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In the matter of:

2022-2023 Investment Plan ) Docket No. 22-ALT-01
Update for the Clean )
Transportation Program )
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CLEAN TRANSPORTATION PROGRAM

ADVISORY COMMITTEE MEETING

REMOTE VIA ZOOM

TUESDAY, APRIL 12, 2022

9:00 A.M.

Reported by:

Martha Nelson
APPEARANCES

COMMISSIONER
Patricia Monahan, Lead Commissioner

ADVISORY COMMITTEE MEMBERS
Michael Pimentel, California Transit Association
Will Barrett, Clean Air Advocacy
Casey Gallagher, California Labor Federation
Zac Thompson, East Bay Community Energy
Lori Pepper, CalSTA
Gia Vacin, GO-Biz
Jose Lopez, Private Citizen
Robert Meyer, California Employment Training Panel
Sydney Vergis, California Air Resources Board
Ruben Aronin, Better World Group
Morgan Caswell, Port of Long Beach
Larry Engelbrecht, ASE Education Foundation
Micah Mitrosky, IBEW District 9
Samantha Houston, Union of Concerned Scientists
Neena Mohan, California Environmental Justice Alliance
Katherine Garcia, Sierra Club
Jerome Qiriazi, Humboldt Transit Authority
Mary Solecki, AJW
Matt Gregori, SoCalGas
Bill Magavern, Coalition for Clean Air
APPEARANCES

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Kevin Hamilton, Central California Asthma Collaborative

Leslie Aguayo, Greenlining Institute

Bill Elrick, California Fuel Cell Partnership

COMMISSIONER ADVISOR

Mona Badie, Advisor to Commissioner Monahan

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Rey Leon, City of Huron
Mikhael Skvarla, California Hydrogen Coalition
Jaimie Levin, Center for Transportation and the Environment
Chris King, Siemens
Glen Choe, Toyota Motors America
Mark Marbury
Wayne Leighty, Shell Hydrogen
Samantha Ortego, ChargerHelp!
David Park, Frontier Energy, California Fuel Cell Partnership
Roy Bant, Chart Industries
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MR. BRECHT: Good morning. Welcome everyone. My name is Patrick Brecht and I’m the Project Manager for the 2022-2023 Investment Plan for the Clean Transportation Program. And I want to thank you all for being here, very much, both in person and virtually.

Before I begin, I have a couple housekeeping items to go over. I’ll do a roll call for Advisory Committee members. I’ll start off with those in the room, followed by those participating remotely.

If I can begin, perhaps, with Michael and your affiliation, please?

MR. PIMENTEL: Michael Pimentel, Executive Director of the California Transit Association.

MR. BARRETT: Will Barrett, National Senior Director for Clean Air Advocacy with the American Lung Association.

MR. GALLAGHER: Good morning. Casey Gallagher, California Labor Federation, AFL/CIL.
MR. THOMPSON: Good morning. Zac Thompson with East Bay Community Energy.

MS. PEPPER: Lori Pepper with the State Transportation Agency.

MS. VACIN: Gia Vacin with the Governor’s Office of Business and Economic Development.

MR. LOPEZ: Good morning. Jose Lopez, private citizen.


MS. VERGIS: Good morning. Sydney Vergis, California Air Resources Board.

MR. ARONIN: Ruben Aronin with the Better World Group.

MS. CASWELL: Morgan Caswell, Port of Long Beach.

MR. SMITH: Charles Smith, Staff with the California Energy Commission. Also here is Tami Haas, also staff from the California Energy Commission.

MS. BADIE: Mona Badie with the Energy Commission.

MR. BRECHT: And at this point, we can move to Advisory Committee members that are participating remotely.
MR. ENGELBRECHT: Larry Engelbrecht, ASE Education Foundation. Good morning.


MS. HOUSTON: Good morning. Sam Houston here from the Union of Concerned Scientists.

MS. MOHAN: Good morning, everyone. This is Neena Mohan with the California Environmental Justice Alliance, also known as SEJA.

MS. GARCIA: Good morning. This is Katherine Garcia with Sierra Club.

MS. QIRIAZI: Hi. This is Jerome Qiriazi with Humboldt Transit Authority.

MR. BRECHT: Are there any more Advisory Committee members?

MS. SOLECKI: Good morning. Mary Solecki with AJW.

MR. GREGORI: Good morning. Matt Gregori with SoCalGas.

MR. BRECHT: Bill, would you like to introduce yourself? Welcome.

MR. MAGAVERN: Bill Magavern, Coalition for Clean Air.

MR. BRECHT: Okay. I believe that is it.
We can move on.
I just need to go over a few housekeeping items.

First, the meeting is being recorded. We ask that you mute yourselves when you’re not speaking, star six for those who are on the telephone. A transcript of this meeting will be made available on the Energy Commission website.

This is our first Advisory Committee meeting for the Investment Plan cycle. And we anticipate a second Advisory Committee meeting in July.

There will be an opportunity for public comments at the end of the meeting. And written comments submitted to the docket are strongly encouraged. This slide provides the location of the Docket, which is 22-ALT-01, as well as the location to submit comments electronically. I should add, the deadline to submit comments to the docket is April 29th at 5:00 p.m.

We ask that Advisory Committee members participating virtually indicate that they would like to speak or comment by using the raise-hand feature. We would also like you to identify yourself before you speak and your affiliation.
Telephone participants, dial star nine to raise your hand. For those in person, you can place your name plate vertically or raise your hand. Also, for those participating virtually, be sure to keep your chat box open in case you receive any messages.

Now we have a lot to cover today and, as a result, we may have to limit Advisory Committee member comments to three minutes per discussion topic and two minutes for the public, but that may be adjusted, according to times later in this meeting.

And for the meeting, I will go over the agenda. We’ll have opening remarks from Commissioner Monahan, followed by an update on the Advisory Committee Roles and Responsibilities document.

Then we’ll provide a very brief overview of the Clean Transportation Program. We will then provide an overview of the draft staff report version of the 2022-2023 Investment Plan Update.

This will be followed by staff presentations on the Clean Transportation Program funding activities and related topics.
We will then move on to presentations by CEC staff and updates on ZEV and policy activities.

We will then transition to Advisory Committee discussion on the 2022-2023 Investment Plan Update, followed by public comments, and ending with closing remarks.

And there may be a break, depending on time.

And with that, I will now turn it over to Commissioner Monahan for opening remarks.

COMMISSIONER MONAHAN: Well, good with energy efficiency.

So welcome everybody. I’ll just say, again, it’s wonderful to see folks here in person, and I welcome, also the people on Zoom.

And you know, I just want to acknowledge what a strange world we are in. Michael and I were talking about we’re kind of in between. We’re in this hybrid world where we don’t know, are we still on Zoom? Are we in-person? We’re trying to recognize people through masks. In fact, I thought Lori was Morgan. Sorry about that. I’m like, oh, wow.

And you know, it’s been a challenge, I
think, for the Advisory Committee. I know you
guys were maybe pestered a little bit from our
team, trying to make sure that we had a quorum.
And the rules that were developed for open
meetings, in order to ensure that there aren’t
backroom deals, just aren’t flexible enough for
what we need today.

So I just really appreciate the folks
that came here. I know Will Barrett is coming
with like a terrible back. He should be not
here.

So I do have cookies. And, Will, be sure
to take one before you leave.

But just really want to acknowledge that,
you know, we are trying our best to make sure we
have your engagement as we figure out how to
widely spend the monies that have been allocated
so far for clean transportation and engage with
folks who couldn’t come here physically. So
apologize for the fact that you won’t be able to
see folks speak who are sitting.

So I would just encourage everybody, when
you provide remarks, to say your name because I
think that will really help the people who aren’t
in the room.
To me, actually, and I think a lot of the surveys that we’ve taken in the IEPR, indicate the people prefer Zoom. I prefer Zoom. I actually think it’s better for public engagement because for people who, you know, otherwise it would be very expensive to travel here, I think it just, it actually levels the playing field instead of making it more difficult.

So I hope the legislature takes some action so that we can actually do this in the future. But right now, this is the law, we have to follow it.

I want to thank the CEC staff that has been working really hard behind the scenes. I’m going to say some names because it’s really been a challenge, I think, to make this meeting happen.

So, first, Patrick Brecht and Charles Smith. I would say there aren’t enough cookies in the world to thank you for the work that you did to pull this together, and so just really appreciate your stewardship of this process.

Tami Haas, Michael Comiter, Spencer Kelley, Hannon Rasool, have all been key. On the Legal Team, Sam Arens, Samantha Arens, who helped
us navigate all the Bagley-Keene requirement

issues which have been difficult.

So just to bring us back to why we’re

here today, you might recall that last year we

passed a three-year plan with your input. And

the reason why we developed the three-year plan

is because we wanted to provide some certainty to

the world, the advocates, the industry, the

public, about where our investments were going.

And so we are -- and that three-year plan

included both the $100 million that we usual get

from the Clean Transportation Program, as well as

$1.165 Billion over multiple years that the

legislature allocated to this work.

We are not proposing any changes to the

three-year plan. And so that’s the feedback we

want to hear from you, whether that’s the right

cocktail of investments.

The governor is proposing a little bit

over $2 billion of investment in this fiscal

cycle. He would like to frontload $900 million

of that for light-duty vehicle charging in

response to the pain that consumers are feeling

right now at the pump. And I just want to be

clear, that money is not included in this
proposal. Until the legislature acts to finalize a budget, we can’t allocate those funds in the Clean Transportation Program, so those won’t be included.

You may recall, as well, that this program expires at the end of next year. So this is, you know, at least for now, this Advisory Committee endures until this program expires. And then it’s up to the legislature to decide whether to continue the program.

We want to make sure that we hear all of your thoughts and opinions. So I really encourage you, as the presentation -- as the staff provides data about how we are spending the money, what we’re proposing to do, just be cogitating on that. And then I want to make sure there’s space for everybody to be able to provide input.

So it’s also important for you all to understand the roles and responsibilities of being an Advisory Committee member. And Mona is going to walk through some of the -- just some of that information.

And I want to be clear, again, this is one -- this is something where we want to --
feel very strongly that I want this Advisory Committee to really be leaning in on equity and have community-based representation. And there are some challenges in terms of our giving grants to organizations who are part of the Advisory Committee and wanting to -- and applying for funding, but those are -- I think at this point, we’ve developed a very clear guidance around this that Mona will walk you through.

But I want to be crystal clear, you can be on this Advisory Committee and your organization can get funding. But Mona is going to walk you through how that actually works in practice.

MS. BADIE: Good morning, everybody.

Okay, so my name is Mona Badie. I’m an Advisor in Patty’s Office. And I’m glad to be joining you today and meeting many of you in person for the first time.

Last month the CEC revised and docketed our Roles and Responsibilities document for the Advisory Committee and a separate Q&A on the Local Reform Act section 87104. And these were also emailed to you from Patrick.

So 87104, just to briefly recap,
essentially prohibits state advisory body members from being paid by others to use their position to influence specific state decisions on contracts, grants, and other entitlements.

For purposes of our Clean Transportation Program Advisory Committee, this essentially means that Advisory Committee members as individuals can continue to communicate with us about program funding priorities and allocations, policies, legislation, and other matters but are prohibited from appearing by name or signature on applications and communications to the CEC to influence specific decisions on contracts, grants, and other entitlements.

As Patty said, member organizations and entities are not subject to these restrictions, and neither are colleagues from your representative entities.

This rule is limited in scope and there are exceptions. So we encourage members to reach out with questions about section 87104 or any other aspect of the Rules and Responsibilities document and your service on the Advisory Committee. We really appreciate your service and we want to maintain a diverse advisory body. And
Patrick and I are your contacts for any questions.

Thank you. And I’ll turn it back over to Patrick.

COMMISSIONER MONAHA: Can I say one last thing?

I just wanted to let you all know, I’m going to give you guys a preview of the zero-emission vehicle sales data for Q1 of this year. It’s not available, actually, online, so -- and you guys are getting it, even before other government agencies, so I hope that people aren’t mad about that.

So the amount of the market share of ZEVs sold in Q1 was almost 16 percent. And that compares to 12.5 percent last year so, you know, so ZEV sales are going up. And I think that’s one of the issues, you know, that we are laser focused on is as the market accelerates, how do we make sure that this is something that everybody in California can get access to and feel comfortable that they’ll be -- there will be a place to refuel their zero-emission vehicle.

And so that, I mean, I’m so excited that the market is accelerating. California, we’re
like almost half of the zero-emission vehicle sales in the country, we’re ten percent of the market, almost half of the ZEV sales. So this is just something, I think, as we think about what the right allocations are for investment, just to keep in the back of your mind.

I think we’ll be releasing data on medium- and heavy-duty, hopefully, in the next month or two. So that, also, will be information as we move forward about how to make appropriate investments to capitalize on that market opportunity.

And now I will turn it over to Patrick.

MR. BRECHT: I guess, before we begin, maybe, Eileen, you could introduce yourself and your affiliation? Thank you.

MS. TUTT: Yes. my name is Eileen Tutt. I’m with the California Electric Transportation Coalition and really looking forward to the meeting today. Thank you.

MR. BRECHT: I think you can advance. I’ll just provide a quick overview of the program.

The Clean Transportation Program was established by California Assembly Bill 118 in
2007. The program was funded through a small surcharge on California vehicle registrations and provides up to $100 million per year. California Assembly Bill 8 extended the program to January 1st, 2024.

The Clean Transportation Program provides financial support for products 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 improved air quality, investments in low-income and disadvantaged communities, economic development and recovery, job growth and workforce development, petroleum reduction, and adoption of zero-emission vehicles.

Next slide.

Now in the 14th year, the Clean Transportation Program has provided over $1 billion in alternative fuel and vehicle technology projects in communities that can best accrue health, environmental, and economic benefits from these investments.

The Clean Transportation Program has been an essential part of making California a leader
in near- and zero-emission vehicle -- or zero-emission transportation. This slide shows the key outcomes from our program through December 2021. The program has funded over 15,000 installed or planned chargers for plugin electric vehicles, created innovative and efficient block grants for both light-duty and medium- and heavy-duty ZEV infrastructure.

We’ve also supported the largest network of hydrogen fueling stations in the nation with 80 funded hydrogen fueling stations, plus approval to fund an additional 74 stations based on deployment in progress, funding availability, and program funding allocations. Of these stations, 13 will accommodate medium- and heavy-duty vehicles, as well as passenger vehicles.

The program has created workforce training for more than 22,000 trainees and 277 businesses, launched 71 projects to promote the production of sustainable low-carbon alternative fuels within California with a cumulative annual production capacity of equivalent to more than 158 million gallons of diesel fuel.

Next slide, please.

Today we will discuss the staff draft
version of the 2022-2023 Investment Plan Update of the Clean Transportation Program. The funding allocations remain the same, as indicated in last year’s multiyear plan. This document, updated annually, serves as the basis of the program’s funding opportunities to each fiscal year.

The allocations reflect considerations of state and federal policies and regulations, as well as the coordination with state agencies, such as the California Air Resources Board and the California Public Utilities Commission among others. The Investment Plan lays out how the coming fiscal year’s funds will be allocated across different fuels, vehicle sectors, and supporting activities.

The document is vetted through a public review process that involve multiple iterations of the document and meetings with our Advisory Committee, one which we’re having today.

And, finally, the Investment Plan sets allocations for various funding categories, not for individual projects.

Next slide.

In preparing the Investment Plan, the CEC seeks to increase the participation of
disadvantaged and under-represented communities from a diverse range of geographical regions. The CEC also seeks to effectively engage communities disproportionately burdened by pollution, and improve economic resiliency, including rural and tribal communities. And this effort includes consulting with the Disadvantaged Communities Advisory Group for guidance and recommendations on program effectiveness as it relates to disadvantaged communities and other vulnerable and under-represented groups, consulting with the CEC’s Public Advisor’s Office or the Tribal Program, the CEC’s Tribal Program and the CEC’s Tribal Lead Commissioner for assistance with outreach and promotion of transportation-related funding opportunities to tribes, and assessing whether electric vehicle charging stations, station infrastructure, is disproportionately distributed as examined in the SB 1000 analysis.

Next slide.

His slide reflects the program’s community benefits, which includes seeking to provide more than 50 percent of funds to projects that benefit low-income and disadvantaged
communities, planning a public process to define, measure, track and target more community benefits, and explore community benefits that go beyond project location and greenhouse gas emission reductions such as health, mobility options, economic and more.

Next slide.

Let me shift to provide context for developing the Clean Transportation Program Investment Plan.

The allocations and implementation of the program reflect the effects of numerous policies and goals by legislature, regulation, and executive order. The net result of these policies have been to steer the program towards zero-emission fuels and technologies.

Such policies include reducing greenhouse gas emissions to 40 percent below the 1990 levels by 2030, reducing short-lived climate pollutant emissions, such as methane, to 40 to 50 percent below 2013 levels by 2030, achieving a carbon-neutral economy by 2045, setting specific goals to boost the supply of zero-emission vehicles, or ZEVs, as well as charging and fueling stations, including, by 2025, having at least 1.5 million
ZEVs on the road, installing 200 hydrogen fueling stations, and 250,000 battery-electric vehicle chargers including 10,000 direct-current fast chargers or DC fast chargers by 2025, and by 2030, having 5 million ZEVs on the road.

Next slide.

Now by 2035, transitioning 100 percent of new sales of passenger vehicles and trucks to ZEVs, transitioning 100 percent of drayage trucks, transitioning 100 percent of operating offroad vehicles and equipment to zero-emission wherever feasible. And by 2045, transitioning 100 percent of operating medium- and heavy-duty trucks and buses to zero-emission vehicles by 2045 everywhere feasible.

Next slide.

Informing the Investment Plan. We have the AB 2127, or the report, which is Electric Vehicle Charging Infrastructure Assessment, analyzing charging needs to support zero-emission vehicles in 2030. And we’ll have Kiel speak on this a little bit later in the presentation.

We have the SB 1000 report, or the Electric Vehicle Charging Infrastructure Deployment Assessment, and we’ll have Tiffany
speak on this effort later in the presentation.

There is consulting and coordination with other state agencies, as well as consulting with the Disadvantaged Communities Advisory Group, the CEC’s Public Advisor’s Office, as mentioned earlier, and the CEC’s Tribal Program and the Commissioner.

Next slide.

Now this slide shows the Investment Plan process and proposed schedule. The CEC published a staff draft on April 5th. The first Advisory Committee meeting is taking place today. After a Lead Commissioner review level -- review of the comments from the Advisory Committee meeting, and in DACAG consultations, plus docket submissions from stakeholders and the public, we’ll publish a revised staff draft end of June, then a second Advisory Committee meeting around mid-June -- excuse me, mid-July, and once again, a review of feedback.

The Lead Commissioner Report is then published and brought to the CEC business meeting for approval, currently set for mid-September.

The approval provides the plan’s funding allocations for Fiscal Year 2022-2023 and signals
the plan’s funding allocations for the subsequent half-fiscal year.

And these dates are tentative and, of course, rely on the legislative and budget process. And we’ll be monitoring that and making adjustments to the schedule if need be.

Next slide.

Combined, both Clean Transportation Program funding -- or I should say the key priorities for the staff draft, eventually provide both Clean Transportation Program funding and General Fund ZEV package investments from Budget Act of 2021.

Funding allocations are focused on ZEV infrastructure, both battery-electric and hydrogen fuel cells, and ZEV manufacturing. The proposed allocations reflect the state goals of ZEVs, as well as near- and long-term carbon reduction, improved air quality, and equity with the focus of providing benefits for disadvantaged communities.

Coordination with state agencies for the Zero-Emission Vehicle Infrastructure Plan, or ZIP, and we’ll have Thanh speak of this later in the presentation.
And, of course, there’s a focus on equity, ensuring Clean Transportation Program investments benefit communities of color, disadvantaged communities, low-income communities, rural communities, tribal communities, and those living in multifamily housing, and seeking to provide more than 50 percent program funds from the Investment Plan towards projects that can benefit low-income and disadvantaged communities.

Next slide.

This slide shows how we are proposing to translate the aforementioned funding priorities into real funding allocations over the next one-and-a-half fiscal years. You can see the total funding for medium- and heavy-duty ZEV infrastructure in recognition of the need to swiftly transition to more -- to the most -- or swiftly transition to the most polluting vehicle toward zero-emission technologies in the most sensitive regions of the state. This includes both battery-electric and hydrogen fuel cells.

Next slide.

Here is a combined Transportation Program and General Fund allocations for the draft staff
report. The allocations for the 2022-2023 Investment Plan Update are, as Commissioner Monahan mentioned, unchanged from last year’s 2021-2023 Investment Plan Update. The purpose of the multiyear plan is to provide certainty in the market and to stakeholders with the opportunity to adjust funding allocations on an annual basis as needed.

The CEC is not recommending any adjustments at this time but welcomes your feedback by stakeholders on their recommendations.

The plan update combines both the program funding and the General Fund ZEV package from the Budget Act of 2021, as mentioned. The table showing the funding allocations for Fiscal Year 2022-2023, funding projections for the remainder of the Clean Transportation Program, as well as the $1.165 billion over three years made available through the General Fund ZEV package of the Budget Act of 2021.

The allocations reflect the state goals of ZEVs, as well as near- and long-term carbon reduction, improved air quality and equity with a focus on providing benefits, as mentioned before,
to low-income and disadvantaged communities. Now the table shows an allocation of about $50 million to support light-duty passenger vehicles. This includes, of course, light-duty vehicle charging and hydrogen refueling, and more than $160 million to support medium- and heavy-duty vehicles in Fiscal Year 2022-2023.

As mentioned earlier, investments in medium- and heavy-duty ZEV infrastructure reflects the need to swiftly transition these vehicles away from the most polluting vehicles and towards ZEV infrastructure.

For light-duty charging infrastructure, the CEC allocates $30.1 million in the current fiscal year and $13.8 million in the remaining half-fiscal year which, along with the prior investments, should be sufficient to meet the state’s goal of having 250,000 chargers by 2025.

For light-duty hydrogen infrastructure, the CEC allocates $20 million for the current fiscal year and an additional $10 million for the half-fiscal year of 2023-2024, which will be sufficient to meet the 100 station goal set by AB 8.

An additional $27 million from the
General Fund ZEV package investments from the Budget Act of 2021 included in last year’s Investment Plan, as shown here, is anticipated to help the station reach -- or the state reach the 200 station goal. The CEC projects that these 200 stations will have the capacity to support and refuel about 290,000 fuel cell electric vehicles. And station capacity is not expected to be a barrier to near-term deployment.

Now for Fiscal Year 2022-2023, the CEC allocates $10 million of Clean Transportation Program funding for zero- and near-zero carbon fuel production and supply. Funding priorities of this allocation may include increasing the in-state production of low-carbon fuels from waste-based feedstocks, such as woody biomass from forests and agricultural sources, supporting upstream blending infrastructure, and improving state supply of renewable hydrogen from renewable electricity or biomethane.

The Budget Act of 2021 provides $125 million of General Fund money in Fiscal Year 2021-2022 for the CEC to investment in manufacturing grants to increase in-state manufacturing for zero-emission vehicles, zero-
emission vehicle components, and zero-emission vehicle charging or refueling equipment. An additional $125 million for the same activity was included in the Governor’s Budget Plan for Fiscal Year 2022-2023.

   Based to the state’s ZEV regulations, increased deployment of ZEVs and the need to meet critical ZEV training needs, especially in priority communities, the CEC allocates $5 million for workforce training and development for Fiscal Year 2022-2023.

   The CEC will continue to support new public-private partnerships and leverage limited resources to determine how program funding can be best invested to maximize the benefits of this funding.

   Workforce training and development investments will continue to support priority communities, meet ZEV industry needs, create workforce partnerships, and advance job quality and quantity across the entire ZEV workforce ecosystem.

   Next slide.

   Now here’s the Governor’s Budget, as it is, for 2022-2023, and Commissioner Monahan
touched on this earlier. This is a proposed
budget which will be updated at the May revise
and will go through the legislative process. As
it stand today, we would receive an additional $2
billion as part of the new four-year package.
This is on top of last year’s three-year package.
The light-duty investments are focused on
equity and access. $900 million will be towards
light-duty passenger vehicle infrastructure,
primarily for the broad network of grid-
integrated high-powered DC fast chargers and at-
home charging for multifamily residents, along
with low-income single-family homes.
The medium-duty and heavy-duty
infrastructure investments will total $1 billion.
They will support our traditional investments to
support on-road medium- and heavy-duty, but will
also support offroad vehicles, agricultural
vehicles, and construction equipment.
On top of that, we would be receiving
$100 million to support zero-emission aviation,
marine, and locomotive. Part of the $100 million
will be used for a VGI pilot, likely in the
passenger vehicle space.
Once there is more certainty of the ZEV
package from the 2022-2023 state budget, it will be at that time that the CEC will integrate General Funds with the Clean Transportation Program funds, which means the funding allocations in the Investment Plan may be adjusted. For this purpose, the meeting will be focused on this draft staff version as is.

We’ll now shift to CEC staff presentations which will provide funding updates, which include funding from last year’s approved multiyear Investment Plan.

And now, with that, I will turn it over to Samridhi, who will provide Clean Transportation Program funding updates for the light-duty ZEV infrastructure funding category.

And it looks like --

COMMISSIONER MONAHAN: Before we --

MR. BRECHT: -- Patricia.

COMMISSIONER MONAHAN: -- before we pivot, I just want to let folks know that Mona just circulated via email the slides. So if you’re having a hard time seeing them or you want to go back, just open your email and you’ll find them there.

MS. SONI: Good morning, everyone. my
name is Samridhi Soni and I am the Energy Resources Specialist III in the Electric Vehicle Infrastructure Deployment Unit.

Next slide, please.

So the goals of the light-duty electric vehicle infrastructure as centered around establishing equity in terms of building access to electric vehicle charging infrastructure throughout the state and making sure the installations are rapid and provide an enhanced EV driving experience.

Next slide, please.

Next, I will be sharing some of the achievements from our first block grant, CALeVIP 1.0.

And next slide, please.

The California Electric Vehicle Infrastructure Project, otherwise known as CALeVIP 1.0, has now added over $220 million in incentives in 36 California counties, with $200 million from CEC funding and more than $40 million from partner funding. The entire project will result in the installation of about 7,000 chargers, both Level 2s and DC fast Chargers, throughout the state of California. Keeping the
focus on equity, more than half of the chargers are in the disadvantaged and low-income communities.

CALeVIP has seen a very high participation rate and has evolved significantly with some successes and some lessons learned, which we will carry forward to our other projects. The following slide is about Block Grants 2.0 in which we have incorporated some of the lessons learned in CALeVIP 1.0.

Next slide, please.

The second block grants have an approved funding of $250 million each for both the block grants. Taking into account stakeholder feedback, the CEC released a solicitation and selected two block grant implementors, CEC -- I’m sorry, CSE and CALSTART. The agreements for both of these were executed in January of 2022.

We are anticipating public workshops in spring of this year to help refine the design of both the block grants. There will be funding available for both Level 2 and DC fast chargers with some technical assistance.

While the goal of both block grants will be rapid deployment of chargers, the focus will
be on equity. And we will be following our
Investment Plan commitment with half of the
funding going to disadvantaged and low-income
communities.

Thank you.

MS. MAGANA: Okay. Good morning, everyone. I’m Pilar Magana with the Electric
Vehicle Infrastructure Innovation Unit in the Fuels and Transportation Division. And I will be
giving a brief overview of our three recent
solicitations that were designed to create
solutions to specific high-priority challenges.

So unlike block grants that have
standardized and simplified applications, these
are competitive solicitations where we set
specific criteria that applicants must meet in
order to be eligible. Applicants are asked to
submit their best ideas via an application
process to address these challenges. In the case
of these three solicitations, we targeted the
expansion of accessibility to EV infrastructure
throughout the state.

The first solicitation, which was
mentioned earlier, is our CARTS agreement, which
is Charging Access for Renewable On-Demand
Transportation Services. This funding opportunity was for approximately $16.6 million and ten projects were selected for recommendation for funding. We are currently in the agreement development phase for this solicitation and we’ll be seeking approval of these projects at the May and June business meetings.

The next two solicitations are in the scoring phase of the solicitation process. The first solicitation, which is REACH, which is Reliable, Equitable, and Accessible Charging for Multifamily Housing, and this solicitation is for $8.5 million.

And the other solicitation is REV, or Rural Electric Vehicle Charging. And this solicitation is for approximately $4.8 million.

For these two solicitations, we expect to seek approval for selected projects under the last two solicitations in late summer of this year.

And I’m happy to answer any questions or provide any additional information the Advisory Committee may have on these solicitations. Thank you.

And I will hand it over to Sharon.
MS. PUREWAL: Good morning, everyone.
Today I will be light-duty electric vehicle infrastructure funding plans.
Next slide, please.
All right, as Patrick mentioned earlier, in last year’s Investment Plan, approximately $270 million in General Funds and Clean Transportation Program funding were allocated to light-duty electric vehicle charging. Last December, we held a public workshop to gather and solicitate stakeholder feedback. The following concepts were presented for feedback.
So the first concept is block grants, and Samridhi touched on some of those block grant concepts that we have, and CALeVIP that we already had been piloting. So we proposed general (indiscernible) designs and funding amounts for future block grants there.
We also wanted to solicit feedback on vehicle grid integration pilots, so this involved microgrids and charging, and also accelerating vehicle grid integration, of course.
So the next concept that we floated to get feedback on is local government fleets. This concept aimed to fund infrastructure to
accelerate adoption of EVs by local government agencies, cities and counties.

Next concept, corridor charging. This looked to build out corridor charging along corridors in California that had little or no direct-current fast charge. This also would increase the density of the DC/FC sites by adding chargers at installed stubouts (phonetic) that were previously stalled by either other solicitations we had previously or other entities.

Next, we had BESTFIT 2. This item was presented to duplicate the 2020 BESTFIT solicitation to solicit additional innovation regional concepts for EV charging.

Next, we have high-density Level 2 charging. This concept presented to install a large number of Level 2 chargers in areas with high traffic density, such as downtown corridors. And this can include curbside charging, as well, parking garages.

Low-income residential charger support, this was presented to support charging access to low-income populations to support equity and target a comprehensive education program in
multiple languages.

And last -- or, sorry, second to last, we have increasing physical signage for EV charging stations. This is pretty self-explanatory. We want to make sure that our investments are known and that people can find chargers.

We, also, we’re looking at community-led EV infrastructure projects, so that’s pretty self-explanatory, too. This could support any of the concepts above, actually, generally.

Next slide, please.

So as a result of that public workshop, these are the steps we are going to proceed with.

As Samridhi mentioned earlier, we are going to be funding second block grants. And as you can see, we’re up to $150 million for that. And our development schedule for that is quarter one through quarter four.

We will move forward with high-density Level 2 charging for density centers, so this is $24 million, and will be developed this year as well.

And, also, signage. We are approximating $1 million for this. And this is going to be developed now, the initial phases.
Also, we will be putting additional funding into on-demand transportation services. Now this wasn’t explicitly mentioned in the last slide but this, we did receive a lot of feedback on this, actually. So we will be funding $10.6 million for this. And this will be things like Uber, Lyft, on-demand transportation in general.

So with that, I would like to thank you for your time. And if you have any questions at any time, please let me know.

Thank you.

MR. LU: Hey. Good morning, everyone. My name is Jeffrey Lu. I work in the Vehicle Grid Integration Unit here in the Fuels and Transportation Division.

You just heard a lot about the CEC’s work in getting chargers funded and installed throughout the state. And I want to spend a couple minutes talking about our efforts that support charge interoperability and the development of new charging capabilities.

Next slide.

The focus of my remarks today is on charging communication. Every time someone plugs into charge there’s a communication handshake
that takes place between the charger and the vehicle. Even though there are standards for this communication, every company interprets the standard a little differently. And sometimes these differences are problematic enough that a charger and vehicle pair are not interoperable, meaning that get you a failed charging session. We hear stories about this all the time. Someone pulls up to a charge and, although everything looks okay, they just can’t get the charging session to start. This status quo is unacceptable. And improving this communication and interoperability among different brands is key to the reliability of our charging network.

Beyond that basic handshake, the communication between the vehicle and the charger is also the foundation for a lot of advanced features that we want to be widely available to Californians. These include managed charging so that we automatically charge up when electricity is cheapest or when emissions on the grid are lowest, and even bidirectional charging so that we can power our homes and buildings when there’s an outage, or even just when just electricity is more expensive.
There’s are two projects funded by the Clean Transportation Program I want to call out today that support this charging communication work.

The first is our Vehicle Grid Innovation Lab, or what we call ViGIL. The CEC awarded a nearly $2-million grant to DEKRA certain to establish a charge testing lab in the East Bay. This lab will offer testing services to make sure that chargers have that basic charging handshake implemented correctly.

ViGIL can also test that chargers implement features, such as bidirectional charging or plugin charge in an interoperable manner.

DEKRA expects to open this lab for business later this year. And we think this will be a very valuable resource for charging providers here in California and for beyond, as well.

The second effort is the Vehicle Interoperability Testing Symposium, or what we call VOLTS. We awarded a $910,000 contract to INOS (phonetic) to plan and host a collaborative testing event in California. And at this testing
event, automakers and charging providers will gather to test that their products interoperate with one another. These testing events are very useful for catching corner cases that might not pop up in testing at ViGIL. And they’re also just a great opportunity for industry to get together and learn from one another.

Overall, we think that these efforts will lead to a better charging experience than what you get at the fuel pump today and will also enable EVs to become grid and resiliency assets.

Thanks for your time. And feel free to reach out if you’d like to chat about any of these efforts in greater detail.

MS. ODUFUWA: Yes. Good morning, everyone. My name is Esther Odifuwa, Energy Comment Specialist I in the Freight and Transit Unit within the Fuels and Transportation Division. So today, I’ll be presenting on medium-duty and heavy-duty ZEV infrastructure funding, including the concepts that were presented at the February 28, 2022 workshop.

Next slide.

Medium-duty and heavy-duty vehicles represent a significant opportunity to reduce
greenhouse gases and criteria emissions while
(indiscernible) on the smaller of vehicles. And
to meet the state’s GHG and air quality goals,
this sector will need to transition to zero-
emission technologies. But the resources
required for this to be an equitable transition
are more than the available funding.

Transition of medium- and heavy-duty ZEVs
will help reduce air pollution in communities
that have historically faced higher levels of
harmful diesel pollution, with a focus on the
disadvantaged communities. So as the state’s
lead agency for ZEV infrastructure deployment,
the CEC is focusing on the infrastructure needs
of medium- and heavy-duty ZEVs.

In addition, CEC is seeking ways to
include grid integration, integrated storage
solutions, and charge management as complimentary
technologies.

Another goal is to help the markets for
medium-duty and heavy-duty ZEVs and the
infrastructure grow to scale. And, of course,
more importantly, act as a foundation for an
equitable and sustainable economic recovery by
drawing private investments to California and
creating jobs in manufacturing, construction and,
of course, engineering.

Next slide.

For the Fiscal Year 2021-2022, the CEC allocated more than $30 million in Clean Transportation Program funding and nearly $208 million in General Funds that were dedicated to medium- and heavy-duty ZEVs and the infrastructure.

This slide displays a funding breakdown of the last few fiscal year’s projects. These grant-funded opportunities were developed with stakeholder feedback from a medium-duty/heavy-duty allocation workshop that we held in October of 2019. Most of the agreements that resulted from this solicitation have already been presented at several CEC business meetings, while others are still being developed.

Next slide.

For future Clean Transportation Program funding and General Funds that are dedicated to medium- and heavy-duty ZEVs and infrastructure, staff held a workshop on February 28th this year and we presented on topics which focused on (indiscernible) concepts that are in addition to
and that may not be provided by the block grant for medium-duty/heavy-duty, which is referred to as EnergIIZE Commercial Vehicle Project. This project will be presented by Manuel later.

Over 300 participants attended the workshop. And staff are currently reviewing the written comments that we have received.

Next slide.

I want to call out one concept of particular interest which is the medium- and heavy-duty blueprint planning document. This concept will be similar to the previously-released grant funding opportunity that was tied to the blueprints for medium- and heavy-duty zero-emission vehicle infrastructure.

The previously-released competitive grant solicitation for medium-duty and heavy-duty blueprints provided funds for planning blueprints that will identify actions and milestones that are needed for implementation of medium- and heavy-duty ZEVs and the related electric charging and/or hydrogen refueling infrastructure.

Forty applicants were proposed for award across multiple California counties and vehicle sectors, totaling nearly $8 million. Funding was
available to fund all passing projects.

Again, this medium- and heavy-duty blueprint projects are targeting completion beginning in Q4 of 2022, all through 2024. And these projects are meant to be replicable across fleets and will seek to accelerate the deployment of medium- and heavy-duty ZEVs and the ZEV infrastructure. Planning, of course, will continue to pertain to all the fleets as the design, permit, (indiscernible), and futureproof the ZEV infrastructure projects.

Next slide.

So I mentioned that we have a workshop in February. And the deadline to submit written comments for that workshop was Friday, March 18th. But our team will continue to accept comments that are submitted through that docket. Right now our team is currently reviewing all the comments that we have received. We’re also meeting with stakeholders for further discussion. And we will subsequently be issuing a series of competitive solicitation, known as grant funding opportunities, or GFOs.

We also plan to hold several pre-solicitation and solicitation workshops as these
solicitations are developed and released. And we will continue our coordination efforts with CARB and other agencies.

This concludes my presentation. Thank you for your time.

I will now invite my colleague, Manuel, to present on EnergIZE. Thank you.

MR. AGUILA: Thank you, Esther.

Greetings everyone. My name is Manuel Aguila, Specialist in the Fuels and Transportation Division. Today, I’ll be providing an overview of the Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles Block Grant, also known as EnergIZE.

Next slide, please.

Approved at the March 2021 business meeting, the Block Grant Program provides financial incentives to increase adoption of commercial medium-duty and heavy-duty zero-emission vehicles to promote healthier communities. The program funding helps commercial fleets keep pace with industry demands as they transition away from fossil fuels towards zero-emission vehicles and helps to advance zero-
emission infrastructure technology.

Currently, the program is approved for
$50 million with a funding authority of up to
$276 million. And funds are administered in
partnership with CALSTART, Tetra Tech, and Grid
Alternatives.

Next slide, please.

Now, the EnergIZE Program is comprised
of four funding lanes. The first funding lane is
an electric vehicle fast-track lane.
Applications in this funding lane are reviewed on
a first come-first served basis. And this lane
was allocated $16 million and it was designed
specifically for applicants who have prior
experience applying for medium- or heavy-duty EV
funding and own or have a EV on order.

A few of the highlights of the fast-track
applications process, which began accepting
applications on March 23rd, was we received a
total of 72 applications with funding lane being
fully subscribed within two minutes of opening.
Application requests totaled in excess of $24
million. And the average incentive request was
for around $400,000, with 85 percent of
applicants meeting our equity criteria and/or our
locating infrastructure in a disadvantaged or low-income community.

The next three funding lanes have a competitive application process where applicants -- or applications will be scored on criteria demonstrating project readiness, cost effectiveness, and community benefit.

The second funding lane is the EV jumpstart lane and is designed for eligible applicants that meet one or more of eligible criteria, including but not limited to tribal entities, school districts in a designated disadvantaged community, and low-income communities.

The third funding lane is for EV public charging station and is designed to fund public DC fast chargers of 150 kilowatts or greater.

And the fourth funding lane is for hydrogen vehicles and is intended for deployment of hydrogen refueling equipment for medium- and heavy-duty hydrogen fuel cell vehicles.

Lastly, CEC staff is working with EnergIZE, our EnergIZE partners, to finalize the last three funding lanes and hope to have applications available soon. CEC staff look
forward to working with our partners and obtain
future applications and support commercial
transition to zero-emission vehicles.

And now I’ll turn the presentation over
to Mark Johnson.

MR. JOHNSON: Thanks, Manny.

Hi. I’m Mark Johnson and I’m part of the
Hydrogen Strategy Infrastructure and Production
Unit where we manage the grant funding for
hydrogen refueling infrastructure. Current
funding allocations include $20 million for
Fiscal Year 2022-2023, an $10 million for Fiscal
Year 2023-2024.

Next slide, please.

Assembly Bill 8 directs the CEC to
allocate $20 million annually to develop hydrogen
refueling stations until there are at least 100
publicly-available hydrogen refueling stations in
California.

In January 2018, Governor Brown signed
Executive Order B-48-18 to set an additional
target of 200 hydrogen refueling stations by
2025. So far the CEC’s Clean Transportation
Program has a current investment of $166 million
with a plan to investment $279 for public
stations. This is expected to generate $190 million in matched funding toward developing hydrogen refueling stations. California’s current and planned investments rank second only to Japan internationally.

California has also planned to have additional investments in private infrastructure for heavy-duty transit stations.

Next slide, please.

Currently, there are 58 open retail light-duty hydrogen refueling stations in California, with another 31 Clean Transportation-funded stations under construction. We are also seeing some private investment occurring in the hydrogen station space with an additional six stations planned.

Under the CEC’s latest hydrogen station solicitation, GFO-19-602, the CEC expects an additional 82 stations to be built, 13 of which will support medium- and heavy-duty vehicle refueling. This brings the total number of open and planned light-duty stations in California to 177. This planned station capacity can support about 240,000 vehicles.

Industry projects that 61,100 FCEVs will
be in California roadways by 2027. The current
count of FCEVs is a little over 12,700 as of
March 2022.

Next slide, please.

Since 2010, individual station capacity
has grown over 500 percent. Stations from 2010
supported about 250 vehicles. And an average
newer station coming online can now support about
1,700 vehicles.

The chart on the right also shows that
the average station development time is about two
years in length.

Next slide, please.

In addition to light-duty hydrogen
refueling stations, there are currently seven
medium- and heavy-duty stations operating in
California, with an additional four stations
planned, as shown on the map. These stations
include transit and heavy-duty truck refueling.

Next slide, please.

The Clean Transportation Program has also
funded renewable hydrogen production facilities.
So far, five projects have been funded for a
total of four distinct locations, as shown on the
map. These projects cost $17 million in Clean
Transportation funding and brought in a total of $66 million in matched funding. The total new production capacity for these projects is nearly 24,000 kilograms per day using electrolysis and gasification technologies.

Next slide, please.

The next steps for hydrogen refueling infrastructure include continuing to develop hydrogen refueling stations awarded under GFO-19-602. Hydrogen has also received $27 million in one-time funding to be used in a new solicitation.

There was a workshop held on February 28th, 2022. And the CEC staff are currently looking over public docket comments for this workshop.

Lastly, the CEC does expect to reach the 200 station goal with the combination of the new solicitation and, also, recent private investment announcements.

And now I’d like to turn it over to Hieu.

Thank you.

MR. NGUYEN: Thanks, Mark.

Good morning, everyone. My name is Hieu Nguyen, staff with the Fuels and Transportation...
Division. Today, I will provide a summary and update on zero- and near zero-carbon fuel production and supply funding category, specifically funding solicitation GFO-20-608, the Ultralow Carbon Fuel Production Facility and Blending Infrastructure Solicitation.

Next slide.

This funding solicitation supports the following goals: commercial-scale fuel or blending technologies and cost effectiveness of the fuel production; increasing the in-state production and supply of ultralow carbon alternative fuels, which we define as a fuel with a carbon intensity score of equal or less than 30 grams of carbon dioxide-equivalent per megajoule; supporting commercial-scale fuel production typically equates to a higher cost effectiveness of the mitigation of greenhouse gas emissions; lastly, creating jobs in low-income communities.

Next slide.

This competitive solicitation was released in April 2021. The Clean Transportation Program initially provided $8 million in funding to support ultralow carbon transportation fuel in two funding categories, $6 million for
commercial-scale fuel production facilities, and $2 million for fuel blending infrastructure.

This solicitation followed a two-phase evaluation process which included a pre-abstract phase and a full application phase. The two areas of focus for this solicitation were to provide support for projects that increase the in-state fuel production and/or blending capacity of ultralow carbon alternative fuels.

Proposed projects must use commercially-tested fuel production/blending technologies and expand their fuel capacity by 1 million diesel gallon-equivalents or more per year. Fuel blending projects were restricted to supporting only the blending of renewable diesel and biodiesel.

Next slide.

The next few slides provide a summary of the benefits for the awarded projects for GFO-20-608. This slide summarizes the benefits for the three fuel production awards. The benefits are as follows.

All three projects support the biomethane fuel category in three distinct project types.
waste processing center that utilizes green
waste, such as yard clippings, grass, and other
plant materials, dairy manure, and food waste.
The Merced Pipeline Project is a dairy
digester cluster project that uses dairy manure.
The SoCal Biomethane Project is at a
wastewater facility that processes food waste and
wastewater.

These fuel production projects support
the increase of in-state fuel production capacity
of near-zero or carbon-negative compressed
renewable natural gas by nearly 5 million diesel
gallon-equivalents per year.

When the fuel production projects are
complete and operating at full capacity, these
projects are expected to reduce approximately
186,000 metric tons of carbon dioxide-equivalent
on an annual basis. This reduction is equivalent
to removing over 40,000 light-duty internal
combustion engines -- engine vehicles off the
road per year.

Combined, the three projects provide over
78 jobs.

Next slide.

This next slide summarizes the benefits
of the two fuel blending the awards. The benefits are as follows.

The fuel blending projects support the increase of in-state fuel blending capacity of alternative and ultralow carbon diesel by over 200 million diesel gallon-equivalents per year by 2027.

When the fuel blending projects are complete and operating at full capacity, these projects are expected to reduce over 2 million metric tons of carbon dioxide-equivalents on annual basis. This reduction is equivalent to removing close to a half-million light-duty internal combustion engine vehicles off the road per year.

These fuel blending projects all provide over 112 jobs. Though projects are also partially funded by grant funding provided under the United States Department of Agriculture’s Higher Blend Infrastructure Incentive Program. Alter (phonetic) had received a $1.5 million grant. And New Leaf Biofuels had received a $2.6 million grant.

This concludes my presentation. Thank you.
And I will also introduce my fellow colleague, Jonathan Bobadilla, who will discuss our upcoming manufacturing solicitations.

MR. BOBADILLA: Thank you, Hieu.

Good morning, everyone. My name is Jonathan Bobadilla, staff in the CEC’s Transportation Integration and Production Office within the Fuels and Transportation Division. I will be giving a brief overview of our upcoming manufacturing solicitations under development.

Next slide.

The California Budget Act of 2021 appropriated funding to the CEC to support ZEV and ZEV-related Manufacturing. Staff are developing grant funding opportunities that will increase in-state manufacturing of zero emission vehicles, or ZEVs, ZEV components and batteries, and ZEV infrastructure. The goals of these solicitations are to attract new and expand existing zero-emission vehicle related manufacturing in California, increase number and quality of manufacturing jobs in California, particularly in the ZEV market, bring positive economic impacts to the state by attracting private investments in manufacturing capacity
And contribute to California’s goals of zero-emission transportation.

Next slide.

For context, California is the number one ZEV market in the U.S., with over 1 million ZEVs sold in California since end of 2021. Forty-three ZEV and ZEV-related manufacturing companies are in California. And a jobs study from Atlas EV Hub shows California as number one in the U.S. for ZEV Manufacturing Jobs.

Next slide.

In July of 2021, Senate Bill 129, the Budget Act of 2021, was approved by the governor. For Fiscal Year 2021-2022, this Senate Bill authorizes the CEC, through its Clean Transportation Program, to provide $118.75 million in General Fund monies towards grants that increase in-state manufacturing of zero-emission vehicles, zero-emission vehicle components, and zero-emission vehicle charging or refueling equipment.

This fiscal year’s funds have an encumbrance and liquidation date of June 30th, 2024, and 2026, respectively. An additional $125 million for fiscal 2022-2023 is pending.
Legislative approval. We will announce more details on those funds as they emerge.

Next slide.

For this current fiscal year, staff is developing two manufacturing solicitations. GFO-21-605 titled Zero Emission Transportation Manufacturing, this is for $60 million, and officially released on March 30th. This is a competitive grant funding opportunities for in-state manufacturing projects. Projects are to promote the manufacture of ZEVs, ZEV components, and ZEV infrastructure right here in California.

Funding applications will be collected and scored. And a notice of proposed award is expected to release in July 2022. Agreements will be potentially approved at an October or November 2022 Business Meeting.

And the CEC may allocate additional funding based on the number of applications received and additional funding appropriated for 2022-23.

Next slide.

The second funding solicitation is a block grant for $25 million, with the goal of selecting a not-for-profit block grant...
implementer with expertise in battery manufacturing. The eventual block grant implementer, in consultation with the CEC, will develop funding incentives for various zero-emission vehicle battery manufacturing projects throughout California.

A pre-solicitation workshop of the solicitation concepts was held in January this year. This solicitation is expected to release in June 2022. And the implementer will be announced through a notice of proposed award in Fall 2022. The implementer will potentially be approved by end of this year or early next.

Once an agreement with the implementer is executed, the implementer will accept project applications to recommend to the CEC for subrecipient funding. Subrecipients selected to receive funding are expected to be announced in 2023. Final Dates are still to-be-determined and will be updated as the solicitation further develops.

The CEC may allocate additional funding based on GFO-21-605 applications received, and additional funding appropriated for 2022-23.

Thank you for your time. This is the end.
of my presentation.

And with that, I will now turn it over to Larry Rillera.

MR. RILLERA: Good morning, everyone.

My name is Larry Rillera. I am staff in the Fuels and Transportation Division. I will be giving a brief overview of our workforce portfolio and the most recent investment and partnership.

Next slide, please.

The goals of our workforce portfolio are to prepare new and incumbent workers for clean transportation careers that lead to good quality jobs, to partner and support high road training partnerships, to support clean transportation workforce market needs, to support the development and deployment of ZEV and ZEV infrastructure assets and technologies, and to support clean transportation certified business supply chain companies.

Next slide.

There have been over 20,000 trainees and trainers for the program’s $36 million investment.

Early in the development of the portfolio
the CEC cultivated partnerships and built workforce capacity and knowledge with sister state agencies, some of which are noted here and include the Employment Training Panel, the Community colleges, Workforce Development Board, more recently our California Conservation Corps, and our California Air Resources Board.

Illustrative and current training projects include our Electric School Bus Training Project, our ZEV college and high school programs, Transportation Electrification Training Project with the Corps, and a couple of other partnerships as well.

This brings me to our most current project launch, the IDEAL ZEV Workforce Pilot Project.

Next slide, please.

This competitive solicitation was released in October 2021.

The Clean Transportation Program provided $5.5 million, with the California Air Resources Board providing $1 million.

The purpose of the solicitation is on community-based workforce training and development projects that lead to ZEV industry
jobs, and that can be replicated in other regions of the state.

Next slide, please.

A little more about the partnership and fully describing our effort with the California Air Resources Board in this pilot.

A collaboration between our agencies has brought forward many intersecting areas, such as focus on priority communities and populations, community engagement, and clear line of sights connecting training with ZEV deployments. Our partnership is also building respective agency capacity in this space.

This foundation in workforce understanding and action is essential, given the governor’s priorities and investments noted in the early presentations, and as identified in the draft Investment Plan.

In terms of results, a Notice of Proposed Award, or NOPA, was released on February 18th, 2022. Twenty project applications were received, and the solicitation was oversubscribed. Fourteen projects are proposed for awards. A key theme for the proposed awards is diversity, diversity of applicants from small
non-profits to esteemed California colleges,
diversity of training needs from EV and EV
charging familiarization in Spanish to hydrogen
refueling station engineering, diversity of
equity, and geographic diversity from tribes in
Humboldt County to a farm community in the
central San Joaquin Valley, and a diversity of
ZEV and ZEV infrastructure from light-duty on-
road vehicles to EV chargers to ZEV
manufacturing. And finally, diversity of project
partners, including the Northern California
Teamsters to the Electric Vehicle Infrastructure
Training Program.

I should also note that there are many
employers involved in all of these projects.

Next slide. Thank you.

Identified here is the dispersion of
proposed project and recipient locations
statewide. I would not that this does not
capture the full impact of projects. This has a
much larger footprint that expands across the
state.

I would also note the very high
likelihood of project replication in other
communities in the state as well.
Next slide.

Designed into the solicitation and into the proposed projects is to capture estimated baseline metrics in order to chart performance, results, and outcomes.

The start of data collection and performance metrics started with the project proposal. Then, staff issued a project survey to the proposed awardees after the NOPA was issued in February. This will finally culminate with the collection of data and results throughout the duration of the project.

A couple of key metrics I would note here is an average CalEnviroScreen score across all of the projects that are in 89th percentile. This is the total investment. And 4,000 trainees, almost 32,000 hours of classroom and hourly instruction, the creation, retention and projected estimate of jobs of 4,400 full-time jobs, and a total of 200 outreach events for 34,000 participants.

So this concludes my brief remarks and I’m looking forward to the rest of the presentation and discussion. Thank you.
MR. BRECHT: Now I’ll turn it over to
updates on ZEV planning and analysis. I have
three presentations.

MS. LOPEZ: Good morning.

Next slide, please.

Good morning. My name is Thanh Lopez,
staff in the Fuels and Transportation Division.
Today I’ll be providing a quick overview of the
draft Zero-Emission Vehicle Infrastructure Plan,
or ZIP. This was a joint interagency effort and
we wanted to acknowledge the important work that
our colleagues are working on. We are working
with our counterparts at the Air Resources Board,
Public Utilities Commission, Governor’s Office of
Business and Economic Development, or GO-Biz, and
Caltrans, to name a few.

Next slide, please.

So GO-Biz worked with several agencies to
develop the California Zero-Emission Vehicle
Market Development Strategy that lays out the
overall strategy to meet California’s ZEV goals.
Within that strategy there are four market
pillars: vehicles, infrastructure, end users, and
workforce. The ZIP is intended to address the
infrastructure pillar of that strategy and provide a fuller description of the state’s strategy.

I’ll note that the other pillars do matter to infrastructure rollout but will not be covered in the ZIP.

The ZIP describes what California has done and will do in the near and longer term to support electric vehicle charging and hydrogen fueling to ensure that we have the ZEV infrastructure to meet the needs of the growing ZEV market.

The ZIP, along with our current modeling and analysis efforts, is intended to support public discussions of future funding needs but also demonstrate that we are on a path to success in meeting California’s ZEV goals.

Next slide, please.

Private investments have been critical to developing the existing ZEV infrastructure network and is anticipated to play a large role in the future. Of the nearly 80,000 operational public -- I’m sorry, operational plug-in electric vehicle chargers in California, less than half received funding from the state, electric
utilities, and settlement agreements.

The Clean Transportation Program, Caltrans, and DGS combined have funded approximately ten percent of the operational public and shared private chargers in the state. The electric utilities funded 29 percent and settlements funded nearly 5 percent of operational chargers in California. The graph shows cumulative private investments are increasing for light-duty plug-in electric vehicle charging between 2011 and 2022. While continued growth in private funding, as well as growth in public funding, will keep us on the path to success, there is an ongoing role for public funding in accelerating adoption and addressing equity.

Next slide, please.

So public investments also have played an essential roles in deploying the existing ZEV infrastructure in California. State agencies have funded about $600 million in ZEV infrastructure to date. California’s 2021-2022 Budget included a three-year $3.9 billion budget for ZEV-related investments.

The Governor’s Proposed 2022-2023 Budget,
which is not yet set in stone, includes $6.1 billion to support ZEV and fueling infrastructure. Combined with the $3.9 billion from the previous budget, this represents, potentially, $10 billion for ZEV-related investments to help support California’s transition to ZEVs over the next five years.

The CPUC has also authorized $1.85 billion in spending by the electric utilities that regulates for ZEV infrastructure. I’ll emphasize again, both the public and private funding will provide a pathway to success in ZEV infrastructure deployment.

Next slide, please.

The draft ZIP divides ZEV infrastructure into five categories shown here. The ZIP provides the current status and near and longer terms state actions for each category. In light-duty hydrogen, the state plans to close the 200 - close the gap to the 200 station goal. Further public funding to expand the network beyond the 200 stations will depend on whether vehicle deployment accelerates.

The state will also continue to address barriers to fuel cell electric vehicle adoption.
For DC fast charging for light-duty electric vehicles, the state plans to continue to deploy additional funding if appropriated, phase-out support, and fund projects that take advantage of advanced technologies and minimize costs to consumer. DC fast charging deployment costs are still high and power levels can pose challenges for the grid if not integrated appropriately.

For charging and hydrogen fueling or medium- and heavy-duty ZEVs, the state will continue to rapidly and effectively deploy allocated funding, such as the CEC’s recently launched EnergIIZE Project infrastructure incentives, and the CPUC’S authorized funding for medium- and heavy-duty chargers.

The state will also continue grid planning, collecting project data, and focus on fleets in areas that face barriers to medium- and heavy-duty ZEV infrastructure deployment.

For Level 1 and Level 2 charging for light-duty electric vehicles, the state plans to deploy infrastructure to provide greater access by priority populations. This includes low-income and disadvantaged communities.
The state also plans to encourage primary buildout of charging away from home. But we’ll also need to consider the equity implications of away-from-home charging deployments.

For emerging technologies, the plan looks at battery swap, wireless, and mobile charging technologies. The state will continue to monitor the demonstration of these technologies and automaker announcements for plans to incorporate them in a significant number of vehicles.

Next slide, please.

In addition to deploying ZEV infrastructure across the five categories, the ZIP also looks at other challenges that could impact multiple categories. This includes items like permit streamlining and improving interconnection times for ZEV infrastructure deposition.

Next slide, please.

So we held a workshop in January to officially kick off the process with the public and to start gathering stakeholder input on a draft outline and concepts. We continued to work with the agencies through January and February in the development of the draft.
The ZIP was published on April 1st. and we anticipate holding one or two workshops between now and May to continue the stakeholder engagement.

After we’ve collected and incorporated the feedback, we anticipate publishing the final ZIP this summer.

Next slide, please.

As mentioned in the previous slide, the draft ZIP was published on April 1st. we will be holding a staff workshop to discuss the draft ZIP and provide a more detailed overview compared to today. We’ve very interested in any stakeholder feedback on the draft ZIP. A link to the draft ZIP and workshop notice can be found on the events webpage. And the workshop will be on April 14th.

The concludes my presentation. Thank you very much.

And I’ll pass it on to the next presenter, Kiel Pratt.

MR. PRATT: Good morning, everyone. I am Kiel Pratt. I supervise the Fuels and Transportation Division’s Vehicle Grid Integration Unit. And today, I will be talking
about our work under the Assembly Bill 2127 Charging Infrastructure Analysis.

Next slide, please.

What this is is not so much a econometric forecast, like you might find in our Integrated Energy Policy Report, or IEPR, but a projection, assuming that California’s ambitious vehicle deployment targets are achieved, what kind of charging infrastructure will we need? And what are some related topics that we’ll need to look at to bring about these benefits of cleaner transportation, grid-friendly infrastructure through flexible vehicle charging loads, and convenience for the driver which is, obviously, critical for achieving these goals and ensuring a convenient experience?

Next slide, please.

You probably noticed it already, so I apologize. The correct reference for the bill’s passage is 2018 but it became active in 2019.

But this bill charged the Energy Commission with assessing, every two years, the charging infrastructure needs for vehicles and several related aspects.

And to give a sense of the chronology, we
began this work, and then the pandemic happened which influenced some potential future possibilities for transportation overall.

And then, in late 2020, Governor Newsom issued Executive Order N-79-20 which both set out more ambitious targets than the legislation spelled out and directed the Energy Commission to incorporate these targets in its report.

Next slide, please.

So our first report, which was released in summer of 2021, addressed two targets, one, the 5 million ZEV goal by 2030 which was explicitly part of the legislation.

And, secondly, an 8 million ZEV goal by 2030 derived from the governor’s executive order, but that’s actually working backwards from the 2035 100 percent new ZEV sales target. The California Air Resources Board had a set of assumptions and determined that about 8 million ZEVs would be on California roads by 2030 if that scenario is achieved. So we took that as an input.

And we heard encouragement from stakeholders to focus on the second, more ambitious target.
Next slide, please.

You can see, based on existing and anticipated chargers deployed by our program, utilities’ programs and others, you can see a projection of roughly 269,000 light-duty chargers for 2025. So we believe we are on track to exceed the goal of 250,000 public or shared chargers for 2025 under Governor Brown’s Executive Order from 2018.

However, as shown, we currently foresee a deficit of light-duty chargers for 2030 based on the 8 million ZEV scenario used in the AB 2127 report. This includes a gap of roughly 869,000 public or shared Level 2 chargers, as well as 26,000 public DC fast chargers.

Next slide, please.

To continue with the overview of the first 2127 Report, which came out last year, let’s start with the medium- and heavy-duty sector. So the previous slide talked about light-duty chargers. The analysis for medium- and heavy-duty is different. It’s not informed by, say, household travel surveys, as the light-duty sector is. It’s a different kind of analysis. There are many different commercial
vehicle duty cycles that need to be understood, whether these vehicles can charge overnight or might need a charge during the day. So that analysis is continuing.

Then, taking the items here counterclockwise, we are trying to send our equity in our reports, and particularly the medium- and heavy-duty piece is important because of the toxic diesel air contaminants that those who live in locations, such as near freight corridors, are exposed to.

We also talk about vehicle grid integration and how the flexible loads can support the grid, and support a convenient driver experience, and exciting announcements about the availability of bidirectional charging vehicles, such as the Ford F150 you see in the image.

We also talked about making maximum and efficient use of a network by having interoperable connectors and communication standards. And the fact that the best solution, the best charging solution, really depends on the location it’s in, so the form factor, charging power, and other parameters can be different, depending on what’s needed.
And it also discussed different financing mechanisms and the future business cases.

Next slide, please.

Now, as I wrap up this portion of the presentation, looking forward to this next report. We will continue to update models and assumptions. We’re looking at a finer geographic scale of analysis.

We’re also looking to highlight the potential of EVs as a reliability resource for the grid, both, perhaps, for V2G services, but even flexible demand from managed charging, so vehicle grid integration.

And then, also, a discussion of the reliability of the existing charging network, the chargers themselves, as well as updates about workforce and infrastructure costs, as well as adding additional charging options, could be assessed in this next report.

Here’s the schedule. In fall of this year, we anticipate publishing a staff report and then hosting a workshop, much like we did for the last cycle, collecting stakeholder feedback, written comments, and incorporating those into the later version of the report, the revised
staff report, which we’ll then present at a
business meeting anticipated for early next year.
And then, finally, post the Commission report.

So this concludes my presentation. Thank
you for your attention.

MS. HOANG: Good morning, everyone. My
name is Tiffany Hoang, staff in the Fuels and
Transportation Division. I’ll be providing a
brief update on SB 1000, which is an analysis
looking at EV charging infrastructure,
distribution, and access. This ongoing
assessment helps inform Clean Transportation
Program investments and project design to improve
equitable deployment of new EV charging
infrastructure.

We presented initial drive time results
(indiscernible) community meeting last fall and
are happy to be back to provide this update,
which includes community overlaps.

Next slide, please.

Drive time is one way to measure access
to public DC fast chargers and infrastructure
coverage among communities. Looking at drive
time allows us to identify charging network gaps
that discourage travel within California
communities and to and from those communities. This is a tool we use to show us the shortest routes and times driven between census tract population centers and the nearest public fast chargers during peak traffic. This map shows two different census tract population centers in Los Angeles County and the shortest route and time driven to get to the nearest public DC fast charging station. Communities with drive times of ten minutes or more have poorer public fast charging covering.

Next slide, please.

This is a map of disadvantaged communities in the Los Angeles area. Disadvantaged communities are census tracts that score within the top 25th percentile of CalEnviroScreen 3.0 in census tracts with low population and high pollution burden.

Disadvantaged communities that are less than ten minutes from a public DC fast charger are in blue and gray on this map. Those further away are in orange. You can see that there are some areas where disadvantaged communities have DC fast chargers nearby but others with long drives from fast charging.
From this, we can take away that we need to continue to focus our efforts to a finer level of detail. Having a targeted amount of investments within disadvantaged and low-income communities is necessary but, on its own, could still mean that we’re not reaching all communities.

Next slide, please.

While about 88 percent of urban communities are within ten minutes of a public DC fast charger, only 40 percent of rural communities are that close.

Next slide, please.

About 11 percent of all low-income communities are rural. These communities have the least access to public fast charging. About 69 percent of low-income rural communities have drive times of ten minutes or more to a public DC fast charger, which is more than any other group. This illustrates that we have to look at the intersections of attributes of communities and that solutions will vary too.

Next slide, please.

We plan to publish these results in May and are assessing how these results will inform
new block grant programs and grant funding opportunities. The report, drive time maps, and spreadsheets, which include results by census tracts, will be available on our SB 1000 webpage. We’ll continue to refine and update the analysis to identify charging network gaps and build out infrastructure in a way that serves all Californians.

I’m happy to answer any questions folks may have during the discussion period. And I’ll go ahead and hand it back over to Patrick.

Thanks.

MR. BRECHT: Thanks, everyone. I’m just going to bring back a few slides that we had earlier and just touch on a few things, then we’ll have a break here, so just wanted to bring up the next slide.

Just, again, the schedule that we have, we have the meeting today, and we’ll have about -- a little bit over two weeks to submit comments to the docket, which we strongly encourage. And just these are some of the tentative dates but, of course, it’s all dependent on the legislative process and the budget process, so these may change.
Next slide. Go ahead and go to the next slide.

And here, again, is our allocations for the 2023-2024 -- or excuse me, 2022-2023 Investment Plan update. And it’s unchanged, as mentioned earlier, from last year. And the purpose, again, is for certainty. But we look for your feedback after this meeting if these allocations are appropriate.

So with that, I will just mention -- next slide. We’ll bring -- we’ll come back to the table shortly.

Again, the 29th is the deadline to submit comments and here’s the location on where to submit your comments by five o’clock on the 29th. And feel free to always contact me if you have any questions.

And with that, we will have a ten-minute break. My time shows 10:33 and we’ll be back at 10:43 -- 10:45? 10:45. Okay. Thank you very much.

(Off the record at 10:33 a.m.)

(On the record at 10:46 a.m.)

COMMISSIONER MONAHAN: Well, so you’ve gotten a lot of information from our team. And
now we just, we want to hear from you. So we
were thinking that we would provide three minutes
per person for comments. And if there’s time at
the end, we’ll have like a lightening round of
one minute, but it really depends on how much
time it takes to get through every person on the
Advisory Committee.

As I said at the start, I want to make
sure everybody has a chance to speak. So don’t
feel pressured to speak right away but I hope, as
others speak, maybe it stirs you to some ideas
about how you would like to give us feedback.

So I want to make sure, also, that we
provide space for people on the phone, so -- and
I think I can do this, the raise-hand. So for
folks who are part of the Advisory Committee and
on the phone, feel free to raise your hand.

For people in the room, feel free to lift
up your name card and I’ll just call on you as I
see people ready to speak.

And I want to make sure, can somebody
help me? Tami, can you help me with the making
sure that I see raised hands? That’s a panelist;
right? I don’t know how else to -- I mean, I
guess Tami can do it from the side but -- okay.
Okay.
Eileen?
MS. TUTT: So I’m sorry. I have a clarification question --
COMMISSIONER MONAHAN: Uh-huh.
MS. TUTT: -- which I think is the time.
On slide 39 the CEC staffer, and I can’t remember who it was -- but by the way, the team is just really awesome. This is actually the best plan I’ve ever read and that’s not just because it focuses on us.
But they said something about the EV jump on EnergIIZE, that the only funded projects would be 150, it’s not on the slide, but 150 kilowatt hours or greater. And I just wanted to get a clarification there and, also, point out that like, at least in the existing applications that we’re -- that the utilities are installing charging infrastructure or -- many of them are at like 50. There’s school buses. There’s a lot. There’s anything that doesn’t -- transit. There’s a lot of applications where you don’t need high-power charging and where it can be done a lot quicker because the grid doesn’t need it.
So I just am wondering, I was just
clarifying that, because I didn’t see it in the report. And I actually looked through it again just now, just searching, and I didn’t see it anywhere. And I just didn’t know if that’s a requirement to get the money or --

COMMISSIONER MONAHAN: I think that was Manny.

MS. TUTT: -- or not?

COMMISSIONER MONAHAN: Was it Manuel that -- Manny, are you on the line?

MR. AGUILA: Yes.

MS. TUTT: And it can be a follow up.

MR. AGUILA: Yes. My apologies.

COMMISSIONER MONAHAN: And did you hear that question?

MR. AGUILA: Yes. So, yes, currently the 150 kilowatt is what’s being planned for the EV public charging stations. That is the minimum requirement that we’re working through with CALSTART. We have taken quite a bit of feedback into account but are more than willing to accept more because everything -- not everything has been finalized yet. But the plan right now is to fund, minimum, 150 kilowatt DC fast chargers.

MS. TUTT: Sorry. Is that for all of the
money or just -- because public charging -- and
sometimes public charging is like -- is -- are
school buses if they open their charging. I
mean, I don’t -- defining public charging in the
medium- and heavy-duty world is a little weirder.

So I’m just, is that -- does that mean
like none of the money could be used, except for
that 150 kilowatt level, or you are
considering -- because we will definitely comment
on that.

I will just point out that that’s not in
the report itself, so like I just heard it, so I
don’t know. I mean, I’m happy to have, maybe, an
offline discussion about it.

MR. AGUILA: Yeah, definitely we can
provide further clarification on that, as well,
but it is for just medium-duty and heavy-duty
infrastructure incentives. It is only for this
particular funding lane, so it’s not a
requirement for all funding lanes.

COMMISSIONER MONAHAN: All right. So I
suggest that we provide staff contacts with
emails for everybody so that there can be deeper
conversations if there need to be. But that
comment, in our plan, we should be really clear
about what the lanes are. It could be helpful
for public commenters going forward.

MR. AGUILA: Yes, definitely.

COMMISSIONER MONAHAN: Okay. Thanks,
Manuel.

MR. COMITER: We don’t currently have any
raised hands in the attendees group, unless, I
know earlier, Willfort, Andreas, had their hand
raised.

If you would like to make a comment now,
I can allow you to talk. I noticed you had your
hand raised earlier and you made a couple
comments in the Q&A box. But if you’d like to
make a public comment now, feel free to.

MR. WILLFORT: Yes. Great. Thank you
very much for allowing me to make some comments.

MR. COMITER: Oh, sir, could you also
state your name and affiliation for us?

MR. WILLFORT: Sure. My name is Andreas
Willfort. I’m with Weh Technologies. We are a
private-owned small company producing --

COMMISSIONER MONAHAN: Oh, I’m sorry.
I’m sorry to interrupt. We shouldn’t be --

MR. WILLFORT: Yeah.

COMMISSIONER MONAHAN: I wasn’t clear
that this is just for Advisory Committee members. There’s going to be a public comment period after the Advisory Committee members have been able to provide feedback.

MR. WILLFORT: Okay.

COMMISSIONER MONAHAN: So --

MR. WILLFORT: I apologize.

COMMISSIONER MONAHAN: -- the only --

yeah, sorry about that.

MR. WILLFORT: I will talk later.

COMMISSIONER MONAHAN: Sorry about that confusion. Okay.


COMMISSIONER MONAHAN: Perfect.

And, Michael, I think it’s just the participants that are in the category of panelist.

MR. COMITER: Sure. Okay.

COMMISSIONER MONAHAN: Okay.

MR. COMITER: Go ahead, Kevin.

MR. HAMILTON: Good morning. Thank you. A couple of things. And thanks for the great presentation, by the way. It did take me a little bit to get on. My computer crashed and
burned and I’m using another one. And I found that when you join a meeting, it doesn’t always say who you are in the right way. But thanks for working that out for me, whoever did.

So a couple of things. I come back to something that Rey Leon and myself raised -- this is Kevin Hamilton, Central California Asthma Collaborative here in the San Joaquin -- on the hydrogen infrastructure. We called this out once before and I see nothing’s really changed there. We still have the one station going in over there on the 99 and sort of these clusters north and south.

Is there -- can you give me the rationale for that? I mean, the idea was to have a distributive hydrogen infrastructure that at least had -- pretended to have an equity face. And so, you know, an entire section of California with 4.4 million people in it has been left out.

So is there -- can you explain this for me?

MR. JOHNSON: Hi, Kevin, it’s Mark Johnson here.

MR. HAMILTON: Hi, Mark.

MR. JOHNSON: Yeah. So, currently, we’re
going through GFO-19-602. And that solicitation allows developers to kind of pick where they go. And then we do look at disadvantaged communities and they are welcome, and also welcome in more rural areas, but it’s kind of based more on where the developers have proposed locations.

So right now, that’s kind of where we stand, but we do have another 82 stations that are going to be proposed. Hopefully, that will kind of go through or be proposed in those other locations that you’re talking about, but those were not shown on the map yet.

MR. HAMILTON: Okay, so we’ll be watching that closely.

MR. JOHNSON: Yes.

MR. HAMILTON: I, too, want to comment that, you know, staff have regularly involved themselves in at least program staffing in various proposals in guiding developers/contractors into places where they feel they should be going.

And there is certainly some authority within the CEC -- (coughs) excuse me -- and ability to require that at least some of these facilities be moved into at least the five or six
largest cities in California, which Fresno would be one, Bakersfield would be another with, you know, Fresno sitting at about 1 million people here and Bakersfield at 100 -- 800,000 there, both in the metro areas of both of them.

So, you know, we’re getting a pretty significant amount of EV charging. But, again, we all know the future, especially with regard to -- at least of feel that the future with regard to, especially, heavy-duty is going to be access to hydrogen charging. And given the proliferation of distribution centers and warehouses up and down the 99, which is starting to look like the 215, it’s really critical that this infrastructure be already in place.

We were happy to see the first electric truck stop be placed in the valley that WattEV chose to do that and we’re excited about that, and the CEC worked and funded that, but we need this hydrogen infrastructure.

The second piece is on charging infrastructure. And again, we’re seeing -- and thank you for the 150 kilowatts. We feel for the public, especially if we’re actually going to see public stop and charge. I think we all now know
that it’s got to be DC fast chargers. It’s got to be at least 150 kilowatts. People need to be able to get in and out of a charging station in 20 minutes or less and that’s the only way it will happen.

So while I’m sympathetic to the comments earlier regarding, of course, school buses, I don’t expect them to be using a DC fast charger at a shopping center, or one that is put somewhere in a convenient location for multifamily housing where people can park and charge since most of the multifamily housing that we see, at least, is not going to lend itself easily to even Level 2 charge installation, but I appreciate that.

But I still notice, again, really large gaps north of Fresno, south of San Joaquin County, and not much going on in Bakersfield and north of there, yet we’re seeing a huge proliferation of electric vehicles, as well. And so you just about can’t walk down a street in Fresno without stumbling over an EV these days, so -- which is great. We love to see that. But how is that --

MR. COMITER: I think that the time --
MR. HAMILTON: -- how do we see that happening?

MR. COMITER: -- I think the time is over --

COMMISSIONER MONAHAN: Kevin?

MR. COMITER: -- for this --

COMMISSIONER MONAHAN: So, Kevin, I just want to -- we had a three-minute limit on comments.

MR. HAMILTON: Oh, sorry.

COMMISSIONER MONAHAN: We were giving you some extra time because you were asking questions and I wanted --

MR. HAMILTON: Thanks. I appreciate it.

COMMISSIONER MONAHAN: -- to make sure you had space, but, okay. Great. Thank you.

MR. MAGAVERN: Really quick --

COMMISSIONER MONAHAN: And I see Bill Magavern with his placard up, so I’ll turn it over to Bill.

MR. MAGAVERN: Yeah. Thanks.

I also think that the plan that you approved in November is an excellent plan, so I agree with staying the course on that. It seems like, if the budget goes well,
you know, as the governor has proposed it and many of us are advocating for that budget in the legislature, then what will be most important this year will be planning for the expenditure of those new funds. So I'm interested in hearing more about the process for that. I know there's a meeting planned for this summer.

But one of the, to me, one of the most important points of the current plan is the goal of spending at least half to benefit disadvantaged and low-income communities. I didn’t hear it in the report, and sorry if I missed it, any tracking of how that is progressing so far, if we have any numbers on, you know, where exactly that percentage is now.

And I also know that you were trying to kind of hone in on what exactly it means to benefit those communities, and I wonder where you are on that?

COMMISSIONER MONAHAN: And I’m not sure if we’ll be able to answer all the questions. I worry a little bit we won’t be able to get feedback from all the members if we get into prolonged question and answer.

Any of the most recent data, I don’t know
if we -- do we have data on our most recent share
that is in disadvantaged or low-income
communities?

MR. SMITH: Hi. Excuse me. This is
Charles Smith at the Energy Commission.
I was looking through the Investment Plan
real quick. So Figure 2 does have a donut charge
capturing, at least geographically speaking,
where our project funds have gone thus far. And
it looks like it’s at about 48 percent. Thank
you, Patrick. So just under half of funding has
gone into either low-income or disadvantaged
communities.

And then another share, about 15 to 20
percent, has kind of gone -- or sorry, a larger
percent, 33 percent has kind of gone statewide to
where some of those benefits could be flowing
into low-income disadvantaged communities but we
just haven’t been able to track those funds with
that geographic specificity.

But that’s -- so that’s a metric that
we’ve had for a while. And while we’ve been
happy to report it, we want to be doing more,
just to confirm that the projects themselves
aren’t just being located in low-income
disadvantaged communities but that they’re providing actual benefits to residents in those communities.

And so we are still kind of in the midst of an internal discussion about what we -- what steps we can undertake to do more outreach and education on our behalf of, you know, what metrics would be of value to all Californians, and then how we can set ourselves up to better track and measure and report out those metrics over time.

COMMISSIONER MONAHAN: Yeah. And I will say we’re committed to a process, a public process, around that. That won’t be a closed door exercise. But there is a lot to work through. I mean, the team is going from handling about $100 million per year to $800 million last year, so there’s a big ramp-up in staffing. We’re really trying to make sure that we get money out the door swiftly and it takes staffing to do some of this.

So let’s just say we’re committed to it, it’s that we are also committed to getting the money out the door swiftly, so those two are in -- we’re holding those, both of those,
simultaneously.

MR. MAGAVERN: It’s a good problem to have.

COMMISSIONER MONAHAN: Yeah. I mean, as problems -- in the world of problems, I’d rather have this problem.

Oh, sorry, Michael. I didn’t see it. And just say your name and organization.

If everybody could say their name and organization, just for the people on the phone, I think that will be helpful.

MR. PIMENTEL: Sure thing. Michael Pimentel with the California Transit Association. I’m going not echo the remarks that came from other Advisory Committee members regarding the quality of the plan and the really significant and meaningful investments that are made within it.

I do want to say that, you know, generally speaking, we as an association do continue to see great value in the set-asides that are identified within this plan. Of course, those are dictated by the legislature in their budget, but we do see that as being one way to distinctly advantage public transit within the
larger conversation on medium- and heavy-duty vehicles.

I will note, though, that as we are moving forward as an industry, we are recognizing and expanding regulatory landscape with regards to zero-emission transit technologies, here I’m talking about ferries and, eventually, locomotives. And with that, I understand that the Governor’s Budget has included some monies for emerging opportunities.

I think that as those monies float, ultimately, to CEC and we’re thinking about the suballocation for those dollars, that we should really be working to tie the funds to those regulatory opportunities that are on the horizon.

And then I do want to just make a request, particularly as the plan continues to evolve, and this may be something that’s most appropriate for Advisory Committee members or, perhaps, it’s something that can be made public, but I think it would be helpful to have a funding table breakdown that shows the various funding activities, transit versus drayage, for example, and how they relate to specific GFOs, so we have an understanding of how those GFOs ultimately
fold up into the line items that are designated for an individual category.

And then breaking down further within the GFOs, I think it would be helpful for us to understand the sectoral balance in the investments. So if we have an opportunity that’s fungible across drayage and transit, that we can have an understanding of what that is. If there are projects that are not being funded for one sector versus another, that can help us better identify where additional resources may be necessary.

COMMISSIONER MONAHAN: Thanks, Michael.

That’s great.

Casey is next.

Oh, thank you. Mary is next.

I’m actually going to sit down because I think I’ll be able to see better sitting up here because the podium gets in the way.

MS. SOLECKI: Hello. Mary Solecki, again, with AJW.

And I wanted to say congratulations.

This is a really great plan and a lot of really fantastic GFOs that are focused well on the state’s priorities of getting to zero-carbon
transportation. And I think that the governor and the budget sending so much funding to the CEC is validation of this program’s success. And the fact that you are getting money out the door is shown by the statement of confidence with all the additional funding that’s coming in.

I’ve been thinking just a lot about challenges down the road and challenges today and some of the -- and it has led me to wonder if there could or should be, maybe within some of the money that is going to be allocated, hopefully allocated by the Governor’s Budget for some sort of an innovation or just flexible amount of funding for debottlenecking issues that arise, and let me be more specific about that.

I’m thinking about, for example, and maybe I didn’t catch it, but just more funding for rental units, charging stations. That seems to be a major bottleneck for a lot of people being able to adopt or purchase electric vehicles.

And I’m thinking about -- I’m hearing quite a bit about the -- some of the chargers that are not being -- once they break they’re not necessarily being serviced in a timely manner and
a lot of customer frustration that a growing percentage of chargers are actually not functional when they pull up and try to charge their car. And I don’t know if that is a government problem to solve. I would like to learn a little bit more about that. That’s not necessarily your problem to solve for me.

But I do -- to me, it does point to the possibility of just having some funding that is flexible and able to sort of pivot to some of these problems that might arise.

So that is all. Congratulations and thank you for the presentation.

COMMISSIONER MONAHAN: Thanks, Mary.

That’s great feedback.

Casey, you’re next.

MR. GALLAGHER: Thank you.

COMMISSIONER MONAHAN: And say your name and organization for people on the phone.

MR. GALLAGHER: Will do. Casey Gallagher, California Labor Federation, AFL/CIO.

Thank you, Commissioner Monahan, and also thank you to the staff of the CEC on a great plan and great report and all the work that goes into this.
I wanted to also thank the CEC for also
acknowledging the support and commitment to
equity, as well as the support for high-road
principles and not just thinking about job
quantity but, actually, job quality. And that’s
the way we lift up all Californians.

I’m not sure if it falls for the Advisory
Committee, but within the plan there is a mention
of the Hueso bill, Senate Bill 589, how it
adapted AB 2127 and how it’s going to work
towards workforce needs and assessments for the
infrastructure for ZEVs.

My question is, is like what is that
assessment going to look like? And is there
going to be comment or feedback asked of the
Advisory Committee or the public on how do we
expand these opportunities for all California
workers, not just the future workforce but the
current incumbent workers to be trained up and as
technology changes?

Thank you.

COMMISSIONER MONAHAN: Casey, I suggest,

since we’re trying to move more -- make sure
everybody has a chance to speak, let’s make sure
that Larry and you have a follow-up discussion
about that. So when we circulate, Larry’s the
guy to --

MR. GALLAGHER: Oh, not a problem. I
will be contacting him. Thank you very much.

COMMISSIONER MONAHAN: All right, Lori.

MS. PEPPER: Thank you. Lori Pepper with
the State Transportation Agency. I do just want
to say ditto to the fantastic work and
presentation here today.

I’m going to follow up with Jeffrey Lu on
your staff on the talking about the improved
customer experience and kind of the overall
advanced charging features but wanted to just
mention that as we’re looking at this, and as
we’re looking at potential standards for
chargers, that maybe we don’t just look at kind
of the charging features; right? Look at kind of
the entirety of broadband hotspots and thinking
about how people -- how long people are going to
be sitting there and what do they need for
charging, for payments, technology, for all these
things.

And so, Jeffrey, I will be following up
with you just to find out more about what you all
are thinking. But I’m really excited about the
two projects that you have listed here that
you’re funding, so thank you so much.

COMMISSIONER MONAHAN: Thanks, Lori,
appreciate that. And it’s something our two
agencies may also want to coordinate on,
broadband access, because I think that’s a
scenario that we need to collaborate to move
forward on.

MS. PEPPER: Yeah. And it’s something
we’ve spoken about with Hanan and some of the
people on his team about what we’re doing through
Cal-ITP on payment features and stuff like that,
and also talking about the broadband, the middle-
mile network and all the work we’re kind of doing
with that respect. And it would be great to just
bring it all together --

COMMISSIONER MONAHAN: Yeah.

MS. PEPPER: -- as we’re planning

COMMISSIONER MONAHAN: That’s great.

Thank you.

I see Matt.

MR. GREGORI: Thank you. Matt Gregori,
SoCalGas Research, Development, and
Demonstration. My pronouns are he, him and his.
Thank you for the opportunity to speak and it’s
good to see everybody and be in person.

Although I will be reaching out to my state legislator to talk about these in-person rules, because I do agree that there’s an equity component and, also, I noted my 700 pounds of CO2 emitted flying into Sacramento, so I thought the presentation was great. I wanted to highlight a couple of things that I thought were super interesting.

Tiffany Hoang’s analysis of drive times to fast chargers, I thought this was a really compelling analysis because it gives you really actionable data on how to deploy projects. Where do we need to deploy more fast chargers?

I’d be interested to know if a similar analysis could be done with hydrogen fueling stations to see what communities could be served by hydrogen fueling stations in the same way that they could be served by fast chargers, and a greater sort of theme around the complementarity of electric vehicle charging and hydrogen fueling stations? I notice in the presentations, and I think in our discussion, we often silo the two. We think about battery-electric vehicles and hydrogen fueling and they’re completely
I just saw a note this morning from the Federal Transportation Administration -- Federal Transit Administration, a funding opportunity about bus exportable power systems, so basically vehicle-to-grid for buses that includes battery-electric buses and hydrogen fuel cell electric buses. So they both can provide these benefits. This is for emergency situations if there’s power outages. Both can provide grid benefits. I think it would be -- and you know, hydrogen fueling is very fast, it’s good for high-density areas.

So thinking about the analysis of underserved or under-resourced, historically under-resourced communities, and how do we provide zero-emission vehicle access to them? How can hydrogen fueling stations compliment DC fast charging station access? And then just, in general, broader thinking about those two technologies as complimentary and not sort of competitive or siloed or separated.

So thanks a lot. Appreciate it.

COMMISSIONER MONAHAN: Thanks, Matt.
8 report which does provide some information.

But you’re right about the siloing. You know, we had the 2127 report, it’s just about EV charging, we have the AB report, it’s just about hydrogen, so you know, thinking about what that looks like in an integrated way. I mean, and some of this is because the legislature requires us to do these reports, so there’s a legislative aspect to this.

Oh, Jose.

MR. LOPEZ: Thank you. Thank you, Commissioner Monahan, and thank you staff for the great presentation. I’ll just to be a little bit constructive in terms of not asking a question but just kind of thinking forward of -- sorry, again, this is Jose Lopez, private citizen -- just also thinking about, you know, beyond the program where we’re thinking about extending it. I think I will also kind of highlight the need to -- I think we’re doing great in terms of identifying data and coming up with metrics to really understand where the funding is going. But I think more will definitely help us determine bigger needs.

I think we saw a lot of great -- you
know, identified key gaps and, of course, potentials to be trends, not only as part of -- transportation investments, just in general, tend to go to the bigger metropolitan areas, so just kind of thinking about that.

But I guess just my comment was going to be a suggestion. I know the California Air Resources Board has the Sustainable Transportation Equity Project. And as part of that pilot program, they give out grants to do also help with transportation needs assessments.

So I’m wondering if there’s some type of alignment of conversation that it happening in the Air Resources Board about, you know, maybe utilizing some of that, those opportunities, or helping find, you know, what needs have been maybe identified at a more localized level that can also help, you know, this program moving forward to help kind of target those goals?

And so with that, I’ll also just kind of make the comment about what conversations might be happening between the CEC, CARB, Caltrans, and all of the other transportation agencies regarding the federal funding that is going to be coming, and specifically thinking about the
Justice40 and how it’s primarily prioritizing something that’s going to go to disadvantaged communities. There’s a lot of alignment and synergy there. I’m just wondering if those conversations are happening or should be happening?

COMMISSIONER MONAHAN: Thanks, Jose. And I think I might -- I know Ruben was first but I might let Sydney Vergis from CARB go. But before I do, I’ll just say, we talked about our medium- and heavy-duty planning grants. We also had light-duty EV planning grants. Those were wildly popular as well. And I think this planning we’re -- this idea that, you know, to really be able to meet the demands of a community you have to plan first and really think through what your ZEV infrastructure needs are. That’s a really good observation. Thank you.

MS. VERGIS: Yeah. So Sydney Vergis, California Air Resources Board. Always appreciate a shoutout for STEP, so thank you very much.

One of the things that I thought you might be particularly interested, if you’re not already aware of, which you might be fully, is...
one of the areas that we’re very proud of in
terms of CARB-CEC collaboration is on the
California Statewide CMO Project. It will be our
second year of collaborating on that particular
voucher program. And we’ll be expanding the
network through the second year. So thank you
for an opportunity to raise that up.

There’s a couple of other places that I,
you know, wanted to note in support. One was the
theme around workforce development. I really
appreciate the Energy Commission’s ongoing
dedication here, you know, and particularly, this
plan is focused on disadvantaged communities with
prioritizing ZEV training, really critical as we
transition to this zero-emission present and
future.

Given my background, I’d also be remiss
if I didn’t speak to the continued emphasis for
heavy-duty zero-emission infrastructure. At
CARB, we have the Innovative Clean Transit
Regulation, the Advanced Clean Truck Regulation,
and the proposed Advanced Clean Fleets, and
Offroad Regulations that will really propelling
zero-emission trucks and offroad equipment to the
forefront. But private and public early
infrastructure investments are really critical to help us see those regulations through.

I was also just very enthusiastic, I guess, during the presentation around the AB 2127 work. When talking about zero-emission policy there’s often fear’s voice, usually be entrenched interests around the grid’s ability to handle this transition to this zero-emission future and zero-emission vehicles.

And there was a theme mentioned during the review of the AB 2127 work which is that electric vehicles, light-, medium- and heavy-duty, can really be part of the solution in terms of evening out the demands on the demands on the grid. And so I thought that was both refreshing and, also, important.

COMMISSIONER MONAHAN: Thanks, Syd.
Ruben?

MR. ARONIN: Thanks so much for all of the hard, good work. And great to be able to be here with you in person again.

On the plan itself, I agree, staying the course makes --

COMMISSIONER MONAHAN: Oh, Ruben, I’m sorry. Just say your name, your full name, and

And with regards to the plan itself, I agree that staying the course makes sense and that the big game has yet to come with the next allocate of dollars. And I do think that the roadmaps that you’re implementing are so critical because we’re going to need these continued investments, right, for years and decades to come to meet the 100 percent electrification objectives.

You know, towards that end of thinking about kind of current programs but better models for the infusion of dollars that we are hoping will continue to flow, I wanted to give recognition to Larry and Samantha and the Equity Working Group that has been doing such a really good job of pulling out engagement strategies, definitions, and kind of roadmaps for engaging with equity.

And I thought the metrics for the Workforce Program was extraordinary to see in the
report. And I’m curious if beyond the 48 percent note of hitting investments in frontline communities, it would be nice to see the qualitative data, how many partnerships with equity groups are we seeing? And as projects, like Valley CAN, and others, Clean Cars for All, incentives programs are getting funding, I’d be curious about the partnerships in standing up the infrastructure to support the escalation of the equity programs that, hopefully, the next budget will be giving more dollars to?

So a win for a community is infrastructure and vehicles, right, not one or the other. So the more that can be synced up the better.

And I’m also curious on how the GO-Biz awards to both the Valley CAN and (indiscernible) contingent might be a collaborative opportunity for not just the marketing efforts but, actually, to pull through for infrastructure and vehicle deployment in frontline communities so that we can have these, you know, successful, scalable programs?

I also wanted to note, it was good to see some of the parallel investments, like around
school buses. And I think schools are such a
great anchor climate resiliency space for us to
think about how do we build out the ecosystem of
infrastructure for school buses, but other
medium- and heavy-duty vehicles within the school
zones, as well as light-duty, so thinking about
where you can really double down investments in
those communities that are so iconic.

And on the heavy-duty side, I would just
want to flag to make sure that we think about
infrastructure investments in our warehouse
communities, not just on the port complexes.
We’re not going to see trucks changing quickly,
you know, to 100 percent overnight. But pointing
to the infrastructure that’s going to manifest
that transition for the communities that are
bearing a terrible burden because of the, you
know, 24/7 port operations in Southern California
and the increased dependence on freight movement,
that promise of investment is really critical.

So I would just encourage us to not only
look on the port complex where we have to get
onward by ‘35, but the real ecosystem of about
that 150-mile corridor.

So, again, thanks for all the terrific
work and the more to come.

COMMISIONER MONAHAN: Thanks, Ruben.

Great feedback.

Oh, Zac?

MR. THOMPSON: Hi. Zac Thompson with East Bay Community Energy.

I want to echo the comments made by everyone else in acknowledging CEC staff on this report. I think it’s really great. Really appreciate seeing more of a focus on multifamily residents in this report and how that has sort of been incorporated into your language around equity. I think it’s really, really important to include that, so that’s good to see.

And then just want to encourage the CEC to, you know, utilize any leverage that you can for those manufacturing funds to ensure that those help lower the cost of EVs, particularly with medium- and heavy-duty EVs.

You know, we know that a lot of those medium- and heavy-duty trucks operating in California are driven by independent owner-operators; right? So they’re not necessarily going to have the money to go out and procure new medium- and heavy-duty EVs. And they’re not
going to have the time and the bandwidth to go
out and apply for competitive funds to do so
either. So lowering those costs for them is
really important.

And then, additionally, you know, with
that, the money coming from the — hopefully
coming from the Governor’s Budget, I encourage
the CEC to allocate those funds toward not only
lowering the cost of EVs but, also, towards
charging infrastructure and aiming at that 8
million EVs on the road by 2030 goal, and to
close that gap that the AB 2127 Report identified
of nearly 900,000 light-duty chargers and over
150,000 medium- and heavy-duty chargers needed by
2030 to support that goal.

So thank you.

COMMISSIONER MONAHAN: Great. Thanks,
Zac.

(Indiscernible), if you don’t mind
waiting for a sec, we have a few people with
their hands raised on the phone and I want to
make sure we give them some space?

Michael, can you facilitate that?

MR. COMITER: Yes. So let’s go ahead and
start with Neena Mohan.
MS. MOHAN: Great. Thank you. Hi, everyone. This is Neena Mohan with the California Environmental Justice Alliance, or SEJA. We rep ten EJ communities across the state.

Just want to, again, echo the appreciation that everyone has been giving. This plan is, yeah, really great and really appreciate the clear presentations. I just want to flag a couple things.

So I think the first is, as folks have mentioned, you know, really pleased to see the CEC’s continued shift towards increased investments in medium- and heavy-duty infrastructure, right, which we all agree yields greater health benefits to DACs. And, you know, want to encourage the CEC to continue ramping up these investments in (indiscernible) with the related CARB regulations.

And I think someone else also mentioned the transit piece. You know, mass transit is a critical VMT reduction strategy and that is going to require accelerated deployment of ZEV transit buses and ZEV heavy-duty trucks. And so also hope to see, you know, more robust infrastructure...
investments towards transit.

When it comes to the CALeVIP investments, I guess I had a question about why there were -- maybe this is to Kevin’s point -- less investments in some rural areas. So I saw that there were no fast chargers going into Fresno and greater disproportionate investments in places like the Silicon Valley.

So I just want to, you know, uplift the idea of really addressing the unique needs of rural areas which are home to many disadvantaged communities and that being a critical component to achieving the state’s climate and equity goals and really try to think about community engagement from the perspective of investing in community-driven and community-informed solutions that wholistically are going to address the clean and accessible mobility options and the needs that are coming up for people.

Another piece that I want to lift up is just appreciating the reduction in investment in some polluting low-carbon fuels and reallocating those resources to supporting truly zero-emission solutions. That’s, yeah, that’s really great and very important.
And I think, given the scale of investments necessary to build out the state’s zero-emissions infrastructure, you know, as folks mentioned, the increase in ZEVs we’re seeing on the road, really want to call on the CEC to further cut these investments in infrastructure that just don’t align with our state’s climate goals.

And on the issue of hydrogen, just want to flag that while it is classified as a zero-emissions fuel, all hydrogen is not equal; right? And hydrogen produced from biogas or from steam methane reformation are not -- is not clean. And so I really want to encourage the CEC to leverage any sort of procurement power it has to invest in hydrogen fuel that is truly green, right, that is formed from electrolysis powered by renewable energy.

So I think I’m running out of time but just want to appreciate that and echo the comments around further defining what a benefit looks like to DACs. And would love to hear more updates about how that’s going to define equity, to define benefits, and to really get more granular about those metrics.
So thank you so much.

MR. COMITER: Great.

COMMISSIONER MONAHAN: Thanks, Neena. And, Michael, just a quick comment.

We didn’t talk about the proposed investments in green hydrogen but the governor proposes $100 million in green hydrogen for the Energy Commission to manage, so just in response to the opportunity for the budget to accelerate some of the investments that we’re hoping to make in, really, zero-carbon hydrogen.

MS. MOHAN: Great. Thank you.

MR. COMITER: All right. And next we’re going to move on to Sam Houston.

Please go ahead.

MS. HOUSTON: Thanks. I’d actually like to follow Leslie Aguayo if I may go after her instead?

MR. COMITER: Oh, yes. Go ahead, Leslie.

MS. AGUAYO: Thanks, Ann.

Good morning, everyone. This is Leslie Aguayo. I’m a Climate Equity Program Manager from the Greenlining Institute.

First, similarly, I’d like to start off by thanking the CEC again for their hard work and
commitment to equity. This is a good plan. And we’ve seen, through engagement with staff and Commissioner, that the commitment to equity is there, so I wanted to elevate that.

I also wanted to highlight some comments made previously by Bill, Bill Magavern, and some other folks, as well, around the importance of defining equity and defining benefit, as well as the metrics that accompany these definitions. I know that there are going to be continuing processes to be able to include various stakeholders in these definitions. So just wanted to elevate how important that is to get that right as a first step.

Also, it’s very important to get people at the table early and often and consider different stakeholders abilities to participate and, therefore, offer certain relevant compensation.

And understanding that equity is an iterative process; right? and so we should be able to review these definitions through a process that enables us to define it over -- as we progress as a society and over a period of Investment Plans and years.
So my question is: How can we get further involved in this process; right? There have been already some efforts with through the Strike Force, as well as through this Advisory Committee, but I really wanted to get clear on what that process is and will look like for folks to be able to engage early and often.

I’d also like to, similarly, highlight the great work of Tiffany Hoang and the drive time and her analysis with that map and would love to get involved in next steps on how to be able to close those gaps.

And, similarly, elevate some of the work that she and her colleagues have done over the last couple of years around accessibility versus deployment and understand that, you know, as is mentioned in the Investment Plan, deployment based on geography is not the same as accessibility and not the same as being able to have folks equitably be able to use the infrastructure and investments.

I’d also like to ask, if we have time, how does CEC plan to align to Justice40 goals? And we’re, also, going to set the bar as a state for other states to be able to not only reach 40
percent but surpass it?

And, lastly, I also wanted to echo Ruben and a couple other folks around the importance of a breakdown of investments and just aggregating Figure 2 if that’s possible? I think as advocates and as folks who are trying to understand where the investments to date are going, it would be really helpful to be able to see clearly the qualitative and quantitative data of those equity investments.

And, lastly, I’m running out of time but would like to leave on the note that this is a real opportunity and real communities will be impacted by these investments. And so trying to see this as not only an investment in electric vehicles and charging but, also, as a community benefits investment. And being able to understand that this is a wealth-building opportunity for folks is really important.

So I’ll stop there. And thank you so much for the time.

MR. COMITER: All right.

COMMISSIONER MONAHAN: Thanks, Leslie.

Appreciate those comments.

MR. COMITER: Thank you.
So let’s move on to Sam Houston.

MS. HOUSTON: Thanks so much. Sam Houston here with Union of Concerned Scientists. And thanks for letting me do that little switcheroo on the order. It really helps me to be able to take cues from folks like Leslie, and Neena before her, and others. A few things I wanted to pick up on related to what they said.

The development of -- commitments and development of additional metrics and tracking for benefits to communities, you know, I saw that commitment in the report but just want to underscore what Neena, Leslie and others have said about the importance of getting -- you know, doing that in a meaningful way.

I appreciate the shoutouts to the Strike Force and the Equity Working Group thereof. The stakeholders participants in that Equity Working Group are, you know, honing in on some things that I think will be relevant to that effort. And I hope we can continue to sort of cross pollinate, not only that effort but other efforts, to really work in the equity metrics in a meaningful way.

I also want to touch on the hydrogen
issue. You know, I appreciate, Neena raised the pathway is relevant, and appreciate Patty’s clarification about focusing on investments in green hydrogen. I think that’s super important. And related to medium- and heavy-duty in particular, it would be helpful in the summary figure to have a better understanding of how the medium- and heavy-duty investments will break down across electrification and hydrogen fuel pathways. I think that will make for some richer dialogue.

And sort of to a similar point earlier about understanding how the different GFOs fold up and just get -- really have an opportunity for more meaningful conversation around, you know, what do these huge numbers mean? It’s so exciting to see these huge numbers in the summary table but I quickly lose touch with those mean without being able to see how the different programs roll up into those numbers. So just wanted to sort of second that desire to see that. And I’ll also just touch on the charging speeds that was brought up right at the beginning with regard to the sort of 150 kilowatt number.

Thank you so much, Esther, for dropping
the fact sheets related to EnergIZE in the chat.
I saw that that 150 kilowatt hour -- excuse me,
kilowatt was related to the public charging. I
personally think that’s fine where public
charging is concerned for medium- and heavy-duty.
But I would also underscore Eileen’s point that,
where we can have lower-power charging for some
medium- and heavy-duty sectors outside of the
public space in the depot space, then that will
help us save infrastructure costs and reduce
potential grid stresses.
So thanks so much.
COMMISSIONER MONAHAN: Thanks, Sam.
Appreciate those comments. And also appreciate
your working with Larry in helping facilitate the
workgroup, the Equity Work Group or the ZEV --
the EV Charging Infrastructure Strike Force.
MR. COMITER: And we have one --
COMMISSIONER MONAHAN: And is that it for
the --
MR. COMITER: We have, well --
COMMISSIONER MONAHAN: Oh, sorry.
MR. COMITER: -- it looks like we have
two raised hands.
COMMISSIONER MONAHAN: All right. I
think we’ll go back to the room because people
have been waiting, and then we’ll go to the phone
again, so I’ll turn to Gia.

MS. VACIN: Thank you. Gia Vacin with
GO-Biz.

I think I -- everybody has gone ahead of
me and said how much we appreciate this report
but I want to say it as well. I feel like I have
a pretty good sense of, you know, their various
programs and GFOs and things. But every time I
read these Investment Plans, I feel impressed at
the breadth and the depth and just sort of what
the team is working on and how you’ve outlined
these expenditures, so I agree with kind of
staying the course and I think that’s a good
approach for now.

I wanted to focus some of my comments on
thinking about leveraging federal dollars and how
we might be able to do that. So I noticed that
there was, you know, a small section devoted to
the IIJ, and that’s great, and thinking about
looking -- following on, as federal guidance
comes out, thinking about how we might be able
to, if the CTP can appropriate some of that for
match share, I think that that’s really smart.
And maybe would just recommend that we
take it a step further and think about how to
stay flexible on that. And that’s across the
different spending categories but I think I’ll
dig in on hydrogen hubs because it’s been a lot
of my life these days. And so I think there’s
pretty broad agreement that we want one in
California, zero/low-carbon/green, and that we
are really well positioned to win here if we
bring our A game. I think that it’s going to be
super competitive and there’s a lot of
organization going on. And we need to think
about ways that we can show what California can
bring in dollars and otherwise.

And so it doesn’t necessarily mean that
we need more dollars. But what I’m encouraging
CEC to think about is whether there may be some
need for carveouts for hydrogen or otherwise?
And so just ensuring that the Investment Plan has
enough flexibility baked into it that CEC does
have this sort of discretion to direct funds in
this way, if needed, if it helps our
competitiveness while still advancing our goals.

And so I think, you know, Patty mentioned
one area that may be really obvious if the $100
million for green hydrogen goes through. And you know, that seems like that could be a great spot, but there are many, many opportunities in this proposed spending plan, Investment Plan and so, yeah, thinking about how to create that flexibility.

Thank you.

COMMISSIONER MONAHAN: Thanks, Gia. I appreciate that. I appreciate your leadership on the hydrogen hubs. Great comments.

And we have Robert.

MR. MEYER: Thank you. I’m going to actually go the other way with the report and just say it was okay. Actually, just echoing what Gia said, it’s very refreshing to have such thorough and assessment, let alone things that lead in and stoke conversations among not only our stakeholders but the public as a whole. It’s very responsible and prudent in terms of overall investment efforts. And I think it’s remarkable in terms of a state program having such an impact on a national level, so thank you.

In terms of the report itself, I’ve just made some notes. We will be reaching out to Tiffany regarding the definition of the equity
piece. We are fortunate enough to contract with a couple of the disadvantaged communities’ members as an organization, as ETP. And we think that there’s a tremendous opportunity for impact to be able to leverage your definitions into our programs and, hopefully, other elements of the California workforce system, so we’re looking at that.

The second component, I definitely would be remiss if I didn’t stress the importance of paper performance-based investments in terms of the workforce and other components of manufacturing. This gives us jobs, tangible outcomes, and gets us a connection into the equity pieces that we want. We know who we are training and serving and where the employers are working and are located, so those are there.

I would also agree with Casey’s recommendation and will follow up with Larry, all things go to Larry, to echo the conversation regarding the assessments that are going to be on these programs.

I’d like to also thank Larry and Jonathan Bobadilla for their engagement with GO-Biz. We have an Interagency Group that works to align
incentive opportunities. And we’ve seen
tremendous amounts of activity in the EV space
with hydrogen, also the wider range of industry
sectors, including rare earth mining and
minerals. Where ETP has been engaged, we’re now
seeing more easy and facilitative connections to
other investments with the Energy Commission, so
I just wanted to call out that work. It’s
really, really good. It’s also a great
partnership with GO-Biz and I think it’s landing
some tremendous impacts, so thank you there.

And then, lastly, ETP has just completed
$55 million in job training funding in two
General Fund programs dealing with the
reemergence of the pandemic. We took the
opportunity to widen the definition of employers
to include public transit, as well as the
manufacturing sectors.

Notably, the California Labor Federation
has contracted with ETP to support the training
of public transit fleets to continue the support
for adoption not normally funded under our CORE
Program guidelines.

And then with the $13 million for
community college partnership, we have funding
for EV for public transit, as well as other investments, in communities, including, and I noted, Kern Community College District as one of your program recipients, so thank you for the investment there in the Central Valley.

So with that, that’s my comments.

COMMISSIONER MONAHAN: Thank you.

And we have Morgan, and then we’ll turn to the folks on the phone again.

MS. CASWELL: Great. Thank you. Morgan Caswell with the Port of Long Beach. Just want to echo what everyone has said. It’s a really thoughtful plan. And I think what stood out to me is how much the CEC has been able to accomplish.

I also want to echo the comments that, you know, we appreciate the focus on equity, on investing in and creating benefits for disadvantaged communities. Seaports are in disadvantaged communities. We acknowledge we have a negative environmental and public health impact, so we’re glad to see that focus.

And, of course, we do support the expansion of workforce development projects. We have been able to actually bolster our
relationships with our local community colleges as a result of the CEC funding.

I want to focus on the seaport perspective and, you know, kind of what we’re grappling with right now. There are a lot of rulemakings underway or recently adopted that influence the ports and for good reason. But I think it’s important to kind of think of the whole hemisphere of issues we’re trying to tackle at once.

The At Berth Regulation was adopted by CARB, as well as the Harbor Craft Regulation. And those will lead to additional electrification. And it’s going to influence how successfully we implement these other rules and these other initiatives that we have. So I wanted to keep that context in mind.

And also just point to some of the other work that you’ve been able to do focused on harbor craft in particular, as well as locomotives. It would be great to understand how you plan to build on those. I know you had the hydrogen fuel cell demonstration in rail and marine applications. And I’m curious to hear, okay, how do we build on those and expand them?
And then the other item I wanted to bring up is to maybe clearly draw the limits of your funding programs. I know you focused heavily on on-road but we’ve -- I mean, you’ve been very creative with being able to fund offroad. And so a lot of seaports look to your program for those investments. And I think it would just be good to explain the limitations and how you’ve been able to be creative with your dollars and how you plan to do in the future.

So those are my comments. And I just thank you for the opportunity.

COMMISSIONER MONAHAN: Great. Thanks to you, Morgan. And this might be something we can deepen in the Port’s collaborative discussions --

MS. CASWELL: Um-hmm.

COMMISSIONER MONAHAN: -- because I think there’s -- it is confusing. It’s confusing to us sometimes. And you know, the nexus between where we get the funds for CTP and what we can deploy needs to be very clear and transparent. So --

MS. CASWELL: Great.

COMMISSIONER MONAHAN: -- let’s just table that and put it in the Port’s collaborative.
MS. CASWELL: Great.

MR. COMITER: All right. We’ll move on to panelists in the Zoom session. We have three hands raised currently.

Let’s start with Katherine Garcia.

MS. GARCIA: Hello. I am Katherine Garcia from Sierra Club. Thank you so much for this opportunity to comment.

I am so appreciative of this report and today’s presentation. Thank you for all of the work you’ve done to advance clean transportation in the state and really creating a template for the entire country. I appreciate all of CEC’s staff for their work on this update and for the presentations that were shared today.

My comments today really focus on the number of EV chargers planned, medium- and heavy-duty charging, hydrogen, and also workforce.

So, first, we want to recommend that the CEC use a forecast of 3 million vehicles for 2025. This really aligns with CARB’s recently approved Mobile Source Strategy which estimates that there will be -- there needs to be 3 million light-duty EVs by 2025 and 8 million by 2030 to come close to supporting the governor’s goal of
having 100 percent new light-duty vehicle sales be zero-emission by 2035.

So taking these corrective actions now could support California leading the nation in how to successfully plan for and implement charging infrastructure to support the rapidly growing EV fleets.

And the second point is we recommend that the CEC prepare a statewide map and plan showing approximately where there needs to be charging plazas along major and secondary corridors to support the parking, dwell time, and high-power charging needs of medium- and heavy-duty trucks.

I do want to echo Ruben’s point about school buses which is a very important project for me. I work a lot on electric school buses. And often when we talk about school buses we focus on their charging needs at the school. And I just wanted to flag that we also need to be aware of their charging needs while on field trips and traveling to supporting events. And I think that having a robust charging network for these medium- and heavy-duty trucks and buses, including school buses, is important.

I noticed that on slide 70 it mentions...
the federal discretionary competitive funding
opportunities from the Infrastructure Investment
and Jobs Act. Moving forward, it would be great
to see more information on how the state is
looking into that funding and different types of
vehicles that that is going to support.

Thirdly, I’m going to be sharing in the
chat, and also including in my written comments,
some information about hydrogen that Sierra Club
just prepared. While both battery-electric
vehicles and fuel cell vehicles are zero-emission
at the tailpipe, it’s important to consider the
renewable -- it’s important to consider the
significant impact of how the hydrogen is made
and how that impacts fuel cell electric vehicles.

So Sierra Club just produced a helpful
resource that outlines how hydrogen is produced
and the most efficient use cases for hydrogen
that said, since California is investing millions
of dollars in hydrogen fueling stations, we
recommend that the CEC work with CARB to increase
the amount of renewable content in hydrogen fuel,
ultimately rising to 100 percent green hydrogen
to maximizes the pollution emissions reductions.

But, ultimately, we believe that the state is
overbuilding hydrogen fuel infrastructure and not making effuse of these public funds.

Finally, thank you for the update on workforce development investments. It’s so important that the transition to a clean energy economy must create good, family-sustaining jobs. And I’m so pleased to see that CEC is dedicated to workforce development.

Thank you.

COMMISSIONER MONAHAN: Great. Thanks.

Thanks, Katherine.

So how about Bill Elrick next?

MR. ELRICK: Great. Thank you. And I apologize in advance for any background noise I have at my location.

Let me start with, you know, accolades for the staff and CEC for this report. There’s a lot of great things in there. And it’s really part of the reason why California is not just leading the nation but globally watched for market conditions, development, and approaches.

For hydrogen, clearly, it’s the largest and only consumer-based fuel cell vehicle market in the world and there’s much more to go. And as the staff report showed, there’s market
approaches now about sustainable marketplace showing cost reductions in hydrogen resembling early solar, wind, and battery cross curves. So this is really exciting. And really applaud on the zero -- the equity focus being top of the bill now.

I do have a couple of really disappointing parts in this plan in that we’re not aiming hydrogen technology towards the state’s most important goals, and I have three areas of improvement.

The first is, the foremost, the state’s goals are 100 percent ZEVs, yet the program continues to restrict itself with the limiting language within AB 8 and focus on 200 stations instead of 100 percent ZEV transition. And so that’s really important to aim for success and not the limited near-term metrics as we go. And it doesn’t matter if the money is going there but the idea of looking at a larger program.

CEC, as well as other government and industry players, put together the published roadmap for hydrogen and fuel cells which looked at a million vehicles and 1,000 stations that could easily be referenced and aimed for to get
us there.

And I think if we look at the way that the BEV side of charging is going to meet the state goals, not just limiting to the current market conditions or update because we are behind all our ZEV objectives, and that’s why fuel cells need to be looked at in this plan too.

The second item is that I don’t see anywhere in this plan the CARB Light-Duty Fuel Cell Vehicle Self-Sufficiency Report. You know, this was created to inform the CTP program. And it’s got great data that we should be able to work at for this Committee to review and discuss.

And the fact that the report put out this could be the first identified self-sufficient ZEV pathway of any technology anywhere in the world, and at about ten percent of this year’s ZEV budget, I think that’s something we should be talking about more, so I look forward to seeing that in the report, as well.

And then, finally, some more metrics and tools. Basically, we used to see greenhouse gas and emission reductions, petroleum displacement, those are hard datapoints we can look at and see the program results. I think station utilization
would be really good to consider here. We know the stations are at about 50 percent capacity, that’s great, but if we took a harder look we might get more knowledge and sharing.

And then I want to just have a last comment here about, you know, the clean fuel use with some of the previous comments. You know, we need to separate the vehicle deployment and the fuel production pathways that we’re getting as much decarbonized renewable fuels and productions as quickly as possible but get as many ZEVs out there because they are agnostic.

And I know that for fuel cells, vehicles are tied to the amount of renewable fuel or decarbonized fuel in the production. I don’t know if that’s the same with BEVs, but let’s take a closer look at that. You know, what do we need to do when we look at the fuel production and how they’re tied to vehicles?

So I think just getting more of the tools that are created around charging, aiming fuel cells for the same success, you know, we’ve got a lot of hard work before us but you’ve got the tools, the experience. We just need to see those reflected in this report.
Thanks. Great work.

COMMISSIONER MONAHAN: Great. Thanks, Bill.

I think Jerome is next. Jerome, you have your hand raised, I believe.

MR. COMITER: Looks like he may be muted.
Might want to check your microphone.

MS. QIRIAZI: Thank you. Can you hear me now?

MR. COMITER: Yes. Perfect.

MS. QIRIAZI: I apologize for that.

Thanks for this opportunity. Jerome Qiriazi from the Humboldt Transit Authority. A few notes.

One, I want to echo, as everyone else has, that staying the course here, I think, is a great plan for now. And continue to appreciate and be impressed by the content of your Investment Plans.

And I just want to provide a few notes regarding project ideas, primarily, and a couple of challenges with a rural focus and a transit focus.

One, we do continue to see electric utility line capacity as a significant barrier to deployment of charging infrastructure in rural...
areas. We do have -- our IOUs do have their
incentive programs that help subsidize upstream
infrastructure. But we are -- we see an
unwillingness to fund necessary upgrades to allow
transit agencies and others to put in the
infrastructure that they need.

I want to point out a caution, a word of
cautions regarding deploying relatively new and
complex technologies, such as vehicle-to-grid
bidirectional charging and microgrids at public
institutions, such as schools, many of which are
chronically underfunded. And my point here is
concern around the unknown operation and
maintenance costs of this infrastructure, as well
as the complexity of actually deploying this
successfully. And I have seen some challenges,
as well as overpromising, by very reputable
engineering firms at schools.

So I think investment there is important
and we need to investment in these institutions
but recognizing that this technology is
relatively new and complex. And if there’s a way
to ensure that there’s sustained follow-up with
these organizations and if there’s a way that the
CEC can continue to nurture those investments, I
think that would be critical.

And the last couple of points. I’m very excited about the revolving loan effort. This is very important, particularly for rural transit agencies who just simply don’t have the cash flow to manage large infrastructure projects, particularly via grants that are reimbursement structure, so I really encourage that work to go forward.

And lastly, the SB 643 Infrastructure Assessment, I’m excited to see that report and encourage you to reach out to the North State Super Region, who has recently integrated the FAR North Transit Working Group as -- or Consortium as a working group within the North State Super Region. And that group has already started that sort of broader north state planning and collaboration of hydrogen infrastructure across multiple transit agencies.

So with that, thank you.

COMMISSIONER MONAHAN: Great. Thank you. Is there anybody who has not yet provided comments from the Advisory Committee? I can’t see the Zoom, so --

MR. COMITER: There are no raised hands.
COMMISSIONER MONAHAN: Okay. That’s perfect.

I know that -- so Rey Leon, who was on the Advisory Committee, recently resigned from the Committee but he had his hand raised, so I wanted to give Rey a space to speak if he wants to make a comment.

MR. COMITER: Sure. I’ll allow him to talk right now.

MR. LEON: Hello, everybody. It’s good to hear everybody. Thank you for all the work, CEC staff. Greetings, Commissioner Monahan. And I just want to share a few comments.

I, in hearing the presentation, heard a lot of good things, one of them, the resources for providing more EV mobility, and the funding to companies like Lyft and Uber was mentioned.

I just wanted to remind folks that grassroots efforts have initiated since 2018, at least there’s Green Raiteros out here in the valley, to provide farmworker families with electric vehicle rides to their essential appointments and trips. And so do not forget about those fleets, you know, in the midst of, you know, the corporations that have a lot more
money and just operate a little bit differently.

But I, also, I wanted to comment and lift up -- and I’m also the Mayor of the City of Huron and I have good relationships with all of our small businesses. One of our businesses is an agricultural operation, the last one that is located within the city. And I went out there to check them out because my brother works there, as well, and they have these huge machines. One of them is a tomato machine, you know, tomato. If you’ve had catsup or pizza, you’ve had some of our tomatoes. But you know, they’re still the old-school machines that aren’t, you know, electric.

And so I just wanted to lift that up in terms of when are those going to be electric? They’re probably happening now. I don’t know how much. I know they’re offroad. They’re heavy-duty but they’re also offroad. I don’t know if that’s taken into consideration but I just wanted to bring that up and share with folks.

The other day I started a new coalition with almost 100 parents from the community because their children -- farmworkers go to work at about 5:30 in the morning. And their children
that are, you know, going to first grade, kindergarten, they struggle in getting them to school because they’re no longer there, they’re probably with their caretaker, and they’ve to get them to school.

So the bus that used to provide the rides cannot no longer, due to insurance issues -- but -- so I’m organizing with them to see how we could use Green Raiteros to transport about 100 kids across the state route, which is very dangerous when you’re a little kid; right?

So anyhow, I’m hoping that these investments are able to support those type of efforts that are very grassroots, that are very specific to the needs to people in priority populations. And those -- you know, Green Raiteros is expanding. And we’re hoping that this nonprofit-based effort is able to, you know, give them support there from the CEC, as well.

But all right. Por saludos and thank you.

COMMISSIONER MONAHAN: And, Rey, I just want to thank you for being an Advisory Committee member and just to reiterate that, whether you’re an Advisory Committee member or not, and this is
for the broader stakeholder community, I mean, we
are -- we encourage and want your feedback and
dialogue. So it’s not like you can only be on
the Advisory Committee membership to have a voice
in our funding decisions.

MR. LEON: Thank you.

COMMISSIONER MONAHAN: And one last quick
comment. Mayor Leon and I were, just a few weeks
ago, in Brawley where the first public EV charger
in the entire Imperial County was opened for
business. And the reason that that charger made
it to the finish line is because there was one
very committed NGO that really -- Comite Civico
that really pushed it. And General Motors ponied
up $40,000. We put $8,000. That’s the only
reason it got to the finish line. It was very
expensive to build out infrastructure in a rural
community like Brawley.

So I thought that was just really, you
know, inspirational, but also somewhat
disheartening in terms of, you know, we really
need to figure out how to make sure that rural
communities, in particular, can get access.

MR. LEON: You know, we --

COMMISSIONER MONAHAN: So we -- oh,
sorry, Rey.

MR. LEON: One quick comment. Just I think infrastructure is people’s homes is also critical because what I’m noticing is that even though it seems like everybody’s using Russia as an excuse to pick up the prices on everything and the best way to charge and the cheapest way to charge is at home. So having an infrastructure in the household of the families that are able to acquire an EV is the ideal; right?

COMMISSIONER MONAHAN: Yeah. Thanks, Rey.

So we have a little bit more than ten minutes before we’re going to open it up for public comment. And I want to give the Advisory Committee members, as you’ve had a chance to hear others, if you have like a one-minute lightening-round comment that you want to make, you should feel free to make it now. If there aren’t any, we’ll move to public comment.

All right, Lori.

MS. PEPPER: Okay. Lori Pepper, State Transportation Agency. Wanted to address kind of two issues. One is on the NEVI (phonetic) funding from the IHAA. Just wanted to let
everybody know, Caltrans has a working group
that’s a publicly -- a public stakeholder-
available working group that’s ongoing. Let me
know if you would like to join if you’re not
already involved.

The other piece of it is that we are
close to signing an MOU with the CEC to make sure
that the NEVI funds go to support the broader
infrastructure plan, the ZIP, and that everything
works together, so I wanted to say that.

The other thing is a little off topic but
we actually just posted a job opportunity at
Caltrans for an executive level Assistant Deputy
Director for Transportation Electrification. So
if you know anybody or if you would like to
apply, please, we are taking applications now.
And, again, you can reach out to me with any
questions.

Thank you.

COMMISSIONER MONAHAN: Thanks, Lori.

Matt?

MR. GREGORI: Thanks. Matt Gregori,
SoCalGas Research Development and Demonstration.

I just remembered, I recalled seeing in
the presentation a couple photos of EV chargers
set up on curbs or with pilons in front of them. And I had remembered some Twitter conversations I had seen recently about disability access, disabled people’s access to EV chargers. And so I hope that is something that’s taken into consideration under the equity component of deployment.

Thanks.

COMMISSIONER MONAHAN: Thanks, Matt.

Robert?

MR. MEYER: Thank you. Robert Meyer with the Employment Training Panel.

We just want to offer to the group that if you have organizations or memberships comprised of employers in this space that would be interested or have workforce training needs that might benefit from our funding to support or augment efforts in advancing the deployment of these technologies, please, don’t hesitate to contact us.

I know that sounds like a shameless plug but we are -- you know, the economy is booming and we are being dragged into many directions. But I wanted to put that out there because this still remains a key partnership for us.
Thank you.

COMMISSIONER MONAHAN: Thanks, Robert. I think Lori opened that door, so it’s fine.

Morgan?

Michael, is there anybody on the phone who has their hand raised?

MR. COMITER: We have two raised hands.

So we can start with Bill.

MR. ELRICK: Thank you. I wanted to kind of throw out two things.

One, as we’re looking at now everything, regulations to executive orders, aiming to get 100 percent ZEVs, we switched the program’s mentality from market launch and market development to one of, really, market success and sustainability. So I’d encourage, I don’t know if we’re going to have time since this doesn’t seem to be a back-and-forth dialogue, but for CEC to come in next time and talk about how we start planning for an exit ramp from government subsidy, CTP and anything else. I think that’s what the success rate needs to be aiming for.

And then the other is just asking why we don’t see the CARB report on self-sufficiency and hydrogen even referenced yet?
MR. COMITER: All right.

And then next is Kevin.

MR. HAMILTON: Yes. Thanks. I did want to make sure that I call out, first of all, the hard work staff did on this report. It actually wasn’t a bad read. I got through most of it.

I also wanted to mention that I still don’t see that kind of interaction with CARB that I feel like we need to see where CARB is moving ahead and some areas and CEC is behind.

I think we recently, in some work we did with CARB, mapped out charging infrastructure via the various public access pages in the valley and the rest of California and uncovered that the only DC fast chargers that we could find, at least on the public networks, were installed by Electrify America, with one exception, so -- and that was between San Joaquin and Kern County, and so we need to fix that.

We need to make sure that as we’re moving this Level 3 infrastructure into place that areas, like the valley, I think the Brawley story is great, but others and, again, certainly not forgetting the rural communities in the valley.

But you know, it would be great if the main
arteries, Highway 33 running up the middle through the ag towns, up the 99, up the 41 and the 43, there’s about five major arteries that you could just look at a map and say, wow, it looks like where most of the cities are located, small or large along there, and start from there. And so we really need to see a concentrated effort in that from the CEC planning. And happy to work with you on that but I’m afraid I’m just not seeing it. And I’m happy to meet with staff and find out where I’m missing it but just not seeing it in this plan.

Thank you.

COMMISSIONER MONAHAN: Thanks, Kevin.

Appreciate that feedback.

And I will say, it intersects with some of the funding that Lori was talking about from the federal government in terms of these corridors where we have opportunity to leverage federal funding for DC fast charging.

MR. HAMILTON: I understand and that’s great. That’s, absolutely, freight corridors.

COMMISSIONER MONAHAN: So --

MR. COMITER: There are no more raised hands.
COMMISSIONER MONAHAN: Great. Thanks, Michael.

And I think in the room is there -- am I missing any cards?

Oh, sorry, Ruben, I couldn’t -- it’s like sideways.

MR. ARONIN: No worries. I will echo Kevin’s call for a race to the top between our agencies. But I’ll also share, as we get to tipping point, a lot of folks who weren’t paying attention to the sector are starting to clue in.

So this whole-of-government approach where we make it easy for people, whether they’re at CEC’s website or CARB’s, to find each other’s data and have them speak to each other will be helpful.

Because I think a lot of people are going to be looking at what are the government incentives and programs to help with this, accelerate this transition in light- and heavy-duty.

And so I know there’s lots of effort and it is work to work collaboratively in COVID and non-COVID times but I would encourage that.

And I also want to lift up what I heard Mary Solecki say at the start of comments, which is identifying some of these sticky barriers, the
multifamily charging, maybe the ongoing
operability or the needs for maintenance for, as
well as investment in the charging
infrastructure, is going to be useful learnings.
And as -- you know, do we overcome the challenge
of figuring out multifamily or is it high-speed,
you know, publicly-accessible charging that’s the
fix?

But those learnings and highlighting that
to debunk the opponents that are trying to delay
the transition, there’s not necessarily one
throughput but where are we finding pathways to
success? And how can the analytics help identify
where that is, as well as call out where there’s
work to be done to overcome barriers?

I just wanted to present those thoughts.

COMMISSIONER MONAHAN: All right. I
don’t see any more raised placards.

Just really want to say thank you to
everybody who’s given us feedback and comments,
like we’re taking them seriously, I’m listening
intently. And, you know, we are committed to
building out ZEV infrastructure that’s accessible
to rural communities, to disadvantaged
communities, to low-income communities, and
making sure that, at least from our investments,
that we’re trying not to leave people behind. I
will say, you know, multifamily dwellings, it’s
hard.

So I don’t want to gloss over some of the
challenges that we face. And, you know, it’s
going to need all hands on deck, private industry
partnering with us to share learning, to make
sure that we’re finding out what works and what
doesn’t work, and we’re really leaning in on what
works.

The costs of, you know, retrofitting some
of these older buildings to make sure that
there’s ZEV infrastructure, charging
infrastructure in the case of multifamily
dwellings like onsite can be very expensive. So
then we think, well, what’s nearby, and it gets
increasingly more difficult. But it’s something
that we are committed to working on and to doing
our best to ensure that if you live in an
apartment building, that you can buy a zero-
emission vehicle and feel confident that you can
refuel it.

So thanks to everybody.

And I also want to say, we want to make
sure that we have time for the public to provide feedback.

So we’re going to turn now to public comments. And I show (indiscernible) is facilitating. Is this Michael?

MR. SMITH: This is Charles. So I think what we might propose is that Michael will call on folks in order of hand raised.

And, Tami, can you get the timer ready again? Who are we --

COMMISSIONER MONAHAN: We’re going to see how many public commenters we have.

MR. SMITH: We have two so far.

MR. COMITER: We have six now. It’s been ticking up.

MR. SMITH: Okay.

MR. COMITER: Seven now.

COMMISSIONER MONAHAN: All right. Let’s give it a minute to see how many.

MR. COMITER: It’s ticking.

COMMISSIONER MONAHAN: Okay, let’s give it a minute because we, I mean, we’ll go to one minute per speaker if we have a lot, two minutes if we don’t.

MR. COMITER: Okay. It looks like --
COMMISSIONER MONAHAN: If there’s more
than ten --

MR. COMITER: -- we’re steady at eight.

COMMISSIONER MONAHAN: Okay, then two
minutes each.

MR. COMITER: All right. Okay. I’ll go
ahead and get started.

Let’s start with Mikhael Skvarla. And
please state your name and affiliation. Oh, let
me -- go ahead.

MR. SKVARLA: Hi. Mikhael Skvarla on
behalf of the California Hydrogen Coalition. I
want to express our appreciation for the
opportunity to comment today and interested in
taking a deeper dive into the materials presented
today.

I think we want to echo some of the
comments from Bill Elrick at the Fuel Cell
Partnership with regard to needing a statewide
vision for hydrogen infrastructure, both light-
duty and heavy-duty.

Also, there should be a deeper analysis
on medium-duty as these vehicles are kind of
fungible across different infrastructure types as
Class 3 and below will most likely utilize light-
duty hydrogen infrastructure, whereas somewhere around Class 5 and above will use the heavy-duty, and then there’s everything in between, which will probably be accessing both types. And so that drives the need for a statewide vision for hydrogen, a statewide network.

As laid out in the vision, 1,000 stations would provide access to 97 percent of California — or 97 percent of disadvantaged communities and 94 percent of the population within 15 minutes or two-thirds of the population within 6 minutes. It’s kind of what we’re used to today with gasoline and diesel.

Furthermore, our Coalition was founded two years ago. We did a significant outreach to a lot of environmental NGOs with the hope to talk and dispel some of the fear, uncertainty and doubt in and around hydrogen fuel production. That offer stands. And anyone who wants to have that conversation, our doors are open, and we continue to reach out.

Fuel being delivered today is 92 percent renewable with a carbon intensity lesser than that of the grid average. We’re ready to compete, heads-up, when it comes to the
environmental stuff. The vehicles are lower
carbon than -- (Zoom audio issues)
(indiscernible) --

MR. COMITI: Oh, you’re starting to
break up a bit but --

MR. SKVARLA: -- (indiscernible).

MR. COMITI: -- we just hit the --

MR. SKVARLA: We’re here to decarbonized.

We’re here, willing partners. Thank you.

MR. COMITI: Perfect. Okay.

Next, we’re going to move on to Jaimie
Levin. Please state your name and affiliation.

MR. LEVIN: Thank you. Jaimie Levin with
the Center for Transportation and the
Environment. It’s so exciting to see all this
money and all the effort the CEC is putting into
this transition. It’s remarkable. I have three
comments.

One, Patty knows this, we have this
wonderful opportunity for the State of California
to go after what could be $1 billion to $2
billion of a program -- or half a billion to $1
billion for the Hydrogen Hub Program. So it’s
very important this plan reflect how it can --
how CEC can collaborate with private industry to
provide cost share.

Secondly, I would like to see in the EnergIZE Program a recognition that it’s not only fueling stations that need a subsidy but facility upgrades with respect to hydrogen to be able to safely work on hydrogen fuel cell vehicles.

Also, I think more than 15 percent of the -- or excuse me, 30 percent of the available funds should be made for -- made available to fuel cell and hydrogen as opposed to the -- in other words, it should be 50 percent to select both the technologies, fuel cell and battery-electric.

And then, firstly, in the past, CEC has funded prototype developments in the vehicle side of the equation. And I’m wondering if you’re giving consideration to such things as vehicle efficiencies where we can make major improvements on efficiencies with prototypes? I would like to see some funding allocated for that.

Thank you very much.

MR. COMITER: All right. Next, we’re going to move on to Chris King. State your name and affiliation. Go ahead, Chris King.
MR. KING: Sorry. I was muted. Chris King with Siemens. Thank you for the opportunity here.

I want to focus on the EV driver experience for a minute. We all saw the Cal study that said that something like 35 percent of EV drivers will not buy another EV because of the fast charging experiences. One element is interoperability with preventing (indiscernible) lock in to improve customer choice, lowering costs through increased competition, and reducing the risk of stranded assets. And it also simplifies workforce training.

We need to send the vehicle to the charger and the charger to the EVSP cloud to protect those choices. Any publicly-funded chargers should comply with those open standards.

The CEC funding, so far a lot of it has gone to proprietary technologies. But I do want to compliment the CEC on working to address this issue but urge it to work faster and harder.

The second point is futureproofing. Higher power levels are coming.

Another is plugin charge. This is where you come, you plug in your vehicle, and the
vehicle talks to the charger and authenticates to
charge, a big improvement in driver experience.
You need a chip in the charger and a chip in the
vehicle. The CEC has the recommendation on this.
The Standard is 15118. And we strongly endorse
the recommendation and urge you to require it in
all of your solicitations.

Finally, data access. Tesla drivers know
the charger status, whether it’s available,
functional, weather cost to charge. All drivers
should have that access in real time and through
an open API that all app developers can use.

Thank you.

MR. COMITER: Perfect. All right.
Next, we’re going to move on to Glen
Choe. Please state your name and affiliation.

MR. CHOE: Thank you. Glen Choe from
Toyota Motors North America.

Toyota appreciates the compliments of
plans that the CEC has offered. And we’re always
grateful for the fact that there’s a lot of
diligence and thought process placed by the staff
on these topics.

However, we would like to say, as Toyota
prepares for talk on this ACC2 (phonetic)
regulation, we’re not really looking at targets
or adoptions. Instead, we’re looking at
conquest, conquest of consumers’ hearts and
minds, to have them unwind their gas in vehicles
and transition to zero-emission vehicles. For
that, we also recognize that Californians have
various use cases, as well as varying duty cycles
that we have to address as carmakers.

For those reasons, we do appreciate and
recognize that CEC is addressing both the plugin
and the hydrogen equation. However, we would
like to state on the hydrogen side that we kind
of want to recommend CEC move beyond the 200
numbers. As Bill Elrick mentioned, it should be
really focused on 100 percent ZEV, more so than
200 hydrogen stations. We do believe that
additional funding will be grateful and that it
will spur private investments into the hydrogen
equation.

And, again, we really are always
appreciative of CEC’s effort and energy to
support the rollout of infrastructure, to support
light-duty, as well as medium-duty. But we also
recognize that one should not be taking away from
the other. There should be complimentary
parallel pathways to both light-duty and heavy-
duty to transition the state towards a zero-
emission future.

Thank you.

MR. COMITER: Perfect.

Next, we have Mark M. Go ahead and
please state your name and affiliation.

MR. MARBURY: Hi. My name is Mark
Marbury and I’m a private citizen.

Ironically, six years ago today, I drove
away from Toyota of Orange in a brand new Toyota
Mirai, and I’m an apartment dweller. I’ve been
driving on hydrogen now for exactly six years.

So if there are other private citizens
out there wondering about, can you really do this
with hydrogen and driving, I’ve done it for six
years.

Thank you.

MR. COMITER: Okay. Next, we’re going to
move on to Wayne Leighty. Please go ahead and
state your name and affiliation.

MR. LEIGHTY: Hello. My name is Wayne
Leighty. I’m the commercial head at Shell
Hydrogen. Thanks for the good consideration
today. I’d like to add a few points to the
discussion.

First, it’s very difficult for the infrastructure development to catch up with demand. And it’s difficult for customers to adopt ZEVs without access to charging and fueling.

So for the widespread adoption and the state ZEV goals, it really depends on infrastructure availability and capacity exceeding the current demand. I’d encourage you to keep planning for success in the policy goals, anticipating adoption rather than waiting to see it before continuing programs.

The second point is we see important customer segments for both battery-electric and fuel cell electric vehicles across all vehicle classes, so would continue -- suggest continuing the support for fueling infrastructure, light-, medium- and heavy-duty across ZEVs and fuel cell.

And last point. There’s a lot of great complementarity between light-duty and heavy-duty vehicles, between battery-electric and fuel cell electric vehicles, both for the vehicles and the fuel, and for the resilient and affordable decarbonized energy systems for California. So I
appreciate your continued support for all of those.

Thank you.

MR. COMITER: All right. Thank you. And now we’ll be moving on to Samantha Ortego. Please state your name and affiliation.

MS. ORTEGO: Good afternoon, everyone. This is Samantha Ortego on behalf of ChargerHelp! We’re a small business headquartered in Los Angeles, women-owned, minority-owned, and we provide diagnostics, maintenance, and repair for Level 2s and DC fast charging software and hardware. And we provide the services to some of the major software manufacturing companies and utility companies in California. And we want to thank the CEC for all that you do and all the great progress that you guys have done.

We wanted to highlight that the operations and maintenance is a clean tech occupational class. And we’ve had, you know, previously had conversations regarding the specialized work that we do. So we ask that in every aspect of funding operations and maintenance that the workforce of technicians are considered. The major issues that the charging
stations experience are software and hardware.

Additionally, we recommend that 25 percent of the funding for deployment is considered for the operations and the maintenance.

And I’ll leave with this. The CEC should consider incorporating service-level agreements with their funding so that there’s a partnership between the software company manufacturer and the site host so that there could be a fast uptime requirements.

Thank you.

MR. COMITER: All right. Then next we’re going to have David Park. Please state your name and affiliation.

MR. PARK: Good afternoon. Thanks. This is David Park. I’m with the California Fuel Cell Partnership and Frontier Energy. I am the Industry Affairs Coordinator for the Partnership.

I just want to recognize Commissioner Monahan’s last remark regarding high-density housing and implementation of zero-emission vehicles in that duty cycle and just point out that hydrogen and fuel cell electric vehicles offer a gasoline-like experience where you can
see centralized fueling versus distributed
charging. So in those hard-to-reach areas,
hydrogen and fuel cell is very much complimentary
to battery-electric vehicle deployment.

And then that crosses over to the equity
side. And I just want to point out, from the
trenches of Long Beach, California, and I’d like
to acknowledge the representative from the Port
of Long Beach and the equity issues here, but in
Long Beach itself, I am seeing more fuel cell
electric vehicles penetrating in the lower income
to middle income stratus -- strata.

And where I’m seeing, it’s an economic
decision to adopt these vehicles given, you know,
supply shortages and the price of gasoline, given
the offer of fueling. With each -- the second --
first generation Mirai, they’re now on the second
generation. So we’re seeing a return of the
first generation Mirai into those lower-income
neighborhoods where they’re buying them off of
used car lots.

I would call this a program success, so
congratulations to all.

MR. COMITER: All right. Thank you.

And I think we have one more raised hand
and that was from Roy Bant, so go ahead and state
your name and affiliation.

MR. BANT: Yes, sir. Thank you. Roy
Bant, Chart Industries. Chart is a liquid
hydrogen equipment and hydrogen station
manufacturer, both hydrogen gas and hydrogen --
liquid hydrogen dispensing.

First and foremost, Chart Industries
appreciates CEC funding of hydrogen fueling
stations.

Number two, per the CARB’s Self-
Sufficiency Study, incremental investment into
the light-duty hydrogen fueling infrastructure
will light up private investment into this space
and enhance a self-sufficient and sustainable
light-duty marketplace.

And thirdly, I’m echoing many speakers
before me, I’m going to echo the same point,
heavy-duty should roll out in parallel with
light-duty and not one at the sacrifice of the
other.

Thank you very much.

MR. COMITER: All right. Thank you. And
then we have Willfort, Andreas, raise their hand,
and I’ll just let them speak now.
And go ahead and state your name and
affiliation.

MR. WILLFORT: Yes. Hi, guys. Andreas
Willfort from Weh Technologies stationed in
Texas. and we are also a small company who
provides all sorts of special parts for the
hydrogen. And we are fully, fully committed to
the hydrogen, including new developments of
everything.

But what I wanted to say, basically, is
not only thank you for all the money allowed for
these investments in stations, which are
absolutely needed for developing the
infrastructure, I think there should be some sort
of pressure, some sort of, I don’t know, whether
it’s an incentive or something to reduce the
approval times for those hydrogen stations. It
has been -- it is, in general, longer than two
years. and I don’t know what you can do or not.

But if there is something which can be
done on it, I think this would help to propel the
acceptance, the criticism that there are not
enough stations, and grow the hydrogen cars which
are fantastic cars. And all owners love it but
they all say there is not enough stations around.
And that approval time, if there’s something
which you guys can do at the CEC level, that
would definitely be a big, big push.

That’s all that I wanted to comment.

MR. COMITER: All right. And with that,
we have no more raised hands from attendees.

COMMISSIONER MONAHAN: Great. Well,
thanks to everybody who participated remotely.
I’m sure it was difficult to be on the phone, not
seeing people’s faces, and still being able to
pay attention to this meeting, so just appreciate
your fortitude.

And, Patrick, do you want to just close
out with just a reminder about timing for written
comments to the docket?

MR. BRECHT: Sure. Thank you,
Commissioner Monahan. Yes, just a couple things.

Our PowerPoint of this, the PowerPoint
that you saw today, is already up on our website.
A recording of the meeting will be up soon.
There will be a transcript of the meeting which
will probably be up on our docket or website next
week. And, of course, please email me if you
have any questions that didn’t come up through
the mtg.
And as the slide shows, comments are due April 29th by five o’clock. And we strongly encourage those in the public, those here in the room, remote Advisory Committee members to submit those comments within the next two weeks and a day, I think it is.

And with that -- oh, I want to also thank the IT Team for making this a reality today. It was very difficult. So I’d like to thank Giana Villegas and Kenny Sanders, along with many others who are behind the scenes that made this a possibility.

So with that, I’ll turn it back over to you, Commissioner Monahan.

COMMISSIONER MONAHAN: Just a reminder, we purposely timed the next Advisory Committee meeting to be after, hopefully, budget decisions have been made in the legislature. So the team will put forth, if there is additional funding, we’ll put forth some recommendations for -- or a draft of where we think this funding makes sense and look forward to your engagement in that process.

I think there are lots of venues that we’re intersecting. I’m intersecting with many
of you in different venues. I just want to make sure those conversations continue and are also a place to help inform the decisions that we make at the Energy Commission. And really encourage the public, also, to give us feedback.

So thanks to everybody. Thanks for coming. Again, if you haven’t taken a cookie, please take one. I think there are some extras so you can bring some home to your family if you would like. So thanks, everybody.

(The workshop adjourned at 12:34 p.m.)