doing some newsworthy things over the coming months and year on both of those fronts.

These discussions have a lot of traction in DC and then actually across the globe. You know, this sort of light bulb about loads and our ability to manipulate loads and manage loads is actually -- these light bulbs are going on not quite independently but they’re kind of sequentially going off really fast. And people are connecting the dots and they’re really figuring out that this is a resource whose time has come.

So in DC, there’s a lot of conversation about the transition whichever way it goes, but certainly urgency to heighten the official electrification and active efficiency as solutions to our climate problems and our reliability problems.

Grid interactive efficient buildings. NASEO and NARUC regulatory utility commissioners across the country have a joint effort to enable grid interactive efficient buildings. And so there’s a big effort and it’s just, it’s really gratifying to see. And just in the last couple of days, Department of Energy has released (indiscernible) communities funding opportunity notice that is pretty exciting. It’s like $65 million for just that grid interactive efficient building. So
it’s actually pretty -- pretty timely as well. There’s a lot of collaboration happening. I’m super optimistic about that.

Globally, I’m getting asked to do a lot of talking about these issues. And EPRI and EIA have their -- their conference coming up. Some collaborative discussions with Kodurupaka in India. Just all over the globe there are interesting developments in this front. And so, you know, developing could be used to leap frog into some of these ideas that can really help at all happen that much faster.

So I guess rather than just sort of detail all my comments, I’ll just highlight a couple.

I wanted to thank Melissa Jones, actually, for spearheading and leading sort of a restart of really a new start, I guess, of the CEC gas working group. Collecting a bunch of stakeholders around a table, virtual table, obviously, to talk about natural gas. Very diverse group, varied great opinions but substance based. They’re not making policy, they’re talking about, you know, nuts and bolts on the ground, how systems work, how they can transition, how they can decarbonize. It’s sort of a gloves off but very civil, right?

So, you know, practical reality based but
collegial and civil. So that’s the goal for how we do, you know, good interactions and build a good record that we can then inject into the policy discussion.

So I also wanted to mention hydrogen. You know, mentioned in one of the items today. But there’s been some -- I had some great conversations about it. And dating back before I went to COP on the Commissions’ behalf, the Counsel of Parties, last November. There, had a bunch of conversations with different, you know, countries. Scotland, Germany, other countries that really are focused on hydrogen as a solution. Not only for transportation but also for bulk power system. And so, you know, as transitioned to a green hydrogen as a decarbonized gaseous fuel.

And so we now have, you know, couple of organizations with the footprint in California. The Green Hydrogen Coalition and the Green Hydrogen Business Counsel. And some -- and a project with LADWP’s leadership to transition, get them out and power project. So there’s really, I think, interesting steps forward happening on that front. And so our challenge is going to be to figure out how to -- how to integrate that into our overall energy system planning. But I’m super excited about that.

Lastly, I’ll just say on buildings, given a couple of
talks again, that kind of had a global footprint, the
International Living Building Institute and then also the
International Passive House Conference. Those were, you know,
large events with diverse stakeholders. A lot of talk about
equity, a lot of focus on equity, and a lot of focus on advance
building construction practices and how it can bring benefits to
our communities. So all of those topics really have traction and
it’s growing. I mean, you know, we hear -- we hear in our
business meetings and other forums how much salience this has and
how much urgency there is. So I think, you know, marketplaces
have to figure out how to make it happen, you know, at scale and
evermore cheaply. But I think there’s a really good synergy
happening right now.

And finally, I guess it’s in the future but I already
did my part, I’m really looking forward to the EPIC symposium.
So. I think maybe I’m not supposed to say anything, some of these
sessions are taped at least, but I did a really nice session with
Senator Skinner and David Nemtzow from DOE, and we’re really
looking forward to that fireside chat and a follow at the EPIC
symposium. So thank you to Commissioner Scott for organizing and
meeting that.

And that’s it for me.

COMMISSIONER MONAHAN: Commissioner McAllister --

CHAIR HOCHSCHILD: Thank you.

COMMISSIONER MONAHAN: -- I have just a quick question.
Can I just ask a question?

CHAIR HOCHSCHILD: Yeah, go ahead.

COMMISSIONER MONAHAN: You said --

COMMISSIONER MCALLISTER: I’m sorry, who’s this?

CHAIR HOCHSCHILD: It’s Patty. Go ahead.

COMMISSIONER MCALLISTER: Oh, I’m sorry, I didn’t see you. Okay. There you go. Yeah, go for it. You’re kind of, you’re a little bit crackly, I didn’t recognize your voice

COMMISSIONER MONAHAN: Oh, I’m sorry. It’s funny, I’m using my, this headset too.

I’m curious the national roundtable that you talked about, is that internal group or is that external?

COMMISSIONER MCALLISTER: So, yeah it’s a -- it’s -- I don’t know if you’re familiar with the DAWG, the Demand Assessment -- the Demand Analysis Working Group, it’s sort of, you know, well not exactly, but roughly analogous to that where it’s getting agency reps in the room but also stakeholders in the natural gas arena across the spectrum, you know, together to talk. So I think it’s, you know, it’ll be -- yeah, it’s a, I mean, it’s not a formal like working group but it is a kind of a way to compare notes and make sure that everybody is talking about the same realities in terms of molecules.

COMMISSIONER MONAHAN: Thanks. Fascinating. I think you know I can share your interests in what’s the world of hydrogen broadly in our decarbonization track. So. Thank you.
And I share that interest and curiosity.

COMMISSIONER MCALLISTER: Yeah.

COMMISSIONER MONAHAN: And I want to -- where he said about the Chair and all he had to shoulder. I think everybody, I think we all, all the Commissioners feel the same way, and the thing that’s nice is that we really appreciate Chair Hochschild all you’re doing to collaborate with other agencies, make sure that we have a secure energy system. And I know the other agencies are also CAISO and CPUC are equally committed. But we just really appreciate your leadership and what you have done and what Siva and other folks and Lori, many folks in the organization have done. But thank you.

CHAIR HOCHSCHILD: Well, thank you. So getting a lot more gray hairs in this job. But we have an incredible team and it’s actually been really rewarding the last few months especially.

Let’s go to Commissioner Douglas.

COMMISSIONER DOUGLAS: All right. Couple quick updates from me. I’ve been doing a fair amount of speaking, not all offshore wind, but some of it certainly including the virtual Offshore Wind Summit a week or so ago.

I’ve also really enjoyed participating in a series of webinars that the Schatz Energy Center in Humboldt County has been putting on on offshore wind. It’s, you know, what they’re really doing is highlighting and explaining work that they’ve done with
the benefit of Ocean Protection Council and Office of Planning and Research and some federal BOEM funding. But they’re doing it in a way that is facilitating community information dissemination and a community dialog and I’m quite happy with how that’s going. You know, they have a real diversity of voices. They have ample time for community dialog. And I think I can tell that people feel engaged and, you know, are really happy to have that forum.

And what they’ve done is, you know, rather than have an entire day that becomes offshore wind day, they’ve just done, you know, every Monday for two or so hours for a series of weeks. I think they’re taking one Monday off and then they’ll do their last one or two. But it’s worked out really well, it’s been a nice model and it’s been fun to see.

I wanted to share the STEP division is working with me and working with the Chair to pull together a workshop that will explore ways of upgrading existing natural gas plants to make them work more efficiently when it is very hot out and other kind of on the margins efficiency improvements that can help support our system. I think it’s an exciting opportunity. You know, we’re already doing outreach around the workshop, we’re going to, for example, this Friday, make sure the DACAG knows about it and then follow up with a more in-depth discussion with the DACAG subsequent to the workshop that can also engage them on the energy emergencies and steps that have been taken to address them and things like that. So I wanted to make you aware of that.
There is a final and last workshop on our RPS regulations coming to an Energy Commission near you and after that it’s coming to a business meeting near you, so this calendar year. So be ready.

Lastly, you know, one international relationship that I’ve been privileged to take part in on behalf of the Energy Commission has been with Norway. I had a chance to speak actually during a pilot week, you know, at an event organized by the Norwegians in San Francisco. And since then, we’ve entered into an agreement to cooperate and share information and so on. And we’ve decided to do a series of informal information exchanges on topics of interest to us that would be, you know, government discussions. They probably wouldn’t be broader, although one or two might be. Certainly the one on offshore wind might be.

And so we’re looking at exploring topics like hydrogen, which we’ve mentioned quite a bit here. They have a national strategy on hydrogen, they have some pretty interesting work that they’re doing there. Carbon sequestration, which is something else that they’ve pretty upfront on, and offshore wind. And then one of the topics they’re actually interested in, more information from us, is on the vehicle side. So especially with the governor’s leadership and executive order, and all the work that we’ve done in the state through Energy Commission, Air Resources Board, and so on. And I think we’re getting a lot of recognition for how we’re moving that market and moving technology in that
space. So to be continued on that, but it’s, I think it’ll be a very mutually beneficial dialog.

So I think that’s all I’ve got. Thank you.

CHAIR HOCHSCHILD: Thank you. Is that everybody? I think, it might be.

So I -- well, I guess I’ll just begin by sharing I did a four-hour briefing before the legislature on Monday on the blackouts. This was President Batjer, myself, Steve Prorick (phonetic), and then who is the new CEO of CAISO, Elliot Mainzer who just started. And we owned the failure. It is on all of us collectively. We have to do better. We will do better. And we kind of walked through a number of the key actions, including the fact that we’re going to basically have a 10X increase in energy storage on the grid in the next year, as well as some other improvements we’re making.

I really want to thank Commissioner Douglas’s team and Shawn Pittard for the work we’re going to be engaging on with getting more juice out of the existing fleet. We have 79 jurisdictional power plants representing 28 gigawatts and there are a number of measures that can be taken to improve the output of our current fleet, principally through improvements to chilled water systems, but also other measures to enhance efficiency. So that is just part of a much larger mosaic of activities that we’re doing. Commissioner McAllister been’s spectacular in particular on this, pushing for low management standards and more ambitious
demand response and enhanced load management activity.

Now, there is no -- my main answer was, there is no single cause for the blackouts. Obviously, the heat storm was a historic heat storm, and it was extended for five days. But there’s no single solution either. It’s not silver bullet, it’s silver buckshot, and there’s many, many different activities that we’re engaging with as we strengthen grid liability in California. And it is a solvable problem. So I think that’s the good news, is a bunch of measures we can take that are going to put us in a healthy place.

And we also briefed the governor. That went also over well. And we had, I cannot thank Siva Gunda and his team enough for all the prep as we address this issue. It was really fundamental to the state, to our climate strategy, to everything we’re working on to keep building that resilience.

So other updates, we had great Department of Navy partnership meeting with the energy agencies, Mike Gravely did that per video, as usual. The military is a great partner for us. During the blackouts, they disconnected 22 ships from shore power during some of the challenging times and that was really helpful, had just been terrific. And also obviously had a great (indiscernible) at the time with all of our clean energy benefits to have this. That relationship continues to pair.

I went to the Tesla Battery Day with Secretary Blumenthal, that was the same week the executive order came out.
So it was exciting to see the pathway for getting another 50 percent reduction in cost we’re looking by the Tesla working, and the pilot manufacturing line there for their battery technology.

Did also the climate week event with Tom Steyer and Amelia Shitani and Assemblyman Garcia really talking about equity as we (indiscernible) entered a great phrase which I borrowed generously that we (indiscernible) front door to our finance policy, and I think that’s exactly right. So we talked a little bit about how that it’s expressing itself in all these different programs that we’re doing from the build program which is exclusively for low-income housing as we do building electrification to this new program to be established by AB 841 which the governor just signed into law, which is kind of focus on public schools, but with a heavy focus on low-income schools. So that’s a real model for the country.

I also just want to get a little attention to the Eduardo Garcia bill which the governor signed into law that’s going to create this lithium task force. I’m working with Commissioner Douglas on that. We’re going to be getting those nominees together by the end of the year and in putting the task force in place to work on this vision of lithium valley. And I want to thank Assemblyman Garcia for his work on that.

And that covers my update.

Let’s go to Item 12. Does the executive director have a report?
MR. BOHAN: Thank you, Chair. Good afternoon, Commissioners. I’m speaking from scenic Carmichael, California and I have a few quick updates for you.

I report out on the budget and we had very good success with the requests we had made. And the Chair just alluded to one of the two bills that we were entrusted with stewarding in AB 1657, the lithium Blue Ribbon Commission. We also, of course, directed to implement AB 841. And both of those are in one division. Luckily, our manager of that division, Natalee Lee, you all know, is extremely skilled. But it’s a lot so we’ll be drawing from other parts of the organization to make sure we’ve got appropriate resources to perform those obligations.

I also just can’t speak without acknowledging the entire Energy Assessments Division team that helped out with the root cause analysis. A terrible thing that happened but I think the three agencies worked together really, really well to come up with solutions. And so we feel pretty good that implementing solutions will avoid this problem in the future.

And then finally, I just want to say internally, as I think you know we’ve eliminated landlines for those of us who have been -- that have state-issued phones, we’re now moving into the next level. This is going to save us in the neighborhood of $200,000 per year to have issued cell phones to staff instead of landlines. We are looking to digitize all paper records and we’re fortunate to find some funding for that that makes it no cost to
the Energy Commission.

And finally, our telework consultants are working closely with us and will be starting next week to do an outreach effort to you, to our senior management, and then to other staff to talk about their needs and desires in how we can best continue our teleworking into the future. Even as we are enabled to go back, at some point we’re going to have a much more expansive approach to telework.

Thank you very much.

CHAIR HOCHSCHILD: Thank you. Let’s go to Item 13, Public Advisor’s report.

MS. GALLARDO: Thank you, Chair, Vice Chair, and Commissioners.

I have more of an announcement than report today. I want to remind you and the public that in celebration of its 45th anniversary this year, the Energy Commission is launching the Clean Energy Hall of Fame Awards to recognize leaders advancing California’s clean energy goals and helping achieve 100 percent clean energy future for all.

We’ll have three types of awards focused on lifetime achievement, clean energy champions, and one focused on the youth game changer. We’ve received over 100 nominations, so it will be quite competitive. We encourage everyone at this meeting to join us and to invite your friends, family, and peers. The event is at 2:00 p.m. on December 10th via Zoom. The details are on the
homepage of our website at energy.ca.gov which is also listed on the side showcasing the beautiful the logo created by our talented media and public communications team. Thank you to them for their hard work.

I also want to thank my colleague, friend, and team member Albert Lundeen for helping lead this effort and thanks to our equity intern Hannah Phillips for her support.

That concludes my report.

CHAIR HOCHSCHILD: Thank you. And thanks for all of your work pulling that together. We’re really excited to finally get that launched.

All right. Let’s move on to Item 14, public comment.

MS. GALLARDO: So, Chair, I will provide the instructions here again. This is Noemi Gallardo, the public advisor. This is the period for any person wishing to comment on information, items, or reports of the meeting agenda and shall have three minutes total to give comment.

As a reminder, we are not accepting public comments through the Zoom system. Please call our Verizon line at 888-823-5065. The passcode is business meeting, and there is still time to get on the line.

Once your line is open, please spell your first and last name, state your affiliation, if any. There should only be one representative per organization. Do not use the speaker phone when talking because we won’t hear you clearly. If you’re also on
Zoom, either mute or leave Zoom to avoid feedback.

So I do have one written comment. So I’ll begin with
that, Chair.

The comment is from Ted Sirkin. So that’s spelled
T-E-D. Sirkin is S-I-R-K-I-N. He’s from Valvette Systems. He
says, I am a California licensed landscape and irrigation
contractor since 1963. My company’s name is Valvette Systems,
spelled V-A-L-V-E-T-T-E. Born and bred here in California, we
manufacture the world’s only water conservation sprinklers, which
are the only sprinklers on the rebate list of the nation’s largest
treated water facility, the Metropolitan Water District of SoCal.
The MWD named our sprinklers and sprinkler parts In-Stem Flow
Regulating sprinklers, IFR.

We appealed to the CEC two months ago to consider
allowing a one-year provisional approval of our sprinklers so we
could arrange for testing at the Center for Irrigation Technology,
a California state organization located at a California
university, Cal State, Fresno. This would parallel the end goals
of the CEC’s October 1st sprinkler head pressure regulation
mandate. The CIT is the underwriter’s laboratory for irrigation
products.

The new CEC standard arose from the huge water loss
through sprinklers when operating under high pressure
circumstances common throughout many areas in California. The
present method of sprinkler head pressure regulation was developed
in the 20\textsuperscript{th} century, whereas the IFR technology was developed in the 21\textsuperscript{st} century, resulting in a huge improvement.

In our appeal, we provided access to 19 different testing results that show the tremendous water savings achievable with In-Stem Flow Regulation. The existing 20\textsuperscript{th} century technology does just one thing to save water, it controls high pressure up to 70 PSI by one manufacturer, up to 100 PSI by another.

IFR saved water in several ways and allowed for an unobstructed water passageway, whereas the existing device obstructs the passageway. IFRs make a major contribution to water conservation by eliminating overspray, the number one cause of runoff, which is illegal in California. The present method makes no contribution in this regard. With IFRs, one dials in the precise distance of water throw from the sprinkler. The IFR allows for higher uniformity of the water application which also contributes to water saving.

The negative response from the Appliances Office was bureaucratic and unnecessarily restrictive. The IFR utilizes the more up-to-date method of eliminating water wasting misting and fogging, therefore the method to test the IFR could not be the same as testing the existing technology. The CEC’s sole reliance on the EPA’s water sense testing on 20\textsuperscript{th} century devices undertaken at the University of Florida several years ago clearly does not serve the California Energy Commission’s goals of
conserving the water. Rather, the office’s response blocks further consideration of obtaining much more water conservation that is available in this century that was not available in the 20th century.

But all, there are more -- there is more to the comments but I’ll end there in the interest of time and to be fair to others if there are any, is anyone on the line.

I’ll defer to Cody, the secretariat, to see if there is anyone on the line.

COMMISSIONER MCALLISTER: Can I -- actually, Public Advisor Noemi, this is Commissioner McAllister, can I just ask that you docket those comments in their entirety?

MS. GALLARDO: Definitely we will do so.

COMMISSIONER MCALLISTER: Thank you.

MR GOLDTHRITE: We have no, no public comment on the line.

CHAIR HOCHSCHILD: Thank you, Cody. Let’s move on to Item 15. Does the chief counsel have a report?

MS. HOUCK: Hold on here. No report today, Commissioners. Thank you.

CHAIR HOCHSCHILD: Okay. Thanks, everybody. We are adjourned.

(The Business Meeting adjourned at 2:14 p.m.)

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REPORTER’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 reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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