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BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the matter of,)
) Docket No. 20-IEPR-02
2020 Integrated Energy Policy) REMOTE ACCESS WORKSHOP
Report Update(2020 IEPR Update))

**IEPR COMMISSIONER WORKSHOP ON TRANSPORTATION
TRENDS AND LIGHT-DUTY ZERO-EMISSION VEHICLE
MARKET UPDATE
SESSION 2 - ZEV AFFORDABILITY AND
EQUITABLE ACCESS, AND MARKET PERSPECTIVES
ON THE ZEV 2030 GOAL**

REMOTE ACCESS WORKSHOP

THURSDAY, JUNE 11, 2020

2:00 P.M.

Reported By:
Jacqueline Denlinger

APPEARANCES

Commissioners Present

Patricia Monahan, 2020 IEPR Update Lead Commissioner

David Hochschild, Chair

Karen Douglas, Commissioner

Staff Present

Heather Raitt, IEPR Program Manager

Dorothy Murimi, Public Advisor's Office

Panel One

Pilar Manriquez, Moderator, California Energy Commission

Jose Torres, Energy Equity Program Manager, California Environmental Justice Alliance

Rey Leon, Latino Equity and Policy Institute

Judy Kruger, Senior Director of Strategic Initiatives, Los Angeles Economic Development Corporation

Panel Two

Tim Olson, Moderator, California Energy Commission

Ajay Chawan, Mobility Solutions Team, Guidehouse

Chris Nevers, Director of Environmental Engineering and Policy, Rivian Automotive

Rohan Patel, Senior Global Director for Policy and Business Development, Tesla

Stephen Ellis, Manager of Fuel Cell Vehicles, Honda

APPEARANCES (CONT.)

Public Comment

William Zobel, Executive Director, California Hydrogen
Business Council

Joe Gagliano, Business Development Manager, United
Hydrogen

Raoul Renaud, formerly with the California Energy
Commission

David Park, California Fuel Cell Partnership

Jennifer Hamilton, Fuel Cell Electric Vehicle Driver

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1

P R O C E E D I N G S

1
2 JUNE 11, 2020 2:00 P.M.

3 MS. RAITT: Good afternoon. I'm Heather Raitt,
4 I'm the Program Manager for the Integrated Energy Policy
5 Report. Welcome to today's 2020 IEPR Update
6 Commissioner Workshop on Transportation Trends and
7 Light-Duty ZEV Market Update.

8 I'll quickly go over some housekeeping items
9 before we begin. Let's see, today's workshop is being
10 held remotely consistent with Executive Orders N-2520
11 and N-2920, and the recommendations from the California
12 Department of Public Health to encourage physical
13 distancing to slow the spread of COVID-19.

14 Please be aware that this meeting is being
15 recorded. We will post a recording and written
16 transcript on our website. Also, today's presentations
17 have been posted on our website.

18 We've broken this workshop into three sessions
19 and over today and tomorrow. This is our second
20 session. We will cover ZEV Affordability and Equitable
21 Access and Market Perspectives on ZEV 2030 Goal.
22 Tomorrow is the third and last session, in which we will
23 discuss Vehicle Miles Traveled and it starts at 10:00
24 a.m.

25 This afternoon, if you're -- and secondly, we're

1 going to be using the Q&A function in Zoom, with the
2 capability to vote questions posed by others. And if
3 you're on this morning, it's the same thing we did this
4 morning. So, attendees may type questions for panelists
5 by clicking on the Q&A icon at the bottom of your
6 screen. And then, so when you click on the Q&A you can
7 type in a question. Or, if you see a question that
8 you're interested in or if it's similar to the one you
9 were going to ask, you can just go ahead and click a
10 thumbs up on that one, and that votes on it, and that
11 will -- Zoom will then tally up the votes and elevate
12 that question. So, it will rise -- the questions with
13 the most votes get risen to the top of the list. So,
14 again, you can just type in a question or you can click
15 a thumbs up if you see one that looks similar to what
16 you wanted to ask.

17 And we'll go ahead and we'll do our best to
18 respond to the questions, but we're unlikely to be able
19 to elevate all of them due to time restrictions.

20 This afternoon we will also be using polling to
21 get feedback from you. And our aim is to get input as
22 we explore how we can best conduct online workshops.

23 So, finally, I'll go over how to provide
24 comments on the material in today's workshop. There
25 will be an opportunity for public comments at the end of

1 the workshop. In Zoom you can click the raise hand icon
2 on the bottom of the screen to raise your hand and let
3 us know that you'd like to make a comment. If you
4 change your mind, you can also click on it again and
5 your hand will go down.

6 For those on the phone, who aren't using Zoom,
7 you can press star 9 and that will raise your hand to
8 let us know that you want to comment.

9 Alternatively, written comments after the
10 workshop are welcome and are due at the close of
11 business on July 3rd. And again, the meeting notice
12 provides all the details for how to submit comments.

13 So, thanks in advance for your patience as we
14 try new things. And we're learning as we go and
15 figuring out how to best work in this remote
16 environment.

17 So, with that I will turn it over to
18 Commissioner Monahan for opening remarks.

19 COMMISSIONER MONAHAN: Yes, good afternoon
20 everybody. And I'm excited to be hosting this webinar
21 and having a remote IEPR workshop.

22 This is an area that I really care deeply about.
23 As we move towards more near-zero and zero-emission
24 vehicles, we need to do it in a way that benefits all
25 communities. And so, I mean equity is really at the

1 heart of a lot of what we're trying to do as we want to
2 make sure that we are creating a transportation system
3 that works for everybody, and especially for
4 disadvantaged communities, and for folks struggling, you
5 know, just to make it to work, to make it to school to
6 make sure their needs are met. So, this discussion is
7 one that I'm particularly looking forward to.

8 I know Commissioner Douglas is also on the line.
9 I'm not sure yet about the Chair or Commissioner
10 McAllister. But Commissioner Douglas, can I turn it
11 over to you for a few remarks as well?

12 COMMISSIONER DOUGLAS: Yes, and good afternoon
13 everybody. I just wanted to join Commissioner Monahan
14 in saying that I've been looking forward to this panel
15 and I look forward to the discussion. Thank you.

16 COMMISSIONER MONAHAN: So, just before I turn it
17 over to Pilar Manriquez, who's going to be discussing
18 this panel, Pilar actually comes from my office, she's
19 an Executive Fellow. So, I'm really excited that she's
20 going to lead the folks in this panel.

21 And I want to encourage folks who are -- as
22 Heather said, we're trying to use different functions in
23 Zoom to encourage participation by the participants.
24 And one of the, you know, opportunities here is that you
25 can actually have more of a voice through this remote

1 platform than through our traditional method. Right,
2 you get this -- instead of sitting in a room where you
3 see the back of people's heads speaking you get to see
4 their faces. And instead of waiting until the very end
5 to make your remarks, you can ask a question in the
6 middle. And we're going to try and poll the different
7 things.

8 So, please forgive us if some of it is kind of
9 corny or if we do it wrong and know that we have the
10 best of intentions, and know that you do, too. So, I
11 would just encourage you all to participate.

12 And with that, I think I'll turn it over to
13 Pilar and the panel to kick it off. Unless we -- I
14 should make sure there's no more Commissioners on the
15 line, right?

16 MS. RAITT: I don't see any. This is Heather.

17 COMMISSIONER MONAHAN: Okay.

18 MS. RAITT: Yeah.

19 COMMISSIONER MONAHAN: All right, so let's turn
20 it over to Pilar.

21 MS. MANRIQUEZ: Hi, good morning -- good
22 afternoon everyone. I hope there's some of you all who
23 joined us from this morning's IEPR workshop. If not,
24 welcome to today's workshop. It's called the ZEV
25 Affordability and Equitable Access. It's one of the

1 three workshops where we're talking about transportation
2 trends and LD ZEV market status.

3 So, our panelists for today include Jose Torres
4 from the California Environmental Justice Alliance. We
5 have Rey Leon from the Latino Equity and Policy
6 Institute. As well as Judy Kruger from the Los Angeles
7 Economic Development Corporation.

8 I'm excited to have our panelists today and we
9 hope that they can contribute Northern California,
10 Central Valley, and Southern California regional
11 perspectives on how to collectively achieve the 2030 ZEV
12 goal, while prioritizing and working towards equity.

13 So, most of you are familiar with our state 2030
14 goal. It's to ensure that we have 5 million ZEVs on the
15 road by 2030.

16 So, before we begin our presentations, I wanted
17 to kindly ask the dais to please hold any questions they
18 have for the panelists until after the presentation.

19 Thank you.

20 For our first presentation we have Jose Torres
21 who is joining us from the California Environmental
22 Justice Alliance where he serves as an Energy Equity
23 Program Manager. He works to ensure California's energy
24 policies are focusing on building a more equitable
25 economy for working families and communities of color.

1 Jose, go ahead, take it away.

2 MR. TORRES: Hello everyone. Good afternoon,
3 I'm Jose Torres, CEJA's Energy Equity Program Manager.
4 I'm here to talk to you about ZEV affordability and
5 equitable access.

6 So, just really quickly I'll tell you a little
7 bit about CEJA, in case you haven't heard of us. So, I
8 lead the energy equity work, but we have a climate
9 justice team, a green zones team, and programs, and then
10 we have a legislative, civic engagement and comms
11 program as well.

12 So, we have the unique ability to approach the
13 transportation question from all angles. And I'll talk
14 about that in a second. But, yeah, our climate team is
15 primarily -- they're the lead over at the ARB, and the
16 energy team leads the transportation work over here at
17 the Energy Commission.

18 So, at that note, we're a community-led alliance
19 that works to achieve environmental justice. We have
20 ten members and partners with varying needs statewide.
21 So, we have members in Northern California, Southern
22 California, the Inland Valley, and the Central Valley.
23 And that gives us a unique perspective, as well as
24 unique challenges.

25 That's why we definitely, first and foremost,

1 want to just provide folks that, you know, we're going
2 to do our best to try to address the affordability and
3 equitable access questions. But we always think that
4 the commitment to the community-led process is important
5 and we appreciate the emphasis on regional and local
6 solutions.

7 So, yeah, our members and partners across the
8 state have suffered with a variety of harms related to
9 pollution with (indiscernible) -- arising from both
10 direct emissions and climate change. And this
11 represents itself in different forms, right, on some
12 rural, suburban and urban perspectives.

13 For example, in terms of transportation, right,
14 some regions will benefit more from shared vehicles than
15 EV vehicle deployment, while others will definitely
16 benefit much more from electrifying public
17 infrastructure. We definitely believe that electrifying
18 public infrastructure is good for everyone. But we also
19 understand that some communities have many challenges
20 specifically in the Central Valley and -I will defer to
21 rate as dive deeper into that. But from our members out
22 there we understand that, you know, there's a lack of
23 just even a transportation infrastructure in general.

24 I myself come from the Inland Valley and my
25 mother's nearest bus stop is about an hour away. So, in

1 terms of how do you evolve the entire transportation
2 infrastructure, right, that presents some challenges.
3 And it's why I think some of our members have definitely
4 focused on how you make vehicles, ZEV vehicles
5 accessible?

6 A little bit more details about the communities
7 we represent. Our communities are located next to
8 fossil fuel industry, right, and transportation
9 corridors by transportation pollution. It's a big
10 contribution to our communities. This also results in
11 like unique employment needs and challenges to different
12 standards.

13 For example, displacement is a huge issue in
14 addition to affordability. So, upgrading let's say a
15 multi-family building or a home with EV or, you know, I
16 also work on energy efficiency, can present some
17 challenges because that could mean rent increases and so
18 on. So, it has to be done carefully, right.

19 I think in terms of, you know, our suburban and
20 rural folks, right, we're kind of talking about extreme
21 weather, right, in terms of really hot days or colder
22 days. And I already talked about the limited
23 transportation options, right, but just want to repeat
24 that again for you all.

25 So, yeah, that's a little bit about who we

1 represent and, yeah, definitely could jump onto the next
2 slide.

3 Thank you. Thanks for that. So, the first
4 think we ask you is prioritizing clean and equitable
5 energy investment in EJ communities. So, I'll talk a
6 little bit more about the communities and then kind of
7 jump into why it's important to prioritize investments
8 in EJ communities.

9 So, you know, when I mentioned, you know,
10 (indiscernible) -- I'll explain a little more as to what
11 it means, right, to be a distressed community or an EJ
12 community, right. There's poverty, high unemployment,
13 air and water pollution and presence of hazardous waste
14 as well -- incidences of asthma and heart disease,
15 mostly consistent of our local residents, and
16 immigrants, in addition to communities who have
17 experienced the disproportionate burden of environment
18 pollution and related health problems, right.

19 Which, you know, we think then it makes this
20 question ultimately an ethical issue, right.
21 Communities that have been disproportionately impacted by
22 the supply side of the transportation system, which
23 would be the fossil fuel industry, we think they deserve
24 the benefits of these green and EV vehicles first.

25 So, and I mentioned the supply side because we

1 think that the solution should be holistic, right, it
2 shouldn't be siloed. So, although we appreciate the
3 focus on ZEV passenger vehicles, our members definitely
4 focus on medium and heavy duty transportation, as well
5 as public transportation infrastructure, and how to
6 change and phase out fossil fuels on the supply side.

7 And that's because, right, the transportation is
8 one of the largest sources of air pollutants that cause
9 climate change and harm people's health, right. As we
10 probably already know, nearly half of all greenhouse gas
11 emissions come from transportation and about 80 percent
12 of forming pollution, and 95 percent of Prop 50
13 particulate matter come from the production, refining
14 and use of petroleum in California. So, we think it's
15 important to see that. See both sides of the equation
16 and why we always emphasize investing in EJ communities
17 first because of that history and that current system.

18 Yeah, so I guess that's through investments and
19 affordability. As we've identified, we think it's an
20 ethical issue. And we definitely recognize some of the
21 progress that has been made in terms of programs and
22 successful pilot projects.

23 But just through (indiscernible) -- different
24 car sharing programs, vanpooling programs
25 (indiscernible) --

1 But our members, when I checked in with them
2 about this, definitely want to emphasize that they think
3 in order to achieve equity and environmental justice you
4 should see more than just a program, right. It needs to
5 be implemented on the side. But more so as a necessary
6 ingredient for successful transportation.

7 Many of them see the role of government to
8 people who don't have access, you know, to these things
9 as obstacles.

10 Yeah, and some even mentioned is if we're
11 serious about EV adoption in the EJ communities you
12 would give them for free. I guess that, you know,
13 resources are limited and that some of these things
14 maybe sound, you know, difficult to achieve, but I do
15 want to share those perspectives because to me it just
16 illustrates kind of what our members are feeling, and
17 what our members think are some solutions, right. And I
18 think what that represents to me is that at the
19 forefront, right at the core, you know, focusing as
20 equity as a leading issue and not as a side issue,
21 right.

22 And just really quickly, right, how does that
23 benefit the communities? You know, obviously we're
24 removing a gross polluter off the road. It benefits
25 local pollution very much, right. It decreases

1 pollution in the transportation corridors. We also see,
2 you know, the potential job opportunities that could
3 come from this industry, right, and I'm sure other folks
4 here on the panel will talk about. So, yeah, we
5 definitely see a lot of benefits both from decreasing
6 pollution and promoting job growth, and also giving
7 folks just the opportunity, as it was mentioned, to get
8 somewhere.

9 And, yeah, so from that we can move on to
10 prioritizing EJ communities to help out California.

11 The next slide, please. Yeah, so as I
12 mentioned, right, there's a lot of challenges and we
13 think, you know, that designing a solution for affluent
14 folks will not work. But we think that if you design it
15 for EJ communities they will more places, right. If you
16 focus on how EJ communities can adopt them, we think
17 that it will benefit all Californians. And to be more
18 specific, right, we don't think the trickle down
19 technology approach works as well, even for all
20 Californians, right.

21 We think that, you know, affordability and
22 access are linked. And I guess to be specific is our
23 members make decisions, right, about vehicles based on
24 affordability and they really affect it, right, the
25 rationale about these decisions, right. So, in order to

1 ensure that they have access to these vehicles they need
2 to be affordable. But what does that mean, right? What
3 does that mean and how does that translate to the rest
4 of California? They're evaluating not only how much it
5 costs, but all the obstacles that you foresee when you
6 purchase something, right. So, then you would have to
7 make charging stations more available. You would have
8 to approach this I think more like a cell phone than a
9 solar panel in terms of how you implement the technology
10 and kind of get through to help folks implement and
11 adopt these vehicles.

12 And I could talk more about that later, but I
13 just -- the quick point of that is that if we implement
14 these programs or this approach in EJ communities where
15 we focus on whether we need to facilitate level 2
16 charges, make them cheaper, or have dealerships kind of,
17 you know, offer them right off the bat, or whatever
18 solution would promote that is community centered.
19 Because after we address the issue of EJ communities and
20 how that vehicle can be proliferated in those
21 communities, we think it will be easier to apply it in
22 the rest of California. Thank you.

23 MS. MANRIQUEZ: Thank you, Jose.

24 Again, I wanted to mention that we're holding
25 off all questions until the end of everyone's

1 presentation.

2 But I want to introduce you all to our next
3 panelist, which is Rey Leon, who was born and raised in
4 Fresno County. He is the Founder and Executive Director
5 of the Latino Equity and Policy Institute, formally
6 known as Valley Leap, which is an environmental and
7 social justice organization serving communities
8 throughout the San Joaquin Valley.

9 Welcome Rey.

10 MR. LEON: Buenos tardes. Good afternoon. And
11 that's me in the background right now. But, well, it's
12 a pleasure for me to be here with all of you. Thank
13 you, Commissioner Monahan and greetings to Commissioner
14 Douglas.

15 I'm caught up today. Some things came up, I had
16 to make a trip to Fresno and I find myself in the
17 Mexican Consulate. But I'm here very much present. And
18 I guess I was born in Fresno, raised in the Huron area.
19 My father arrived in '51, in Huron, as an undocumented
20 farmworker, laborer, and became a bracero farmworker in
21 '57. So, I've been here for quite a while.

22 And the mission of LEAP, as a result of me going
23 up, surrounded in my farmworker community by my farm
24 working relatives, our focus is with farmworkers. We
25 work with communities throughout the region to achieve

1 economic, environmental and climate justice.

2 And so, we know that all of them have something
3 to do with each other, right. And I think electric
4 vehicles is definitely one of those items that has an
5 impact in all of those cases and particularly as we're
6 working out our program, the Green Raiteros Program,
7 it's definitely -- it's all those elements.

8 But next slide. I'm glad I have slides. And
9 so, I mean I've been organizing for the past 25 years
10 here in the valley. I started organizing when I went
11 home one summer, after being at Cal the whole year, and
12 went to the clinic and asked if they had anything for me
13 to do. And the then director of the clinic was also the
14 mayor of the city. And he said, you know what I think I
15 do. So, he got on the phone and called the CEO of the
16 clinic network, who was the mayor part here at the time,
17 and told the mayor I got a chicanito here, like from
18 Berkeley that wants to help us out. All right.

19 So, they got me involved. They got me involved
20 on doing some history, actual research with farmworker
21 families on the services of the clinic. And so, that
22 was the whole process of entering a hundred farmworker
23 families. And what's impressive is that it was an
24 impacting of tasks that I had. Because when I reported
25 back, the clinic actually added hours on the weekend,

1 and did a bunch of other things to accommodate the
2 farmworker families.

3 So, then, they provided me the opportunity to
4 keep on working with them as a volunteer. And I started
5 out there.

6 And I mention it because from the very beginning
7 of my organizing it's been about the public health of
8 farmworker families, you know, and it continues to be
9 that. We're in a different era today but, you know,
10 environmental justice has always been that. And that's
11 why I think I've really found my space in environmental
12 justice.

13 And environmental justice is a concept that
14 entails not just the environment, but justice for the
15 people. If you are doing environmental work, but you're
16 not empowering the next generation of leaders, or the
17 leaders on the ground when you are fighting around an
18 issue to try to enhance your environment, then you'll
19 not be conducting environmental justice. You've got to be
20 developing the leaders in the space so that when you
21 organize yourselves out of there the people have the
22 power, and the struggle continues to enhance, improve
23 the quality of lives of the working families.

24 And so, I see, and I mention this again because
25 I liken electric vehicles in the same fashion, and I'll

1 be able to talk a little more about that as I go on.

2 But, you know, I've had the experience in these
3 numerous years to be able to work with not just my
4 colleague nonprofits in developing coalitions that have
5 had a huge impact not just within the region, but at a
6 statewide level, policy-wise, systems change-wise. And
7 then working with state organizations and federal
8 organizations, with some of the other projects that
9 we've got going on for environmental justice. And just
10 all of it going back to improving, working for improving
11 the quality of life for farmworkers, while
12 simultaneously building the leadership of farmworker
13 folks. And some of which have run and won seats on city
14 councils in a few different towns, and been on a few
15 different elected boards.

16 But if you're not building leadership of the
17 people you're working with in the process of doing the
18 work, you're not doing environmental justice.

19 So, the next slide. So, you know, one of the
20 programs that we're -- we have going on the ground that
21 is relevant I think to electric vehicles for sure is we
22 got a grant for AB 617. And we've put down about five
23 or six air quality monitors on the west side of Fresno
24 County and Kings County thus far. We have another about
25 15 to go. But, you know, getting that data is really

1 important.

2 I remember when I first started this air quality
3 work in 2003, under the Latino issues Forum I was a --
4 you know, I was just really taken back, I guess I could
5 say, when I seen the map of where all the pollution was.
6 You know, you see all the pollution. On the map it's
7 showing that it's all in the 99, and the east side of
8 the valley area and then on the west side it looks all
9 clean, you know.

10 And then, later on I got a hold of a map that
11 showed where all the air quality monitors were at.
12 Well, all the air quality monitors were on the east side
13 of the valley, you know, along the 99 or on the most
14 part east of the 99. And so, it basically, run it and
15 said, of course they think it's clean on this side
16 because there's no air quality monitors, right.

17 And so, in 2006 we were successful with then
18 Assembly Member Arambula to put down the first air
19 quality monitor on the west side, which is still there
20 today. And it monitors PM2.5. And PM2.5 is one of the
21 really bad affluent criterions that is attributed to
22 over 2,000 premature deaths per year in the valley
23 alone.

24 You know, I think while we are working towards
25 replacing gas and diesel vehicles with electrical

1 vehicles for not just cars, but light duty and heavy
2 duty, we'll start seeing a difference in that. And I
3 think having monitors throughout the west side to see
4 the progress is something critical.

5 And much more critical is having the community,
6 the residents that are on our steering committee that
7 have just been with us in the placing of these monitors,
8 and so they're learning the science as we go. I guess
9 you could call it citizen science, you know, in
10 understanding the technology, and the pollutants, and
11 its impact, and also the solutions that it regards.

12 So, the project we've got going on, well, it's
13 part of AB 617, Guerreros por Aire Limpio, Clean Air
14 Warriors. Well, that's a group of folks that have been
15 working with us and we're building leadership on the
16 west side of Fresno County and Kings County, and
17 unfolding all that work.

18 One of our bigger programs is our Raiteros
19 Program. I've mentioned it to a number of -- some of
20 you already. But Raiteros, and some of you may already
21 know just because you know, Raiteros come from the word
22 Raite. Raite is a Spanglish term for ride. So, if I
23 give you a raite, I'm giving you a ride. If I'm a
24 Raitero it means I'm giving you a ride or maybe I'm the
25 (indiscernible) that's giving you a ride.

1 Right. So, a long time ago in 2014, well, not
2 so long, but I went with a colleague to do a study. At
3 the time we had the Action Research Resource Center
4 going on, so some of my interns and myself worked with a
5 colleague on a farmworker fuel study, which was
6 something that was provided to then Senator -- I can't
7 remember her name right now. But she did some policy
8 development.

9 So, then when we were getting all of this
10 information we learned that about 50 to 60 percent of
11 the farmworkers were commuting such a distance that it
12 was costing them probably about 40 to 50 percent of
13 their monthly wages to be able to commute.

14 You know, back in the day a tomato combine
15 machine, sorter would employ about 12 individuals.
16 Today it's more like two or three, if you include the
17 machine driver. So, a while group of farmworkers were
18 an operation to harvest Roma tomatoes, which is usually
19 used for paste, and goes on pizzas, and sauces and so
20 forth, it used to be about 15, now it's about four. And
21 those four individuals are usually coming from a
22 different community, so they're not really carpooling.

23 And the cost was really extreme and just showing
24 how the inequity existed to further undermine the
25 economic advancement of these families and ultimately of

1 the communities, and at the end the region, you know,
2 which is an impact to all of us. And it really
3 undermines the quality of life that our families in
4 these parts face.

5 So, that got me thinking and got to me remember
6 also just the struggle when I was a child, and one of my
7 cousins was basically on his deathbed at Fresno, at the
8 hospital, having been in a car crash, and the doctor
9 having realized that he also had Valley fever, so he was
10 in really bad shape. And the day that it was pretty
11 much the last day everybody was going to the hospital
12 and so, there weren't any Raiteros near us. And we were
13 forced to just take what was available, which is the
14 county, the rural transit, which at the time and pretty
15 much until today is a commute of about three hours from
16 my community of Huron to Fresno. Whereas, if you go in
17 a vehicle it's more like 45 minutes, 50 minutes, no more
18 than an hour.

19 So, you know, that's one of the problems that
20 farmworker families have to deal with and it makes it
21 really challenging.

22 So, I said you know what, I'm going to talk
23 Raiteros that exist, still, and most of them being part
24 of our committee in Huron. Of course, when you're an
25 organizer and you're organizing the community you don't

1 just go in and you organize right. You go and you talk
2 to the people that have been working. And, of course,
3 having the luxury of being from Huron, you know, I knew
4 a lot of folks. But as an organizer, you know, you want
5 to develop a comite' of the people from the community
6 because really what they become is your board for that
7 area, you know your advisors. And you start where
8 they're at. You know, you do the work that they need.
9 You don't impose, you know.

10 And so, I talked to a lot of the Raiteros who
11 were part of this comite'. And I said, hey, what do you
12 guys think about, you know, having the -- continuing the
13 work that you guys do for using electric vehicles? And
14 everybody just was excited about it. And they said,
15 yeah, let's do it, Rey. Do what you got to do, let's
16 make it happen.

17 So, fast forward, you know, we have this Green
18 Raiteros Program where we have electric vehicles, we
19 have a headquarters with ten electric vehicle chargers
20 level two, and dispatch, a small staff. And we've been
21 able to give hundreds of families rides to they're
22 doctors' appointments, nonemergency medical
23 appointments. And Fresno has, Bakersfield, Madera, to
24 Valley Children's Hospital. A lot of children have
25 asthma and so they require this specialized attention.

1 And most of the people that get the trips are to
2 specialized doctors, or it's dialysis, or what's that
3 called, the cancer doctors.

4 But so it's a -- we have a few hundred clients
5 that make use of these Raiteros. And so, we're
6 continuing to work that out.

7 The next slide. So, let me conclude for now.
8 And so, of course there's also a lot of folks have
9 needs, social service needs, and so we are able to try
10 to work that in. On the most part we got to do -- we've
11 got to fundraise to have the resources to provide those
12 rides. We have two type of programs. One is with the
13 Green Raiteros where we use the vehicles and we have a
14 contract with these volunteers that we reimburse them.

15 But that's, you know, from having done a lot of
16 the policy work in numerous years, I've even developed
17 some of the coalitions like Central Valley Equality
18 Coalition, and others, and trying to set up -- set the
19 stage for other work.

20 You know, one of the important things is also
21 not just us fighting for --

22 MS. MANRIQUEZ: Hey Rey, sorry to interrupt.
23 Sorry to interrupt.

24 MR. LEON: So, I think that we should be able to
25 be the ones to develop the programs we need. Thank you.

1 MS. MANRIQUEZ: Thank you, Rey. Thank you, I
2 appreciate that.

3 Again, we're going to hold off for any
4 questions.

5 We have one more panelist and I'd like to
6 introduce her now. Last but not least we have Judy
7 Kruger. Welcome Judy. She is from the Los Angeles
8 Economic Development Corporation where she's dedicated
9 to advancing opportunity and prosperity for all by
10 engaging the LA Region in building on their global
11 competitive advantage and opportunity to create a strong
12 workforce. Take it away Judy.

13 MS. KRUGER: Good afternoon. I'm looking to see
14 if I'm good to go. Can you hear me okay? Okay.

15 MS. MANRIQUEZ: We can hear you.

16 MS. KRUGER: Okay, great. Thank you. I want to
17 go over a couple of slides here. And what we did a few
18 years ago is we pulled together a number of electric
19 vehicle companies in California, and in Southern
20 California, and also some of our strong partners like
21 California Edison, AQMD, LA Metro, and said what do we
22 need to research? What do we need to look at? And what
23 do we need to do with what looks like we've got a
24 fantastic electric vehicle ecosystem here in California,
25 what do we -- what do we need to do?

1 Well, they commissioned, along with our
2 Economist Commission Report called "Electrifying the
3 Ecosystem in California" and specifically Southern
4 California.

5 The next slide, please. So, what happened with
6 this report? It's a 50-page report. It's online and on
7 our website. What we found is that we have a tremendous
8 ecosystem in California, as many of you know, but it's
9 striking when you see the actual mapping of where the
10 headquarters are, and the design and tech studios, and
11 who's doing manufacturing and R&D.

12 So, you know, you may have -- you've of course
13 heard of Tesla, but have you heard of Fisker, Inc., or
14 Karma Automotive, or the new car company Canoo? These
15 companies are actually employing lots of good-paying
16 jobs in California. In fact Canoo, headquartered in
17 Torrance, has employed about three to four hundred
18 people now, and about 50 people in the Bay Area, so both
19 Southern California and Northern California.

20 Fisker, Inc. is an interesting new electric car
21 company also in the Southern California/Bay Area. And
22 they're going to come out with their first vehicle in
23 about year or so, made with recycled materials but at a
24 price point of about \$40,000 per vehicle. So, lots of
25 interesting things going on with this ecosystem. And

1 this is a great visual to see what actually is
2 happening.

3 The next slide. And so, we also charted the
4 bus, truck and tram companies that are in California.
5 And this is another slide and just tracking who's doing
6 what, where was quite a challenge. Because we have our
7 bus and truck companies, also many of whom are looking
8 at California as a fantastic market opportunity and
9 they're popping up either with a sales office, or a tech
10 center, or a distribution center.

11 So, actually, our report on the electric vehicle
12 ecosystem has about 50 pages and we have multiple slides
13 that show the asset mapping on multiple layers. But
14 what I want to say though is -- I say this every time I
15 go to Sacramento and every time I meet with leaders in
16 Southern California as well, it's like this is something
17 that's truly unique to California.

18 And as you know, historically California set
19 environmental goals that drove companies to resolve
20 those goals that they drove market share. So, it's a
21 win/win on so many different levels because these are
22 good paying jobs. This is great for the economy. It is
23 an ecosystem that's very innovative.

24 And I was telling Pilar, as we were getting
25 ready for this call, I moved from Michigan three years

1 ago. And Michigan thinks it's got all that going on in
2 electric vehicles and they do have a tremendous amount
3 of automotive companies. But nobody in the U.S. has an
4 ecosystem like we have here in California.

5 And the question is as economic developers is
6 how do we nurture this ecosystem? How do we protect it?
7 Especially in this new what could be a significant
8 recession? How do we protect this ecosystem and grow it
9 not only to meet our environmental goals, but to meet
10 our new and higher level-concerned equity goals and
11 inclusion goals?

12 The next slide. So, our report broke down some
13 of the workforce under certain categories for Southern
14 California, as well as California as a whole. The
15 ecosystem by industry includes utilities, construction,
16 manufacturing, retail, and you can read the rest of the
17 industry profiles.

18 But as you can see, in Southern California the
19 EV ecosystem prior to COVID-19 was 119,200, in
20 California 275,600. So, this is an interesting
21 workforce that are creating some pretty good jobs. And
22 we're working with community colleges in Southern
23 California to make sure that pipeline, the curriculum is
24 built, the pipeline is --- new workers is being funneled
25 to the community colleges, into the workforce with

1 internships, and curriculum development.

2 The next slide, please. And so, the forecasting
3 for the future of electric vehicle jobs in California,
4 currently 275,600 jobs. Anticipated for a 13 percent
5 growth. Of course, we're adjusting all of this -- this
6 report was commissioned and completed before our shelter
7 in place and what could end up being a recession.

8 We still believe that this is an industry that's
9 going to bounce back and bounce back with perhaps a 13
10 percent employment growth. And looking forward in
11 Southern California currently 119,000 jobs and looking
12 at a 27 percent employment growth. And all of the
13 categories that you saw on the slide previously, those
14 are some really good middle skill/middle wage jobs. And
15 as we look through the lens of equity, and inclusion,
16 and how do we move so many people from low paying/low
17 skill jobs into middle skill jobs and decent jobs.

18 This is an environment and an ecosystem in
19 California that is the pathway for a lot of workers to
20 actually get a decent paying job.

21 The next slide. And so, the full report is
22 available on our website. And like I said, it's 50
23 pages. It covers not only the asset mapping that you
24 saw earlier, but it also covers the jobs report, and
25 jobs forecasting, and a breakdown of the jobs. It also

1 reviews a little bit of a review of combustion engine
2 versus electric vehicle. It also has a pretty
3 exhaustive review of what the incentives are and the
4 impact of incentives, and what are some good future
5 policy considerations.

6 As well as who is -- who are the organizations
7 that are providing assistance to this ecosystem.

8 Thank you.

9 MS. MANRIQUEZ: Thank you, Judy, appreciate it.

10 So, now we're going to transition over to the
11 dais. That concludes our presentations. Thank you,
12 panelists. I ask you to please turn on your video and
13 I'm going to go ahead and transition over to
14 Commissioner Monahan.

15 COMMISSIONER MONAHAN: Yes, I have a couple of
16 questions. One is for Judy and the analysis that you
17 all did, which I read the report and it was really
18 great. Actually, a beautifully displayed report, so
19 kudos to your team.

20 So, we're curious how much analysis has been on
21 the job impacts of building out charging infrastructure
22 and whether you have any thoughts on that? It's
23 something that we're interested in as an Energy
24 Commission because we're investing in the build out of
25 the charging infrastructure. We're looking at, you

1 know, at the time when you're really struggling with job
2 loss, and economic impacts, and working families are
3 having a tough time. We're trying to figure out how do
4 we leverage our funds to support job creation. And just
5 curious if you have any thoughts on that equation, the
6 build out of the charging infrastructure.

7 MS. KRUGER: So, yes, it's not covered in detail
8 in the report as you could see, but we did see that the
9 charging infrastructure jobs are at a lower threshold
10 for education which, as you know, is really important to
11 pull in high school graduates, as well as those that
12 have community college education. So, that is really a
13 niche because there's a huge need for engineers. We do
14 a lot of engineering graduates. We have a pipeline of
15 some pretty strong engineering graduates.

16 But the infrastructure in particular is another
17 niche of a good paying jobs that don't require as much
18 education. So, we don't really have statistics on it,
19 but as far as a career pathway there is significant
20 opportunity there, and I think our community colleges
21 can really assist with that.

22 MR. TORRES: Patty, I think you're on mute.

23 COMMISSIONER MONAHAN: Yes, I am. Sorry about
24 that folks. So, I have a question for Jose and Rey and
25 then I'll turn it over to Commissioner Douglas to see if

1 she has questions.

2 So, as you all know, I mean for the budget it's
3 a rough year. And funding for vehicle incentives, we
4 just heard from the Air Resources Board that they don't
5 have any. So, you know, we're going to have to be
6 really strategic as a state about how we dispense very
7 limited funds to support transportation electrification
8 and especially to support the light duty vehicle market.

9 And I am curious about your thoughts or
10 recommends to the state as we wrestle with this big
11 budget shortfall. How do we support making sure that
12 disadvantaged communities are able to access vehicles?
13 Should we focus more on the secondary market and not on
14 the primary -- on the new vehicle market? You know, I
15 just would be curious about any ideas and
16 recommendations you have for the State of California.

17 MR. TORRES: Do you want to go first, Rey?

18 MR. LEON: So, I mean the last thing I want to
19 see is that once again we're giving leftovers to the
20 hardworking people on the ground. You know, my
21 community is farmworkers. That's what we do. We're
22 surrounded by lettuce one season, onions another season,
23 tomatoes, garlic, melons, watermelons, everything you
24 guys eat, you know. And I just don't want to be able to
25 rationalize giving the secondhand to those that are the

1 essentially workers that we have continuously
2 overlooked, you know.

3 I think we should figure out how not to do that.
4 We shouldn't do that. Because to an extent that's a
5 practice that is inequitable. You know, my people
6 deserve the best available technologies also. They are
7 putting it down and sacrificing themselves, and they
8 always have been, and so they shouldn't be second rate.

9 So, what I do think is that the second market of
10 vehicles, they could go through the programs that are
11 making sure that the access gaps are being attended to,
12 you know, so that -- you know, I think the future
13 ultimately is about going from personal ownership of a
14 vehicle to community ownership of a fleet that is then
15 owned by the community cooperatively, and controlled
16 democratically. I think that's the future. That's
17 about resilience.

18 And we've seen through this COVID situation that
19 it's resilience that is much more valuable than anything
20 else. But the systems that we have which are identified
21 as normal aren't about really resiliency, you know. And
22 who is most impacted first and worse when these type of
23 things happen? It's the farmworker, it's the low income
24 communities of color, you know. And that's what, you
25 know, I've seen my whole life and didn't know it to what

1 extent and for that (indiscernible) and started learning
2 more about it. You know, and so that's why I'm here and
3 that's why, you know, I do the work that I do.

4 But Jose, you want to throw some in?

5 MR. TORRES: Yeah. No, thank you, I think that
6 was great. And like I pretty well think the first point
7 made in terms of the ethical question, right, is like we
8 definitely think that these communities deserve to be
9 prioritized and they should be at the forefront of the
10 planning and getting the resources they need.

11 I think as far as statistics, they're
12 complicated with limited resources, so we should
13 definitely think about how to get those. And whether
14 it's bonds or taxes, right. But I think thinking just
15 within the parameter of what we have now, I think the
16 charging stations is something that's a powerful thing
17 to focus on and making those more visible, or free.

18 I think when you think of the amount of
19 challenges that are already there that could be, I
20 think, minimized with coordination, sort of that optimum
21 idea and the rate support for the idea of getting free
22 these EV support which I think is the ultimate solution.

23 But I think for now, right, as there's limited
24 funding it's questions about how can we make this much
25 easier, right. And I think even if you want to buy a

1 vehicle and you want a level 2 charger at home because
2 you don't want to wait more than eight hours depending
3 on what you charge, right, with the level 1 charger,
4 then it's like -- there's some rebates, maybe there's
5 some help, but is there a system to really just have it
6 come with it, right.

7 Like when you buy a cell phone, right, you come
8 with the charger. It's already there. You don't have
9 to think about it, right. And then like making chargers
10 universal, right. I think that's another thing that's
11 just very plain and accessible do you have to worry
12 about what charger plugs into what charging station?

13 I think this is low-hanging fruit that you could
14 resolve just by looking at how other technology has been
15 implemented that can address that.

16 And also batteries, right. On the used electric
17 vehicle market I think one of the scary things is do you
18 have, you know, electric vehicle mechanics in your area?
19 Do you have battery rebates? Are you afraid of a \$5,500
20 expenditure after you buy a used vehicle, thinking it's
21 going to be cheaper, right.

22 So, I think answering these questions and
23 resolving them can be done with some coordination. And
24 I think we already have a lot of those tools to ensure
25 that there's more equitable access. And so, I think,

1 yeah, definitely prioritizing how we do our charging
2 infrastructure and making it more accessible by
3 targeting these communities.

4 MR. LEON: So, if I could add in terms of the
5 rebates that are out there, I know there's different
6 programs, there's different pots, and I know that you
7 really can't stack them all. So, I think they should be
8 stackable, now.

9 You know, I know there's a CAVAP, the beneficial
10 state foundation and I don't think you can stack that
11 with some of these. So, we should start thinking about,
12 you know, stacking them and to make available the EVs to
13 the environmental justice communities that are
14 disproportionately impacted by pollution. So, that they
15 could be disproportionately impacted by the best
16 available control technologies that will reduce the
17 pollution.

18 You know, the other thing is that let's make it
19 easy. Let's make it easy. It was also mentioned that
20 something that it will make it easy makes no sense, the
21 south pole of the charger. Of course, why not, why
22 isn't it like that, right. Make it a level 2 charger.
23 Don't make it a level 1 charger because you'll be there
24 forever.

25 But the other thing is when you're able to --

1 you're outside, like you're on -- we've got 24 chargers
2 right now, level 2. We're the city and the country with
3 the most EV chargers per capita. But the way I tried to
4 say it is that we've got water in the river but not
5 enough canoes. So, we need to, you know, be able to get
6 those canoes out into the community. But a lot of
7 people are challenged by the technology. And each
8 different company has a different way of charging the --
9 it's a different car, it's a different knack, it's a
10 whatever. It's difficult. It's challenging and a lot
11 of people aren't going to be able to deal with that.

12 So, if the utilities could play a part in this
13 and especially if a family gets an EV and they're in the
14 tariff program, or whatever that program's called, and
15 then they could qualify for cheaper energy or a discount
16 on the energy, and then in the mail through the utility
17 they'll get that charging card that you could use in any
18 company for any charger.

19 I don't know that just sounds like a good idea
20 to me, make it easy. Make it simple. So, that's just,
21 you know, one thing that I'd like to share.

22 COMMISSIONER DOUGLAS: So, I think I just have a
23 couple questions. This has been really helpful, so
24 thanks to all of you.

25 MR. LEON: Thank you.

1 COMMISSIONER DOUGLAS: Yeah, how are you right?
2 Good to see you. Actually, my first question is for
3 you. So, you know, I've thought for some time that the
4 community-based model that, you know, that you've been
5 implementing, really, is a great way to get electric
6 vehicles out into areas that we would have a hard time
7 reaching just with generalized rebate programs and, you
8 know, the kind of usual outreach that we do.

9 How, you know, how effective do you think that
10 is and what do you think needs to be done to make these
11 kinds of approaches sustainable and provide, you know,
12 the needed support around it so that you -- you know,
13 what does it take in other words to make that work from
14 your perspective?

15 MR. LEON: I think moving around some pieces.
16 You know, we talk about the resources not being there,
17 but I think there's a lot of things that are consuming
18 resources that may not, you know, really qualify in
19 terms of trying to provide families' access to their
20 doctors. You know, that to me is pretty important.
21 Having a healthy family and healthy families provide for
22 a healthy community, it provides for a healthy economy,
23 you know, I'm going to share it in that fashion.

24 But, you know, the type of system that we call
25 -- we have, we call it the grassroots independent

1 transportation hub. And that basically depends on just
2 the community coming together and having drivers
3 available that could get their neighbors, their folks
4 from the community to where they got to go. You know,
5 it's about bridging that gap. Because that gap that
6 exists in terms of creating the geographic isolation of
7 communities that are already linguistically isolated is
8 one that is real, and it's impacting in a very negative
9 way and undermining the quality of life of a lot of our
10 families.

11 You know, it's kind of like the digital divide,
12 right. So, these grid hubs, basically, and similar
13 things like it could provide people access. Like in
14 Huron, we have nobody part of the apprentice program in
15 Fresno, yet it's a county program. You know. That's
16 something that I'm working on and making sure that that
17 connection exists, and not just for Huron.

18 You know, and the four poorest cities in the
19 State of California are in Fresno County. Huron's one
20 of them. You know, and so if we want to really resolve
21 these issues, we've got to make the right moves to make
22 it happen. You know, right now we're talking about we
23 can't return to normal, we can't return to normal, but
24 normal is what everybody's used to. You know, and I
25 think people are just trying to put flowers on the

1 normal and say, hey, we've got it to the next level.
2 You know, we really got to rethink this, man. And all
3 the different agencies have got to circle up around and
4 we've really got to rethink this because otherwise we're
5 just going to be coming back to this and talking about
6 how the problem still exists. And it will be just
7 different people in the circle having this discussion.

8 You know, there's some solutions, there's a way
9 to do it but then, you know, unfortunately with the
10 COVID now we have a strong -- or somebody's got a strong
11 argument to say that the resources aren't there. I
12 think the resources are there, but they're over here.
13 We've just got to get them from other there and bring
14 them over here.

15 COMMISSIONER DOUGLAS: Okay. Well, thanks.
16 And, you know, yeah, you've been -- there we go. My
17 screen just almost fell down on me. Thank you, Rey, and
18 thanks for your hard work in Huron. And, you know,
19 happy to chat ever, when you have more ideas about, as
20 you always do, about things that can be done to really
21 make a difference on the ground.

22 And I was just going to ask one other question.
23 I don't know, it might be for Judy or it might be to
24 anyone who has some thoughts on it. But if you think
25 about spending money in this area in a way that is most

1 likely to have a, you know, job creation impact, you
2 know what are some of the investments that seem to make
3 the most sense from that perspective?

4 MS. KRUGER: So, if I can answer that question.
5 Of course, we're looking at the biggest impact on job
6 creation. So, you know, again using my experience
7 working with the State of Michigan, I knew I wanted to
8 move to Southern California because the State of
9 Michigan used to pay me to come here to recruit
10 companies back to the state. And I worked under
11 Governor Granholm, who is now on the board of Proterra.

12 So, job creation is keeping this ecosystem
13 strong. And it is making sure that companies like Tesla
14 stay. I was holding my breath with that whole crisis
15 with Elon Musk and thinking, oh, please, don't mess this
16 up because they are such a strong leader for the state,
17 and this ecosystem of innovation, and whether it's
18 SpaceX or Tesla.

19 But I ask companies why would you set up Canoo
20 or Fisker, Inc.? Why are you doing headquarters and
21 setting up the manufacturing in the State of California?
22 It doesn't make sense. You could do it in South
23 Carolina, or Michigan, or Indiana and have a better
24 profit margin. But these companies want to be here in
25 California. They want the LA brand. They want the

1 market. They want the talent and they want to be here
2 in California.

3 But I do want to step back a minute because I
4 think Rey has said some very insightful things that we
5 have to pivot to and change very quickly. And at LAEDC
6 we're brainstorming very hard on this new environment,
7 which is all about inclusivity and equity.

8 But Rey said he asks the people in the community
9 what do they need. And I think if I look and I review
10 some of our programs that are trying to reach the
11 underserved with electric vehicles, and we're kind of
12 missing the mark. And, you know, I had talked to some
13 of the electric scooter companies that are providing
14 free rides to certain communities and it's not being
15 accessed. Or, you know, we look at the success of some
16 of the low cost paying -- the low cost rideshare
17 programs.

18 But I think we haven't done a good job of
19 working with CBOs who are working with -- who are
20 working with local leaders exactly like Rey said and
21 saying what is it that you need.

22 So, we set up the LA County Community Connectory
23 right after COVID. I've hired a team of five, we're
24 doing a huge amount of outreach to micro enterprises,
25 working hard on hitting micro enterprises of color in

1 all industries.

2 And my team of five was first of all just saying
3 here are all the grants and resources, and SVHEPA, and
4 this is all that you should be doing. And we realized
5 we weren't asking the question what do you want? Do you
6 want all those loans? Do you want to go into debt when
7 you're not that there's going to be an economy that's
8 going to sustain and be able to repay the loans.

9 So, the team is now just simply asking the
10 question on every call, and we have about 20,000 micro
11 enterprises we're reaching out to. What do you need?
12 What do you want? And if we keep asking that question,
13 we're going to get to solving the environmental issues
14 for our communities that desperately need it and we're
15 going to be able to provide the solution whether it's
16 ridesharing, subscription-based, better cost of electric
17 vehicle. I loved Rey's comment, we don't want
18 secondhand equipment. So, maybe not cash for clunkers.
19 We should be doing something that is a new car, that is
20 a new technology, but it's an affordable rideshare rate
21 that's subscription based.

22 But unless we start asking the community leaders
23 what do you want and the individuals in those
24 communities what do you want, we're not going to get to
25 that solution.

1 COMMISSIONER DOUGLAS: Okay, thank you. Any
2 other comments on just the question of the job side of
3 this? Yes, go ahead.

4 MR. TORRES: You're on mute.

5 MR. LEON: Commissioner, in the valley there's a
6 lot of solar funds coming and a lot of them are in the
7 200 -- well, not taking up all of the 200,000 acres that
8 have been put out of production, but a lot of them are
9 in that area. So, there are other ones coming up in
10 prime and subprime agricultural lands which is a concern
11 because when that solar farm goes down it lasts at least
12 20 years. Right, the solar plant will have a lifespan
13 of about 20 years. A thousand acres of that takes out
14 250 jobs out of our local economy, 50 from the field and
15 5 per fieldworker out, that's 250 jobs.

16 And so, I've been messing around with numbers
17 and at a minimum wage, over 20 years that equals about
18 \$130 million in 20 years, taken out of the local
19 economy.

20 Those that aren't coming in with a check because
21 they've been able to work there, into town, to eat at a
22 restaurant, grocery store, gas, whatever, pay their
23 taxes whatever, their rent. That's being stripped out
24 of the local economies. You know, and if you look at
25 how much it costs to sell a kilowatt hour, you know,

1 over an amount of 20 years what the solar plant is
2 making is over \$800 million. That's a big difference.

3 So, then let's repeat, the money's out there.
4 Let's repeat, how are we dealing with the policies that
5 we've established and the equities or the inequities
6 that are being created in the process of something yet
7 being built? But how good is it? You know, we've left
8 out the fact that (indiscernible) -- in terms of health
9 justice, getting people to the doctors, and
10 environmental justice by not polluting, climate justice
11 no GHGs. It's a transportation justice, we're
12 connecting the people to where they've got to go and
13 it's economic justice for getting the people covered,
14 and getting paid, and the families don't have to pay
15 those on their books. They get it for free. They give
16 a \$10 donation, whatever. But it's all those five
17 points.

18 So, when we try to provide a solution how many
19 points are we resolving? How many problems are we
20 solving with one solution, right.

21 I think the solar farms, we've got to really
22 look at that because if they're pulling 130,000 acres of
23 land that are on subprime farmland, a thousand acres is
24 pulling 250 jobs and in 20 years \$130 million, but
25 they're able to make over \$800 million what does that

1 look like? To me it looks like a fund for these
2 communities. We're the village next to the diamond mine
3 and we're not even getting a ring, you know.

4 And so, in terms of that a fund that creates an
5 apprenticeship, re-skilling for farmworkers, because if
6 the workers aren't going to have any more fields then
7 why are we perpetuating a farmworker class. A quality
8 education in our local schools should be better to get
9 them to be engineers, you know, inventors, the white
10 collar employees to work alongside Judy, and the
11 gentleman that was on here earlier from Honda, whatever,
12 you know. Those doors should be open. You know, those
13 scholarships with these companies, these corporations
14 should be open to take in these youth, these kids, a
15 fellowship program.

16 I was on the CERT board meeting earlier this
17 week with V. John White and we were discussing it. And
18 by the way CERT, the -- the upcoming of the Green
19 Raiteros when we started it. But, so, I think this is a
20 learning moment for all of us. You know, nonprofits
21 really got to, you know, add more color to their
22 organizations. Corporations have got to do the same.
23 Not just on the lower echelon of their operation, but on
24 the higher and upper echelons of their leadership,
25 right.

1 And so, going back to those solar farms that's a
2 lot of money to re-skill, scholarships, internships, you
3 know, how communities like Huron really access
4 opportunities. And because if it's going to change like
5 this, then we can't be having this discussion 20 years
6 later saying, oh, this is a huge problem and we should
7 have thought about this 20 years ago. No, we've got to.
8 Right now is the time.

9 COMMISSIONER DOUGLAS: All right. Thank you.

10 I don't know, it looks like the Chair might have
11 questions or, if not, I think Heather just sent a text
12 that Pilar does.

13 CHAIR HOCHSCHILD: No questions. Great to hear
14 the discussion.

15 MS. MANRIQUEZ: Welcome Chair, thank you for
16 joining us.

17 So, if there's no other, further questions from
18 the dais, I'm going to go ahead and transition over to a
19 short discussion and moderator -- moderator questions,
20 my apology.

21 And I do want to share that before we open up
22 the space for discussion a bit more, I want to ask you
23 all to be mindful of our perspectives and how we
24 effectively engage equity as we transition to a clean
25 transportation economy.

1 We're all working towards solutions, so let's
2 frame our conversations towards solution-based models
3 and being more specific about what programs we'd like to
4 expand with the limited resources that the economy has
5 right now.

6 So, panelists, feel free to answer questions as
7 they come and feel free to engage each other in the
8 discussion as well.

9 So, my first question is COVID-19 has
10 disproportionately impacted disadvantaged communities.
11 What opportunities do you see in the near future to
12 enhance ZEV adoption in an equitable way. I know it was
13 mentioned by Patty, but I did want to bring that up and
14 I wanted to hopefully engage this one of the questions
15 that Jose brought to us, and Patty's question on the
16 trickle down tactic-- and just all bringing that up more
17 for a discussion.

18 So, I know that can be more useful for community
19 members, but also understand that there's limited
20 resources to provide rebate programs for used ZEVs. And
21 even in providing used ZEV rebates this will decrease
22 the rollout of ZEVs to further achieve our 2030 goal.
23 Do you think that a subscription model, as mentioned by
24 Judy, or even a similar program like the Green Raiteros
25 program that Rey has shown, are those solutions that can

1 be provided as the economy gets better? Or, how can we
2 proceed with providing solutions to this issue?

3 MS. KRUGER: You're looking for any one of us to
4 answer, right. So, there is a Senate Bill 1445 that
5 does -- gives legal credibility to the subscription
6 based model. And electric vehicle company Canoo helped
7 author that bill. We supported it. I think that it
8 will provide a better framework for the subscription
9 based model.

10 And I think we've got to look at other programs
11 like Blue LA, an LADOT program that provides lower cost
12 ridesharing. Because I don't think -- I don't know this
13 for sure, but I don't think that ownership is really the
14 thing of the future. I could be wrong because it could
15 be that we can't ever really transfer away from our love
16 of a car, an individual car, and especially now that
17 we're going to be struggling with the pandemic issues
18 for a while longer people may not want to rideshare.

19 But prior to that it looked like rideshare, cost
20 effective rideshare and subsidized rideshare was a good
21 program.

22 I think short term we're going to see less
23 people wanting to share a car. But the subscription
24 based model makes it cheaper and it's sort of a hybrid
25 sharing platform.

1 MR. TORRES: I want to briefly I think just to
2 reiterate what Judy and Rey have been talking about.
3 And I think it's a perfect opportunity to kind of
4 elevate it again. I think that we need less decision
5 making models and support share rides in a community and
6 their particular needs. Just because I think those
7 questions that Judy pointed out about how do folks feel
8 about ownership in the future right. How do folks feel
9 about sharing? How do they feel about sharing something
10 they don't own, right, or even share ownership over it.

11 And I think folks will have different
12 approaches, right, depending on the need that each
13 region has, right. Some regions have longer drives.
14 Some regions have more public transportation, more
15 buses. And I think there will be different answers.

16 But I think the big thing that I mentioned
17 earlier, right, is if you're serious about environmental
18 justice and equity rights the community had to be
19 involved, and engaged, and be allowed to be a part of it
20 and make some decisions. Of course, you know, that's
21 challenging but I think it will ultimately get us to a
22 better solution.

23 MS. MANRIQUEZ: Thank you. I have another
24 question. I know that something that was brought up was
25 creating free charging stations and that's something

1 that I wanted to expand the conversation a little bit
2 more on. By creating -- I know that Rey has mentioned
3 creating these charge cards, how can the state -- how
4 can state policy support something similar to a charge
5 card where it can create free charging stations for low
6 income individuals and in the State of California. And
7 how can we further engage manufacturers, they're also
8 communities into this decision of rolling out a program
9 like this in the future.

10 MR. LEON: Is that a question for Chair
11 Hochschild?

12 CHAIR HOCHSCHILD: That was a question to me
13 about free charging stations?

14 MS. MANRIQUEZ: No, this is for our panelists.
15 I think Rey is just mentioning that he'd like to hear a
16 comment from you. But this is for a panelist. If
17 panelists would like to tie into this question and I can
18 repeat it, if needed.

19 MR. LEON: So, I think, I mean the money's out
20 there, it's just how we organize it. I mentioned those
21 solar farms that are around the environmental justice
22 communities. And I don't like it when people say, well,
23 you're going to get clean air. Well, not really anytime
24 soon because a lot of these solar farms are already
25 purchased by Southern California cities. And so,

1 there's -- I think we've got to do some dissecting, you
2 know. The money's out there. I think providing free
3 charging would be great. I mean Tesla (loss of audio)
4 -- was effective in providing that as an incentive to
5 future Tesla owners, right, for people around, working
6 families, why not.

7 Maybe it looks like the CARE program, right,
8 that the utilities have, that the CPUC got going a while
9 back. You know, had a lot to do with it, my former
10 employer. But maybe it's something like that where it's
11 a common card and people get it with their car, and it
12 goes along with the utility account. And if they have a
13 CARE status, then they get it subsidized or maybe it's
14 free.

15 You know, but yeah I think that's a good thing.

16 CHAIR HOCHSCHILD: You know, I'd like to build
17 on Rey's comments. I think that's actually a very
18 creative idea to sort of have a CARE program equivalent
19 for electric vehicle charging. Because, you know, we're
20 making a case, you know, as strongly as I know how to
21 the Governor and the Recovery Task Force that investing
22 in electric vehicle charging infrastructure, you know,
23 has huge benefits. It's infrastructure, it's here, it
24 requires, you know, a lot of jobs. And actually the net
25 effect, by the way, of everybody plugging in more

1 electric vehicles is it actually drives rates down.
2 Because electric rates, you know, most of that system
3 cost is fixed, about two-thirds of the system cost is
4 already fixed. So, you're just feting those fixed costs
5 among more kilowatt hours. And so, that's a good thing
6 generally.

7 And equity has got to be at the front and center
8 of the approach. I do -- I'm actually very intrigued by
9 that concept, whether there could be an equivalent of
10 the CARE program for EV charging. I'm just wondering
11 was that something that you had written up at the
12 Tuition forum or is there another paper on that?

13 MR. LEON: I have done studies on the CARE
14 program for utilities back in the days. Of course, they
15 closed their doors in 2009. But if you want to see that
16 original study I'm sure it exists and I can help
17 accessing it or connecting you to the people that were a
18 part of that.

19 CHAIR HOCHSCHILD: Uh-hum.

20 MR. LEON: Yeah, we could figure it out. I mean
21 he's a quite a -- he's a quite a chair.

22 CHAIR HOCHSCHILD: Okay.

23 MS. MANRIQUEZ: Okay, thank you. We are backing
24 up and I wanted to pose one last question. And this
25 focuses again on the secondary model market for ZEVs.

1 Do you all believe that the secondary market for ZEVs
2 provides sufficient opportunity to increase access to
3 lower income communities? Do cost barriers remain? Are
4 public programs sufficient and well known enough in such
5 communities? If so, how can we create educational
6 programs or share resources for communities to be able
7 expand ZEV adoption?

8 MS. KRUGER: You're asking the question about
9 the secondary market or used car market?

10 MS. MANRIQUEZ: Yes.

11 MS. KRUGER: Okay.

12 MS. MANRIQUEZ: Yes.

13 MS. KRUGER: So, we recently signed on to LACI,
14 the LA Cleantech Incubator's congressional ask for \$150
15 billion in green infrastructure and jobs. And it was a
16 whole, huge ask. And LACI has received federal funds in
17 the past, ten years ago, in the last recession.

18 So, if that were -- if they were to get even a
19 portion of that and could provide to LA residents and
20 under-served communities either that share card, or a
21 better rollout in level 2 or fast chargers in certain
22 communities, and ride share subscription base that would
23 be great.

24 I think that the more that -- the longer we have
25 a cycle of electric vehicles purchased in the state, the

1 more we're going to have our secondary market flooded
2 with vehicles.

3 One of the questions of the pushback on signing
4 this ask, this federal ask with LACI was why would we
5 incentivize the higher end electric vehicles. And my
6 thought is because we want more secondary vehicles in
7 the market. And so, in all ways we want more electric
8 cars on the road. And so, if that means if people are
9 buying higher end cars and then getting ridding of their
10 secondary cars, and the Tesla is in fantastic shape as
11 an eight-year-old model that fits nicely into a shared
12 or a subscription base for a community organization,
13 then that's fantastic.

14 So, I think all the ways that we can incentivize
15 all the different layers of electric vehicle adoption
16 should be on the table.

17 MR. TORRES: Yeah, I have a lot of thoughts on
18 that question and I think appreciate kind of the --
19 definitely don't want to forget Rey's point about, you
20 know, wanting to get the best technology in this first
21 because we think it's an ethical question as well,
22 right. Those who have suffered the biggest brunt of
23 environmental injustice right, deserve environmental
24 justice, right.

25 But I think just in terms of what we can do is

1 just I do think the secondary market does open some
2 doors. The question is can we answer those questions
3 that folks have, right. Because I think if you're
4 compared a used electric vehicle to a used gas vehicle,
5 right, and there's no reason to buy the used electric
6 one because you don't understand the advantages that's a
7 challenge.

8 And what I mean by that, I just want to go back
9 to the original point I made about, you know,
10 affordability versus access, right. I think the
11 affordability question not only is a question about how
12 much you're willing to pay it's like what do you see
13 what you're paying for. So, if you see a vehicle, an
14 electric vehicle including a lot of obstacles because
15 you don't understand where to charge it, you don't see
16 charging stations everywhere, right, then if you even
17 save a hundred dollars for a comparable vehicle, then I
18 think the decision making is -- it makes it tough,
19 right.

20 And so, do I think there's a space for the used
21 electric vehicle market? Yes, I think there should be a
22 focus on that. But I do think there's a bigger question
23 to ask around, you know, equity and how we want to
24 approach these questions. That I think Rey proposed
25 about a shared solution is about shared vehicles and

1 kind of how to get new vehicles on the road.

2 And just on the trickle down technology piece,
3 and just to address that, I think there's a point where
4 like the battery costs, and please feel free to push
5 back on this, where it can only get so low, but you
6 still have to pay for the shell, right. I think that's
7 something that's still going to cost and, hopefully, we
8 get there. And if we're serious about battery costs,
9 then I think the closest thing I can see to the solar
10 implementation of like, you know, large investments
11 would probably be like focusing on medium and heavy duty
12 investments or fleets, right. Because that's where you
13 can get that economies of scale and really decrease
14 battery prices, right. I think that's where I see that
15 kind of maybe working right, the trickle down technology
16 approach. But I think those are just some rough
17 thoughts.

18 COMMISSIONER MONAHAN: So, all -- I'm guessing
19 Rey has something to say, but I'm sorry to say that
20 we're a little bit over on this panel and I guess it's a
21 lesson learned that we need more time with the equity
22 discussion.

23 But I just want to thank Pilar and the panelists
24 for joining this discussion. A great conversation and
25 you've given us a lot of food for thought. So, thanks

1 to everybody.

2 And now, we're going to be transitioning to more
3 of a market perspective on reaching on 2030 zero
4 emission vehicle goals, having 5 million electric
5 vehicles on the road.

6 So, I'm going to turn it over to Tim Olson to
7 facilitate the next panel.

8 MR. OLSON: Thank you, Commissioner. This is
9 Tim Olson. I work at the California Energy Commission,
10 also.

11 So, this panel is intended to discuss the
12 potential to reach those 2030 goals. And you'll hear --
13 we're hoping that you'll hear insights about the kind of
14 market landscape, similar to what we heard this morning
15 from Bloomberg New Energy Finance.

16 And we also have three panel members who
17 represent automakers. And so, I'm going to introduce
18 all of the panel members and then ask them, to just save
19 a little bit of time, to ask them to just do their
20 sequence based on what's on the list here.

21 And I'll just quickly introduce. Ajay Chawan is
22 with the Guidehouse. This company's formerly known as
23 Navigant. Pretty extensive tours of duty with Ford,
24 Nissan, and Audi.

25 Chris Nevers is with Rivian Automotive.

1 Previous experience with the Alliance Automobile
2 Manufacturers, USEPA and Chrysler.

3 Rohan Patel, Senior Global Director for Policy
4 and Business Development for Tesla.

5 And Steven Ellis, Manager of Fuel Cell Vehicles.
6 A long time hydrogen fuel cell vehicle expert at Honda.

7 So, let's start with Ajay.

8 MR. CHAWAN: Great. Good afternoon everyone.
9 Can you hear me okay?

10 MR. OLSON: Yeah, you got a little echo, a
11 little bit of echo there?

12 MR. CHAWAN: Is this any better? I'm using the
13 phone.

14 MR. OLSON: It will do.

15 MR. CHAWAN: Okay, thank you. Okay, thank you
16 very much for the opportunity to be here Chair
17 Hochschild, Commissioner Monahan, members of the CEC. I
18 had the privilege of being here last year in person to
19 present to you.

20 My name is Ajay Chawan. I'm a member of the
21 solutions mobility -- the Mobility Solutions Team,
22 excuse me, at Guidehouse, formerly known as Navigant.
23 I've been there for about two years, and after spending
24 many, many years in the automotive world as Tim just
25 mentioned.

1 Some of the EV projects I've led were the launch
2 of the Nissan Leap in the U.S., for North American
3 production. And Audi's entry into the plug-in vehicle
4 space, with its e-tron hatchback and SUV.

5 So, my goal for today is to share with you some
6 of the key findings that I've seen over the course of --
7 of the projects I've done while at Guidehouse, as well
8 as over 150 electrification-related projects that our
9 firm has done.

10 If you could advance to the next slide, please?
11 The first topic that's at the top of mind for everyone
12 that I'd like to address is the impact of COVID. And
13 so, we know COVID is having a very negative impact on
14 the overall economy and also, and specifically after
15 looking at the automotive sector in particular, it
16 definitely had an impact. Projects of sales in the U.S.
17 market are projected to drop like about 30 percent.
18 That number is being revised regularly based on market
19 conditions.

20 The EVs are going to also take a hit, and
21 probably a disproportionately high hit in that reduction
22 because EVs are more expensive on average than their
23 counterparts.

24 The good news is that based on what we're seeing
25 and the interviews that we've done with production, with

1 manufacturers, as well as consumers we are projecting a
2 return to a pre-COVID trajectory over the next two to
3 three years. And then, by 2030 we're projecting the
4 cumulative registrations to be both down by only about
5 two percent compared to the pre-COVID trajectory.

6 The California market is projected to follow a
7 very similar trajectory to this and we are currently
8 updating that forecast, as well as the forecast for
9 other states.

10 If you can proceed to the next slide, please.
11 We're going to talk about some of the other projects
12 that we've done. So, during my time at Guidepost I've
13 personally had the fortune of leading about a dozen
14 projects relating to electric transportation and have
15 contributed to about a dozen others.

16 Many of these programs are focused on promoting
17 EV adoption. While each project has been different,
18 what we've seen is that there's several common themes
19 that have consistently emerged. And those are
20 highlighted here, and go around the figure starting at
21 the top left corner.

22 First, what we thought was that people really
23 wanted EVs. Like once people get behind the wheel they
24 enjoy driving them, they like the way that they feel,
25 they love the acceleration. Then, you tell them that it

1 costs less to you to maintain, they're all about that.
2 But they also want an EV that they want to buy.

3 Back in the early part of this -- the early part
4 of the last decade, when EVs were just starting you only
5 had half a dozen models to choose from. By the next --
6 in the next few years we're going to have close to 200
7 models, potentially, to choose from in the U.S. So,
8 that choice is going to be available for consumers.

9 The COVID crisis has delayed the introduction of
10 some of these models. Those models are still coming and
11 are expected to be available for consumers. And we've
12 interviewed numerous automakers to confirm this.

13 Second, in the bottom left corner is that people
14 still need to learn about EVs. Even in the State of
15 California, which holds about half of all EV
16 registration in the U.S., consumer awareness is still
17 relatively low. So, there are actions that we need,
18 that California can take to make people more aware of
19 the benefits of EVs, including the benefits, the models
20 available, and places that fuel.

21 In the top right corner, we've always seen the
22 need to help with the affordability. EVs on average are
23 more expensive than their ICE counterparts. EVs cost
24 more to manufacture today because of the cost of the
25 batteries, while that cost is coming down. The price

1 curve is not expected for another few years.

2 So, incentives programs such as the CVRP, is a
3 major contributor to the success of EVs in California.
4 And it's important for that type of incentive to remain
5 in place and to -- to remain in place and that structure
6 to be transparent, consistent and reliable, so consumers
7 know that it's there when they're ready to buy a car.

8 And then, lastly, ICE -- we need incentives to
9 get ICE vehicles off the road. So, a vehicle's
10 lifecycle is very regulated, very standardized in the --
11 it's very standardized. If you want to bring that cycle
12 to get more ICE vehicles off the road and replace them
13 with EVs, there has to be an external incentive to help
14 break that cycle. So, a "Cash for ICE" type of program
15 that has been something that we've modeled in numerous
16 markets, and that is shown as -- we've known that to be
17 effective.

18 If I could go to the next slide, please. I want
19 to talk about just the overall global market for EVs.
20 EVs are definitely not a flash in the pan. And I know
21 that the work that the CEC has done has helped to make
22 sure that EVs are just part of the culture in
23 California.

24 I want to share with you that EVs are definitely
25 going to be a global phenomenon. And a key driver, one

1 of the key drivers for this is the Chinese market. In
2 China, the new Energy Vehicle Mandate was actually
3 modeled after the California ZEV Mandate. So, that
4 mandate was -- so, the ZEV Mandate was used to create
5 the mandate for the Chinese market, which sells about 26
6 million vehicles a year, which constitutes about 30
7 percent of global vehicle sales.

8 By comparison, in the U.S. we sell about 16
9 million vehicles a year.

10 When I was working at Audi, one of the key
11 questions that I was asked when I asked for a new
12 product feature or was discussing a vehicle concept, the
13 first question was can we sell this in China? Or, a
14 similar question was what does the Chinese market want.

15 So, that tells me that automakers are really
16 thinking about what will sell in China and using that as
17 the -- to figure out what programs to invest in. And
18 that is definitely not abating.

19 And what we're seeing at automakers during our
20 interviews with them is they are reducing their product
21 development budgets for ICE technology and shifting all
22 that to electric vehicle technology.

23 And then, if I can move to the last slide, I
24 want to give you just a brief update on a case study
25 that we've seen about how EVs can be effective today.

1 Now, this is a case study that I led last year for a
2 project that had 12,000 vehicles spread across seven
3 states. Knowing what we know today, it is cost
4 effective to electrify a fleet of 12,000 vehicles by
5 half between now and 2030. When I say cost effective,
6 that means if you could -- the cost of -- the total cost
7 of ownership for the EV is less than that of the ICE
8 counterpart, making it a positive business case.

9 So, I want to thank you very much for your time.
10 I know that it's a lot of information in a very short
11 amount of time. I'll be happy to chat further later.
12 Thank you, Commissioners.

13 MR. OLSON: Thank you, Ajay.

14 And Commissioners on the dais, if you don't mind
15 holding comments until we finish all of the
16 presentations.

17 The next speaker will be Chris Nevers of Rivian.
18 Please go ahead, Chris.

19 MR. NEVERS: All right thank you, Tim,
20 Commissioner Monahan, esteemed Commissioners on the
21 dais. So, I will just go over who Rivian is, what we
22 intend to do, and our support for the California
23 programs, including the California ZEV Mandate, and the
24 Advanced Clean Truck Rule.

25 The next slide, please. Okay, so Rivian, we'll

1 start with products, we plan to release a pickup truck
2 and a 7-passenger SUV. The pickup truck or the R1T will
3 be at volume in calendar year 2021. That's not model
4 year. That's calendar year, that's next year. With a
5 target label range of somewhere around 400 miles.
6 That's the target for one of the models.

7 And then, the R1S, which is the 7-passenger SUV,
8 would be launched in that same year, probably about
9 three months after the truck.

10 We do have manufacturing in the U.S., our own
11 manufacturing right now in Normal, Illinois. And as was
12 discussed earlier, we do have a lot of operations in
13 California, in Palo Alto, Irvine, Carson City, and San
14 Jose. We also have operations in Plymouth, Michigan,
15 Canada, and the United Kingdom.

16 And these are considered medium duty passenger
17 vehicles, even though the R1T and the R1S are going to
18 have very high towing capacity, very near a heavy duty
19 vehicle. The R1T, for example, will have one
20 configuration that will have a towing capacity of near
21 11,000 pounds.

22 The next slide, please. You probably have all
23 heard of the Amazon orders, also, known as the Rivian
24 Prime Van. This is a jointly developed van, primarily
25 for last mile delivery. This is what's called the 2b

1 and 3 category. You're looking at about 100,000 of
2 these vehicles by 2030 and will have the gross vehicle
3 weight ratings of up to 14,000 pounds. And this vehicle
4 does have some common elements with the R1T and R1S,
5 although not wholly common. And it will also be
6 produced in Normal, Illinois.

7 And by the way, that 100,000 is not back loaded
8 at 2030. We should see over 10,000, if not tens of
9 thousands of these starting to come out with calendar
10 year 2022. There will be some early, in calendar year
11 2021. But this is going to be a high volume product.

12 The next slide, please. So, you can see there
13 Rivian. Our slogan is "Keep the World Adventurous
14 Forever", or that's our goal. And what does that mean
15 here? Well, forever really means sustainability and it
16 means electrification.

17 And so, we're here not just to electrify the
18 segments that we're in, but to help to electrify all
19 transportation. So, that's sort of who Rivian is and
20 what we plan to do.

21 And I will note one more thing. Earlier we had
22 heard discussions about the impacts of COVID-19 on
23 production. COVID-10 has not affected our volume launch
24 of products. So, some of the very, very early vehicles
25 that you might have seen driving around more so in

1 development, or the like, those may have been delayed.
2 But we're still on time for 2021 with the R1T and R1S,
3 and late 2021 and 2022 for the Amazon product van.

4 The next slide, please. So, Rivian does support
5 Advanced Clean Truck Rule. And so far, what the
6 California Air Resources Board has been discussing about
7 Advanced Clean Cars II. We support the objectives
8 that's in the Advanced Clean Cars II discussion.

9 We also believe that the Advanced Clean Cars II
10 and the ACT, they need some help. ARB can do their best
11 with the mandate, but you really still need the Low
12 Carbon Fuels Standards, the CVRP local incentives, as
13 well as industry and utility partners. And just as
14 importantly, if these programs are written in such a way
15 they can propagate across state lines that's great.

16 And in addition to that, when you look at ACC2,
17 they have some really great, big picture goals and
18 incentives. One is improving ZEVs for customers. What
19 does that mean? Well, they discussed it in the last
20 board hearing, I believe it was May 28, but they talk
21 about adding warranty and durability requirements to
22 BEVs, battery electric vehicles. We think that's a good
23 thing. Not just for the used car market, but also for
24 the initial purchaser so they have some confidence in
25 the product.

1 And California, CARB's also discussed increasing
2 or improving the experience of customers when it comes
3 to owning ZEV, such as battery state-of-health monitors,
4 and standardized fast charging. And, certainly, the
5 state-of-health monitoring is a great thing, especially
6 when it comes to the used market.

7 And we did talk earlier, briefly, about possible
8 rebate programs for used electric vehicles. And if a
9 program like that were to go forward, I think the
10 warranty and durability requirements, and the battery
11 state-of-health metrics will certainly help lend some
12 confidence that these vehicles are capable, and will
13 help I guess spread electrification to all markets.

14 You know, as we mentioned earlier, as a matter
15 of fact I think it was in the 2019 IEPR Report, there's
16 a challenge in penetrating the truck and SUV segments.
17 And maybe a used rebate or maybe reexamining some of the
18 SMRP casts of more capable vehicles might be in order as
19 we try to displace some of those ICE's like we've said
20 that might be used to tow, or might be used to carry
21 seven people. You know, towing -- an EV that can tow
22 11,000 pounds or carry seven people will have a
23 different base cost structure, perhaps, than a smaller,
24 four-passenger electric vehicle.

25 The next slide, please. So, that's pretty much

1 all I had. And I'll leave the rest of the time up for
2 questions. And I thank you for this opportunity.

3 MR. OLSON: Okay, thanks Chris. We'd like to
4 then proceed to Rohan Patel of Tesla. Rohan, you're on.

5 MR. PATEL: Hi, Tim. It looks like the video
6 isn't working, but no problem either way. Oh, there we
7 go. I'm laughing a little bit, my four-year-old
8 daughter came in here and was really finding it funny
9 because I put on a -- I'm usually wearing a t-shirt
10 nowadays, but I put on a button down shirt, but I've
11 still got my swim trunks on. So, I think this is
12 typical of a lot of folks with this Zoom culture we're
13 now in.

14 I, first of all, am very grateful to the chair,
15 Chair Hochschild and Commissioner Monahan, not just for
16 the work you're doing here but, you know, for the
17 various roles that you've had inside and outside of
18 government, and the results that you've gotten in both.
19 So, appreciate having the change here.

20 Yeah, I think this is a super challenging time.
21 I know we're going to get into some of the COVID
22 impacts. We're dealing, obviously, with a difficult
23 pandemic that's difficult on everyone, including
24 business. But I think what we've realized since the
25 George Floyd murder is the level of social unrest. And

1 for all of my colleagues at Tesla, we happen to be a
2 majority minority company. You know, for our colleagues
3 and citizens that have been pleading for justice, we've
4 got to start listening. We've got to start getting
5 results. We've got to start focusing on the issues that
6 matter.

7 You know, I'm at Tesla because I want to make a
8 difference. And I think most of my colleagues are as
9 well. Our entire mission is about sustainable energy
10 and accelerating the advent of sustainable energy and
11 transport.

12 But, you know, I think our employee resource
13 groups at Tesla, black at Tesla, and others, you know,
14 we have started to do a lot more listening roundtables.
15 The head of our HR department, the head of our
16 recruiting department, security departments have taken
17 the lead in doing this work and making sure all of us
18 actually understand and take the time to listen.

19 You know, I think -- and that needs to envelop a
20 company like Tesla maybe even more. Because we do have
21 extremely determined employees. The folks that are on
22 my team, including Fran Moll, who I know works with many
23 of you all, and the staff, and Dan Shaw, they care
24 deeply about this work.

25 But we've got to be determined not just to do

1 the work about climate change, which is our mission, but
2 also about these other things that have such an impact
3 on our -- as I said, on our colleagues, and customers,
4 and people in the community.

5 So, you know, I think to that end we're not just
6 committed to championing diversity, and equity, and
7 inclusion, we're committed to increasing that
8 representation. We're committed to connecting our
9 employees. Committing to make sure that the products
10 that we have also, and the policies with which we are
11 advocating also are driven by that purpose.

12 Let me breeze through a couple of things related
13 to Tesla because I think maybe more important than me
14 droning on about various different aspects of the work
15 that we're doing, the accomplishments we've had, the
16 policies that we support is just being able to take
17 questions and maybe provide some feedback. And, of
18 course, happy to follow up on any particular questions I
19 personally can't help to answer.

20 One thing I just wanted to note, we've spent a
21 lot of time over the last year trying to get better at
22 challenging ourselves to benchmark. It seems like an
23 obvious point, but at Tesla we're going so fast on so
24 many things that benchmarking our own internal progress
25 both in terms of the climate and emissions impacts of

1 our products, but also the climate and emissions impacts
2 of the installations that we have, the factories that
3 we're running, the manufacturing facilities, the supply
4 chain. We've got to do better there.

5 And so to that end we just put out an impact
6 report two days ago. I hope folks have a chance to take
7 a look at that and provide criticism, and feedback, and
8 questions. We want that. We want to be more open and
9 transparent about the work that we're doing and how all
10 of you, colleagues, and as well as folks in government
11 can help us do better.

12 So, last year, just to get a sense of it, we
13 delivered 370,000 cars or so, 50 percent more than the
14 previous year. We expect that to dramatically increase
15 because that's from a baseline of basically just one --
16 well, one factory. One factory pumping out cars in
17 Fremont, California.

18 In Fremont we've got, and just as a result of
19 Tesla coming to Fremont about a decade ago now, we've
20 got tier one suppliers, tier two suppliers, tier three
21 suppliers that have set up shop in the nearby vicinity.
22 Many in Alameda County, but all over.

23 We, ourselves, have vertically integrated into,
24 especially into Lathrop where there's casting happening,
25 a number of different manufacturing activities happening

1 there. A community that's really super excited about
2 that and excited to continue to expand and we expect
3 that to happen as well.

4 In Q1 of this year, even with COVID, you know,
5 taking up the latter half of March, we delivered a
6 record for Q1 of 102,000 vehicles.

7 In California, you know, the estimate is that
8 Tesla vehicles comprise about probably just over 70
9 percent of the electric vehicle market. You know, last
10 quarter, we're very proud of this, last quarter Model 3
11 was the number one selling vehicle in all vehicle
12 segments.

13 And another thing that we're extremely proud of,
14 especially when we go overseas, is to be able to tell
15 California -- California's number one expert today is
16 electric vehicles. Last year we were number two. As of
17 right now, electric vehicles are the number one expert
18 and that's almost all Tesla.

19 So, and I think, you know, especially one thing
20 related to Model 3 that we get a lot of questions about,
21 the whole point of Model 3 is to continue to bring those
22 costs down. Just last week we announced another \$2,000
23 drop in the price. That's not because of demand issues,
24 that's because our whole mission is to make the car more
25 affordable and to bring more people, bring EVs to more

1 people that can afford it. So, you'll continue to see
2 that. That's a driving note whether it's with our
3 suppliers, whether it's verticalizing our own supply
4 chain and innovating to bring those prices down so that
5 we can continue to serve that market.

6 Already, when you look at the cost, and the
7 total cost of ownership, you know, EVs are a no brainer.
8 And Model 3 is already less than the average price of a
9 vehicle today. Model Y began production in Q1, in
10 Fremont. And, you know, we're going to build a whole
11 bunch of Model Y's all over the world. So, very excited
12 about that.

13 We announced a Tesla semi a couple years back.
14 A lot of engineering has gone into that. We'll have a
15 300-mile version, a 500-mile version, and actually there
16 will probably be more than that, but that's what we've
17 announced thus far. I can get into more on the truck.
18 No question, we're very aligned with what Chris was
19 saying earlier and in terms of the truck rule, the
20 Advanced Clean Truck Rule at CARB.

21 In terms of manufacturing and this is something
22 I think I'd really like to maybe get into a little bit
23 more, is the workforce development aspect of things.
24 Coming into Tesla my knowledge was zero on workforce
25 development programs, what's scalable, how are we

1 reaching into communities in the right said. As I said,
2 you know, we're a majority minority company. But how do
3 we build on that?

4 And so, we have three programs that we just
5 recently started. One is a manufacturing development
6 program, very successful, both in Fremont, and Buffalo,
7 and in Nevada. And that's a program where we educate
8 and recruit talent from Title 1 high schools, primarily.
9 And it's a unique kind of opportunity to jumpstart a
10 career. You work full time as a production associate,
11 but you also have an opportunity to pair up with a
12 community college and continue your education, if that's
13 what you'd like to do, and we would pay for that.

14 The technician training program, the same kind
15 of thing. We've got a whole bunch of university
16 engineering students that we partner with. We've grown
17 that from a pilot of five students and now we're way
18 past that.

19 And the other thing that I think is maybe most
20 inspiring and one of the most inspiring days I had a
21 Tesla, visited a Title 1 high school where we are
22 supporting the robotics program. And one of the things
23 we're starting to do, we've started to develop
24 curriculum where we bring teachers into Fremont, to
25 Nevada, to Buffalo to talk about curriculum they could

1 use that's very real world, and also on robotics and
2 sustainability focused programs in terms of curriculum
3 development. So, we've partnered with a number of
4 different entities on that.

5 So, I'm happy to get into more and also connect
6 folks on the workforce development front.

7 You know, I think on the IEPR and what you guys
8 are doing it's a fantastic document. It's setting a
9 vision. Super, super important. And I think one of the
10 things that I just want to sort of underline, it's
11 really important, I think Ajay said this earlier, it's
12 really important that we keep our eyes on the prize.
13 And, unfortunately, it seems like we may be headed in
14 the opposite direction federally. Not maybe headed, we
15 are headed. Tesla in fact is the only car company, I
16 think maybe the only company that's legally -- we're
17 spending a lot of legal resources to buttress
18 California, a number of other states, and the
19 environmental community on fighting back against the
20 Trump rollbacks. So, we're doing that right now.

21 Unfortunately, and I think some of the gains
22 that we're seeing in California may start to recede if
23 we don't further that. And, you know, there's effective
24 programs, that's HVIP, CVRP, somebody mentioned the ZEV
25 Mandate. There are a number of those kinds of things

1 that we certainly don't want to see go by the wayside.

2 So, let me -- I won't drone on anymore, Tim. I
3 think what I -- yeah, super excited.

4 MR. OLSON: And we're going to revisit these in
5 some of the Q&A. Appreciate your comments. And also
6 apologize, we had your name misspelled on your slide and
7 apologize for that. So, appreciate that Rohan, and stay
8 there and we'll have a Q&A here in a second.

9 So, the final speaker is Stephen Ellis of Honda.
10 Please proceed, Steve.

11 MR. ELLIS: Thank you, Tim, and thank you
12 Commissioner Monahan and Chairman Hochschild, and other
13 fellow Commissioners. I really appreciate this
14 opportunity to offer some insight into our fuel cell
15 vehicle activities. That is my role at Honda and has
16 been for some time, but also supporting all of our
17 vehicle electrification efforts.

18 And that is, you know, Honda has very specific
19 electrification goals and CO2 reduction goals with two-
20 thirds of our auto sales expected to be electrified by
21 2030. And doing that even through hybridization of high
22 volume vehicles can really do a huge difference in those
23 steps.

24 Honda, of course, has pioneered a lot of the
25 clean vehicle technologies that you've seen over the

1 years and has the highest corporate average fuel economy
2 of the major automakers.

3 And so, let's go to the next slide. For
4 perspective, you know, going forward let's start and
5 talk a little bit of where we've been. The FCX on the
6 far left, as you look at this, became the world's first
7 fuel cell vehicle car certified by U.S. agencies in 2002
8 for use on public roads and highways. And I bring that
9 up because we're still more an infancy mode, you know,
10 with this technology. I was there the day the Honda EV
11 Plus and the GM EV 1 launched way back in the '90s
12 there.

13 And, you know, we've come a long way with
14 vehicle electrification. But this pathway also can
15 provide great value for consumers.

16 So, we did a lot of the world's first with this
17 vehicle. The world's first subfreezing temperature
18 startup, which some people said would not be possible
19 because of the water produced from the fuel cell stack.
20 And the world's first lease to individual consumers, and
21 we learned a lot through that.

22 That led to that next step where we showed the
23 2008 FCX Clarity. And this was referred to as a
24 generation skipping technology because no one thought at
25 that time that the technology could be that advanced to

1 fit into -- all of the components into a sedan. And so,
2 you know, we had a 20 percent increase from the previous
3 one in fuel economy, 30 percent increase in vehicle
4 range. So, we went from like 160 to 270. A big weight
5 reduction in the power train, 30 percent reduction in
6 the power train sense, energy density was way up, and
7 even the first application of advanced lithium-ion
8 batteries in this. Because like the hybrid, it stores
9 its energy there.

10 And so, really, after all those years of
11 experience and development, including parallel pathway
12 with helping develop hydrogen stations that led us to
13 the Clarity fuel cell, which is shown here. And that's
14 the vehicle that we have on the road. This one launched
15 in December of 2016 and has received widespread praise
16 by the California consumers that were looking to drive,
17 you know, the zero emission vehicle that may be better
18 aligned with their daily mobility needs.

19 The one thing we, of course, always have to
20 educate people about is the values of a hydrogen fuel
21 cell car, which is three- to five-minute refueling and
22 over a 300 mile range. And all the fuel cell vehicles
23 on the road today are exactly the same there with over a
24 300 mile range. So, this really represents our next
25 leap forward toward the broad adoption of fuel cell

1 vehicles.

2 So, why is this slide important? Really, from
3 2002 to this current one there have been many hurdles to
4 cross. There were not standards and codes for how to
5 fuel a hydrogen fuel cell car. Hydrogen's been around a
6 long time, used in many, many industrial applications.
7 But Honda worked collaboratively to develop that.

8 This was a symbiotic and critical relationship
9 toward this pathway to advance the vehicles, improve
10 both the vehicle and station technology. That's why
11 these efforts were so critical.

12 And no different than the early EV connecting
13 devices, you know, which were as much as \$10,000 in the
14 early days, and now \$500, station costs have come down
15 immensely while the footprint has become smaller, and
16 the capacity is way up.

17 It's the same with the cars, cost is down, the
18 size actually has gone up, the fuel economy has gone up
19 and the range has gone up significantly.

20 So, we're no longer at just kind of this
21 research phase mode of the technology. Rather, the
22 graph now will begin this upward climb. And, really,
23 there's no looking back. And that upward climb is kind
24 of the first of this growth of this technology. This is
25 enabled by the leadership efforts with the State of

1 California in both the CEC funding of hydrogen stations
2 under programs like AB 8 and, of course, with all the
3 automakers that are participating in continuing
4 development of the product and introducing it into the
5 market.

6 So, you know, you have to take these by steps
7 that we've done here to move from the teenager role into
8 you could say adulthood, moving from the tens of cars,
9 to thousands of cars, to hundreds of thousands of cars
10 toward the million that we have set as a goal for 2030.
11 So, the pathway is clear.

12 Let's go to the next slide. Just to cover a
13 little bit about the vehicle, you know, I don't have to
14 repeat these attributes here. But, you know, the
15 Clarity is one of three Clarity models that we have
16 introduced, the three-for-one platform. We gave this a
17 very reasonable \$375 a month lease price with 20,000
18 annual miles. Because we know that drivers of vehicles
19 that have HOV access tend to accumulate more annual
20 miles than the non-HOV vehicles, especially for
21 commuters. \$15,000 in fuel is also included to offset
22 the higher cost of hydrogen today.

23 Then, of course, we appreciate things like the
24 \$4,500 CDRP that helps with the consumer adoption and,
25 as I mentioned, HOV access.

1 So, it's a large, five-passenger, 350-mile EPA
2 rated vehicle. And as I said, it began in 2016.

3 We established a dealership network that was
4 critical to not only make it convenient to deliver the
5 cars to consumers that wanted this technology, but also
6 to provide service support in a convenient manner, and
7 training the technicians. And kind of another world's
8 first when we first had the FCX Clarity and we had
9 dealer support through service and training. So, even
10 things that were done with hybrid electric vehicles and
11 the early electric vehicles to train technicians on high
12 voltage systems played a very beneficial role toward
13 supporting this technology.

14 And we've even provided financial assistance to
15 some startup companies to bring hydrogen stations into
16 the market. And now, they and others are leading the
17 advances in stations.

18 Other role points, Honda Engineering developed
19 what was referred to as the MC fill method to even make
20 fueling faster than what was five-minute refueling. So,
21 the flow is three minutes. And that protocol was
22 provided through SAE and now adopted under what's called
23 J2601, the global standard for filling hydrogen fuel
24 cell vehicles.

25 And as you know, we worked with CEC closely with

1 all aspects of the grant funding awards and also with
2 ARB for station locations and wherever needed.

3 So, let's move to the next slide. So, that's
4 kind of where we are. Where are we going? So, it's
5 public information that in January 2017 Honda and
6 General Motors jointly announced the establishment of an
7 advanced hydrogen fuel cell production system, or
8 facility called Fuel Cell Systems Manufacturing that
9 will be south of Detroit, in Michigan.

10 And then, following onto that was announced of
11 agreements between Honda and General Motors for
12 advancing battery chemistry. And all of this toward
13 growing the scale of the technologies, whether it be
14 batteries or whether it be electric drive systems for
15 the fuel cell systems, for continuing to reduce the
16 cost.

17 So, we see today that fuel cells offer a
18 tremendous opportunity for not just the average driver
19 of, you know, a vehicle in California. This proves that
20 the application even with sedans, despite the industry
21 move to SUVs and as we heard earlier CUVs, there's still
22 a lot of Honda Civics and Accords sold in the State of
23 California, the most popular vehicles. And so, there's
24 lots of room, plenty of room in that category for fuel
25 cell vehicles.

1 We see now greater challenges in the market for
2 any of these advanced technologies. And now, solving
3 some of the problems with multi-unit dwellings and those
4 that have on-street parking, just one hydrogen fuel cell
5 -- one hydrogen station in close proximity to any
6 concentration of housing units, where you don't have the
7 luxury of putting in charging can solve 100 percent of
8 the needs of those people that really want to product,
9 and that can go a long way.

10 So, just in wrapping up, I look forward to any
11 questions. But everything is advancing beyond what most
12 people said was possible. Stations are ten times the
13 capacity and now we are seeing the first four fueling
14 position, four-hose, 1,200 kilogram-a-day stations put
15 into the market, and customers love that because there's
16 no more waiting in line.

17 So, this is the pathway forward for hydrogen
18 fuel cell and we're glad to be part of that. So, thank
19 you for your continued support.

20 MR. OLSON: Okay, thank you, Steve.
21 Congratulations on your progress.

22 And at this point, Commission Monahan and the
23 others on the dais, what's your preference on questions?

24 COMMISSIONER MONAHAN: Well, let's take some
25 questions from the dais. And I know the Chair has a few

1 questions, as do I. Chair Hochschild, would you want to
2 start up?

3 CHAIR HOCHSCHILD: Yeah, I need to put my video
4 back on. I think it got turned off somehow on your end.

5 So, first of all, let me just thank all the
6 panelists for those comments.

7 I just want to respond to Rohan's in particular.
8 You know, we're in a very, very difficult moment inside
9 a difficult moment with the injustice that's going on
10 and civil unrest in the middle of this pandemic. And I
11 had a couple of thoughts, you know, just about how we
12 get through this. And for me, it really starts with
13 living how we want the world to be and treating each
14 other with respect and with inclusion. I was heartened
15 to hear your comments, Rohan, I know, and all the
16 organizations and companies, and we're a part of that
17 dialogue that's going on.

18 But secondly, I think we should all approach
19 this moment as if we're on a precipice of maybe one of
20 the most progressive eras in American history. I really
21 do feel the opportunity is there. And what we're doing
22 in California really is a template for that in every
23 respect, but particularly with this subject of clean
24 transportation that is underway here.

25 And to be successful, you know, we have to be

1 collaborative between state agencies, and the private
2 sector, and other stakeholders, the environmental
3 justice community, and we have to be relentless. And
4 there's just a huge number of obstacles.

5 The budget that, you know, we're dealing with
6 now is, you know, in terrible shape. So, we don't have
7 anywhere near the amount of money that we'd like to have
8 for things like the CVRP program. But there are a lot
9 of things nonetheless that we can do. And I'm thinking
10 of, you know, electric rate design for electric
11 vehicles, permit acceleration and, you know,
12 establishing longer term goals that really send a
13 positive message and will help drive investment. It
14 will help the customer adoption. You know, including
15 things like fleet procurement from the state government.
16 I mean, there's a lot of different ways that we can
17 lead.

18 And I hope that all of you, as you engage in the
19 economic recovery conversation that we're having as a
20 state, you know, can be articulate about the opportunity
21 for economic recovery that all of this stuff presents.
22 Because I think clean transportation in particular has a
23 really exciting opportunities. You know, there's
24 manufacturing and a huge, huge jobs opportunity.

25 So, I think, you know, this is really an

1 important summer that we're in now, both for what we can
2 do at the state level and also feeding into, you know,
3 whatever successor stimulus packages, you know, come
4 after this. So, I just wanted to share those thoughts.

5 And I'd like to hear, just when we look ahead
6 that what are the main barriers that you're facing?
7 What is at the top of the list? Just really quickly
8 form each of the panelists, please, starting with Rohan.

9 MR. PATEL: Boy, that's a tough question to
10 answer succinctly, but I'll try to do my best. And I
11 think maybe where you're going, Chair, is something that
12 I think in California we do have a myriad of agencies
13 that we're dealing with. Just last week Fran, Fran Wall
14 on our team I think spoke to me about the Department of
15 the Chief Architect, the Department of Agriculture, just
16 two agencies I never would have dreamt we're going to
17 have to try to escalate issues to, that relate to
18 electric vehicle charging.

19 So, there's -- I think, you know, those are just
20 -- it's just an example of the kind of report you're
21 putting together is exactly what's necessary. It's
22 exactly what's needed. Because in a state like
23 California that has done so much, and has so many things
24 going for it, it also has a lot of layering sets of
25 different agencies that are hard to sometimes get

1 straightened out. So, that's one.

2 You mentioned rate design. What could be more
3 important? So, I think from our team's standpoint, when
4 we look at hiring we are definitely emphasizing those
5 people that have some level of rate design background or
6 at the very least have the capacity to understand it,
7 and learn it, and get better.

8 And so, rate design not just in California,
9 everywhere. Streamline service connections, make ready
10 infrastructure is so important.

11 I heard Steve talk and, Steve, you know, I think
12 really appreciated your presentation. There's a number
13 of things with electric vehicles that people don't quite
14 understand. One is that, really, everybody has opened
15 up to this type of technology, but we don't have the
16 make ready infrastructure necessarily embedded in the
17 code and emphasized within each of the agencies and
18 enforcement agencies. There's a lot of things that can
19 be done there. So, really, everyone is available --
20 everybody has the availability to get an electric
21 vehicle.

22 The last thing I'd say just on that is the
23 charging speeds and the way that the customer experience
24 works is so important. The thing I think Tesla has done
25 well -- we've done a lot of -- we've screwed up a lot of

1 things, but one of the things that we've done very, very
2 well is the keen focus on customer experience. So, when
3 you go up to a Tesla supercharger it is super easy.
4 People actually like it. Our customers get very jazzed
5 about the whole experience because you plug it in and
6 that's it. It's got a credit card reader. There's not
7 a whole lot of bolts and suspenders. That's it, it's
8 very easy to use. And you see that in the consumer
9 ratings.

10 So, that focus from regulators also about what
11 it is that is getting in the way of that customer
12 experience. So, sorry, I'll stop there, but there's a
13 lot of small things, especially in California, that are
14 so, so important.

15 CHAIR HOCHSCHILD: Can we just quickly go
16 through the number issue from each of the speakers?
17 Ajay, do you want to go?

18 MR. CHAWAN: Sure. Thank you for the
19 opportunity. I think the lack of a national, a large
20 scale program or a standardized program, and you all
21 have alluded to this as well, would be helpful. So, if
22 we had a passport of what we're dealing with for things
23 like make ready, or rate design, and other items like
24 that. So, if there's any way to help standardize some
25 of these. The technology groups have done this with

1 standardized connections, and starting protocols, and so
2 forth. And so, if those extra standards could be
3 furthered to make it easier for people to design to
4 particular elements, then that means that would help
5 promote sales overall.

6 CHAIR HOCHSCHILD: And Rivian and then Honda.

7 MR. NEVERS: Yeah, Chair Hochschild, this is
8 Chris Nevers, Rivian. I would have to say our biggest
9 challenge is trying to get other states to do what
10 California's doing. I'm not sure how much that helps
11 you all here. But to the extent you can make your
12 programs, for lack of a better term fungible, such that
13 other states can adopt them easily would be great.

14 And I know you only wanted one thing, but I
15 wanted to piggyback on Rohan's issue on customer
16 experience and maybe figure out a way to do something
17 other than credit card readers in the chargers. Thanks.

18 CHAIR HOCHSCHILD: Steve.

19 MR. ELLIS: Great, thanks Chair Hochschild. So,
20 I think one of the most important things, you know, is
21 to create a business environment where there's certainty
22 and confidence. You know, and I'm speaking on this as
23 an automaker.

24 Leadership matters, California policy and
25 leadership, you know, is long standing and we understand

1 that. But what we need is really a non-wavering
2 conviction to the technologies the state has helped us
3 develop. And this provides an investible pathway
4 forward. Investment means even at the automaker level.

5 So, an example would be like the AB 8 program.
6 Your early days, the funding stations was a little bit
7 less structured. But AB 8 gave it structure. AB 8 gave
8 us certainly. And things like just the announcement of
9 having \$20 million a year to spend on stations lets
10 automakers say, okay, I can make a commitment to
11 producing these cars, and we can do the math and we can
12 understand both the timing of when the stations will be
13 there, and the capacity to support the cars.

14 So, that's really critical. And without that,
15 you lose the symbiosis that occurs between these trusted
16 entities. When we talk about, you know, private
17 partnership it's critical that this be a good
18 relationship where we understand each other and what our
19 needs are.

20 You know, earlier, you know, we heard some
21 comments about other activities in the state and, you
22 know, the great work of automakers. Honda, in 2019,
23 celebrated its 60th year in the State of California. It
24 got started on Pico Boulevard in Los Angeles, moved to
25 Gardena, and now we're headquarters in Torrance. We

1 employ a lot of people and it's a great, amazing success
2 story.

3 But I bring that up only because that in and of
4 itself gave certainty in the market, you know, with our
5 employees and the community that Honda, as a great
6 employer, can make a difference in their lives.

7 A partnership between Honda and the employees,
8 and the goals of respect for the individual. But we
9 need that same approach with this public/private
10 partnership with the state. Certainty matters. Federal
11 level, if we had more certainty at the federal
12 government level, with the incentive programs, or even
13 manufacturing incentives with -- Honda has vast
14 manufacturing operations in the U.S. here. And all of
15 these things matter when it comes to accelerating ZEVs
16 into the market.

17 Last I would offer that people want choice. I
18 know that there's a sentiment that, you know, battery
19 electrics are the exclusive role with the light duty. I
20 think the Clarity Fuel Cell and the other light duty
21 fuel cell vehicles show that people appreciate having
22 the choice of technologies to meet their needs so that
23 they can get on with their business in the State of
24 California. We have doctors and lawyers that tell us
25 all the time how much they value the ability to have the

1 faster fueling and long range. And, yet, the average
2 John and Jane Doe customer that just says I need a
3 vehicle that meets my needs and it does that.

4 So, stay the course, give us -- your policies
5 can give us certainty, but the actions also have to
6 provide certainty. And that way, when we report to ARB
7 our future ZEV numbers we have the knowledge and the
8 certainty that the stations will be there to support
9 them.

10 CHAIR HOCHSCHILD: Great. Thanks everybody.

11 COMMISSIONER MONAHAN: So, thanks everybody this
12 has been a really interesting panel and I'm looking
13 forward to more questions, actually, from the other -- I
14 don't know if Commissioner Douglas is still on, but also
15 with Tim.

16 I had a few questions, but first I wanted to
17 just make a quick comment which is kind of following up
18 on which Rohan said, which it's nice to see you again,
19 Rohan, it's been a while.

20 That, you know, the state is -- we're not just
21 facing a pandemic, we're facing social unrest over the
22 murder of George Floyd. And I want to encourage anybody
23 who hasn't seen it to check out the Governor's statement
24 on this. It was a pretty powerful statement.

25 I also want to say I did read the blog post by

1 the head of HR for Tesla, which I thought was always a
2 very great blog post. And just some of the struggles
3 that the country is facing and how we can all do a
4 better job of addressing racism, acknowledging it in
5 groups, and trying to change our institutions, and our
6 behaviors, and our personal attitudes to fix the
7 problem.

8 So, let me turn now to cars. Steve, I -- first,
9 I want to thank Honda for standing up for the California
10 Vehicle Standards. We really appreciate that Honda has
11 signed with the other -- with several other automakers
12 that are going to continue to comply with the standards
13 and support California, so really appreciate that.

14 I am curious about where you think Honda is
15 going in transportation electrification? Right now, and
16 correct me if I'm wrong, Steve, the Clarity is --
17 there's a plug-in Clarity, there's a fuel cell Clarity,
18 that's the only electric vehicle model, fuel cell and
19 battery electric vehicle model that Honda is currently
20 investing in.

21 Can you give us a sense more for what the future
22 will look like? That's one question.

23 MR. ELLIS: Sure.

24 COMMISSIONER MONAHAN: And then the other one,
25 which I wrestle with a lot is, you know, we need to have

1 a global area change around transportation
2 electrification. This has to be a solution that is not
3 just in California, but globally. We've already seen
4 California is like the seed. Like we come up with the
5 very ambitious, visionary policies like the Zero
6 Emission Vehicle Mandate. It migrates to China. China
7 adopts it. It drives down -- China is the one that have
8 the price drop in batteries that we see today. It's not
9 the only reason, but it's a major, major reason.

10 And I'm curious about the global theory of
11 change with hydrogen and fuel cells, and what Honda's
12 thinking is about do you get -- how do you build a
13 market? California can't scale that market.

14 MR. ELLIS: Okay, great, thanks. I appreciate
15 the good question. Let's talk about the future and I
16 think more, you know, we'll pull it through the funnel.
17 The overall goal -- well, if we go back in time, the
18 goal was -- for EVs was just smog, cutting smog
19 emissions because cars were very -- the new goal, of
20 course, being CO2 reduction.

21 So, Honda's goals for carbon reduction globally
22 are very aggressive. And the way to get there can be
23 done many ways. And so, just counting the number of EVs
24 or fuel cell can almost misguide your view, let's just
25 say. And so, that's why I said earlier about our focus

1 on hybridization of very high volume vehicles makes a
2 huge difference, a huge impact on cutting carbon
3 emissions. And we can do that globally. We can do it
4 at a lower cost.

5 And, you know, when you compare the daily sales
6 of general combustion or/hybrid vehicles compared to all
7 other forms of pure battery electric, even plug-in, and
8 fuel cell, we can make huge gains there.

9 So, what are we doing with EVs? It was also
10 announced recently some work with General Motors, coming
11 up for two new electric vehicles in collaboration with
12 them. Not a lot of details. I can't say anything
13 beyond what we've stated publicly. But that is on the
14 map.

15 We also have other regional programs with EVs
16 that don't necessarily come to America.

17 And then globally, again, there's things that
18 we'll see happen with fuel cell in the U.S., Japan, and
19 other countries I can't talk about today.

20 But I think to your point California shouldn't
21 bear this alone. The State of California established an
22 MOU with the other ZEV and 177 states to deploy ZEVs.
23 And the goal when that was done was towards scale and
24 improving the volumes. Because if we're all in this
25 together and we get other states to increase their

1 sales, then the scale goes up. And whether it's a
2 battery electric or fuel cell, with scale you get cost
3 reduction and especially at this early stage with
4 hydrogen fuel cell.

5 To date there's no other state that has on their
6 own developed a program like the State of California,
7 with AB 8 funding for infrastructure for hydrogen fuel
8 cell. That's a huge, I would say opportunity, but also
9 it's a serious omission of attention to ZEV as opposed
10 to just a plug-in battery electric.

11 So, we would like to see the state play a
12 greater role. That MOU was established, but it didn't
13 necessarily lead to anything substantive for the other
14 ZEVs, let's just put it that way. I hope that answers
15 your question.

16 COMMISSIONER MONAHAN: Thank you. I know we're
17 under a bit of time constraint here. I have one
18 question for all the battery electric vehicle thinkers
19 in this panel, which is this question about as we try to
20 figure out how do we make EVs cost -- reach cost parity
21 with conventional vehicles? There's this whole like
22 complicated equation of cost that goes into prices.
23 Just the vehicle, right, it's the fuel, and it's one of
24 the things I liked is a battery. And, oh, what if you
25 do cool V to G things to help with our integrated

1 renewables, and to provide frequency regulation, and all
2 sorts of complicated calculations which could be
3 important, I think especially in the heavy duty space.

4 But I'm curious about in the light duty space do
5 those even factor in from your perspective? Like what
6 besides the vehicle and sort of the basic electricity
7 cost would you factor in for the average light duty
8 vehicle owner, as you're trying to think through how to
9 make your vehicles cost competitive?

10 And if you could be really fast. I'm sorry
11 about this complicated questions. There's no time left
12 and I want to make sure Commissioner Douglas has a
13 chance to ask her question.

14 MR. CHAWAN: I can take this one very quickly.
15 Commissioner, what our approach has been is to say bring
16 all the stakeholders together to find an even greater
17 solution because that's what's needed to get the cost to
18 -- to get the upfront costs down is by extending the
19 life, the useful life of the battery.

20 So, the battery typically -- most batteries will
21 have a rotating life of say somewhere between seven and
22 ten years. But even after that, a battery will have a
23 good amount of a storage capacity left. And there are
24 markets available for that, such as grid facing
25 applications such as energy that is backup stations,

1 backup energy sources for critical facilities such as
2 hospitals and data centers.

3 And so, what we've been doing is finding
4 stakeholders to help finance those batteries to provide
5 that upfront value of -- that value upfront so that it
6 can help reduce the overall cost of the vehicle upfront
7 by improving the residual value of the vehicle, which
8 impacts the financing cost of the vehicle.

9 And so, if there's a value that can be
10 ascertained on the backend that value can be brought
11 forward so that the upfront costs can be reduced and
12 that then it can be utilized by a consumer to get into a
13 vehicle in a more cost effective way. And then, by
14 having the other partners such as utilities and other
15 commercial property managers on board to take those
16 batteries and actually deploy them, once they become
17 available.

18 It's very much a multi-stakeholder project and
19 there's a lot of activity going on in that space.

20 MR. PATEL: Commissioner, maybe I can take it
21 next just because I have a slightly different view. I
22 mean the cell chemistry that's involved in our
23 stationary storage is slightly different. It's set up
24 for many more cycles. So, yes, could you do end-of-life
25 storage? Yes. That's definitely not factoring into how

1 we would look at driving cost reductions for customers.
2 Driving cost reductions for customers is all about, for
3 us, innovating on each and every part of the vehicle,
4 not just the batteries and the battery packs. Which, of
5 course, you know, we're pumping out more batteries than
6 everybody else combined here in the states by a lot.
7 And that in and of itself is important, but that's not
8 the only thing. And I think that's something that gets
9 lost often.

10 You know, there needs to be a drive towards
11 efficiency that's really, really important in every
12 aspect of the powertrain, every aspect of design, every
13 aspect of what tires you're using that impacts your
14 range. And that's something that I think Tesla's almost
15 obsessed with is seeing that efficiency.

16 That's one of the reasons why, you know, just to
17 be honest we're a little confused about the continued
18 support for fuel cell. Nothing against Steve. I'm sure
19 they're creating some incredible products out at Honda,
20 no question. But it's at the very least two to three
21 times less efficient just in terms of energy used per
22 distance traveled.

23 And so, that has been confusing to us, you know,
24 just as a matter of investment that the state has
25 provided. I mean, you know, just to -- not to make

1 light of it, but to just state the fact. Last week we
2 produced and sold more cars, more electric vehicles than
3 have been sold, period, of fuel cell vehicles in
4 California. That doesn't mean that next year things
5 might not get better.

6 But to your earlier question, Commissioner, I
7 didn't want to not be able to state where in a very
8 difficult time in terms of budgets, as the Chair spoke
9 about. Is this what we are funding? Maybe the answer
10 is yes. I'm certainly not an expert on fuel cell
11 vehicles. But it has been kind of -- it has been
12 confusing.

13 MR. ELLIS: So, let me respond to that and this
14 is very simple. There was a day in the industry when
15 there was only 8,000 battery electric vehicles on the
16 road, too. No one was saying eliminate them. No one
17 was saying don't do that. We're on our growth path. It
18 may not look the same as fuel cell vehicles. But as to
19 the efficiency, CO2 reduction and CO3 reduction, a
20 hundred percent of the fuel goes out at the shell and
21 for selling those today is a hundred percent renewable.

22 So, carbon reduction comes in many different
23 ways. And fuel cell vehicles provide that. I don't
24 think we should not be at this point taking cheap shots,
25 but rather we need all technologies to provide choice.

1 We will cut carbon reductions faster with giving people
2 a choice of technologies that meet their needs. I think
3 that's clear.

4 As far as --

5 COMMISSIONER MONAHAN: I want to make sure
6 Commissioner Douglas has -- I'm sorry, we're almost --
7 we are out of time. We need to turn to public comment.
8 But I wanted to make sure that Commissioner Douglas has
9 a chance to ask her question, so I'm going to cut off
10 conversation for a second so she can ask her question.

11 Commissioner Douglas, we can't hear you. You're
12 on mute. You're still on mute. Uh-oh, so you may not
13 be able to ask a question. You can type a question.
14 She says no. We're doing sign language here.

15 So, I think Tim, we have stolen all your time
16 for Q&A because the dais had so many questions and we
17 had a panel that likes to talk, which is a good thing.
18 It's a good thing for all of us.

19 So, Heather, am I right in terms of timing we
20 have to turn it over to public comment at this point?

21 MS. RAITT: Yeah, I think we need to. So, thank
22 you Tim and thank you to our panelists for the excellent
23 panel. That was really helpful. And sorry to cut some
24 of the conversation short, but we do need to move on to
25 public comment.

1 So, if you're on Zoom and you're interested in
2 commenting, please use the raise hand function. You can
3 just click on that and that will let us know that you
4 wanted to comment. I see one and there may be more.

5 And then, also, if you're on the phone you can
6 just press star 9 and that will let us know that you'd
7 like to have a comment.

8 And Dorothy Murimi from the Public Advisor's
9 Office will go ahead and lead the public comment period
10 for us. Thank you, Dorothy, go ahead.

11 MS. MURIMI: Thank you, Heather. So, we'll
12 start with folks on Zoom. I see William Zobel. And
13 make sure you're unmuted on your end. Please spell and
14 state your name, and your affiliation. Thank you.

15 MR. ZOBEL: Okay. Can everybody hear me? Hear
16 me okay?

17 MS. MURIMI: Please go ahead.

18 MR. ZOBEL: I guess you can, okay.

19 MS. MURIMI: Yes.

20 MR. ZOBEL: This is William Zobel, W-I-L-L-I-A-
21 M, Zobel, Z-O-B-E-L. I represent the California
22 Hydrogen Business Council as their Executive Director.
23 Good afternoon everyone. I wanted to thank the panel,
24 Commissioner Monahan, Tim, and the other Commissioners
25 who are giving us the opportunity to participate. Very

1 much appreciated listening to everybody.

2 I will say that the Council appreciates the
3 opportunity to provide input to the workshop and we look
4 forward to working with the Commission on these policies
5 which promote fuel cell electric vehicles and consumer
6 choice in the light duty vehicle market to achieve the
7 state's equity, decarbonization, and air quality goals.

8 The Council supports the State of California's
9 zero emission vehicle initiatives. We believe that the
10 fastest and most equitable way to achieve California's
11 transportation related climate improvement goals is
12 through the mutual success of all zero emission vehicle
13 platforms, which includes fuel cell electric and battery
14 electric vehicles.

15 Commissioner Monahan, you mentioned at the
16 outset that we need to focus on meeting the needs of all
17 consumers, both from an access and affordability
18 standpoint, and we agree with that.

19 We would point out that fuel cell electric
20 vehicles meet the needs of many consumers, where other
21 zero emission vehicle technologies may not. For
22 example, consumers living in multi-unit dwellings or
23 residences that don't have garages and require on-street
24 parking will not be able to charge at home. This
25 represents more than half of low income residents in

1 large cities according to CEC research.

2 This is an access issue which can be addressed
3 by a broader and more robust hydrogen refueling network,
4 coupled with deployments of affordable, fuel cell
5 electric vehicles to use them.

6 Also, light duty fuel cell electric vehicles on
7 the road today can better meet consumer demand for long
8 range fast fueling. Fuel cell electric vehicles have
9 over a 300-mile range and the ability to fuel in three
10 to five minutes.

11 We would point out that manufacturers, investors
12 and consumers are watching policy promoted here in
13 California. Regular and consistent support of all light
14 duty zero emission technologies will be required to meet
15 the state's goals and provide consumers with affordable
16 products and access to convenient refueling
17 infrastructure.

18 So, we encourage the Commission to send that
19 signal and promote all these technologies.

20 We acknowledge the challenges that zero emission
21 vehicles have with infrastructure. This is certainly a
22 concern. We would point out that fuel cell electric
23 vehicles fuel with hydrogen from centralized refueling
24 centers that provide access to hundreds, if not
25 thousands of consumers. In short, they provide very

1 good access.

2 Growth and scale of this hydrogen network will
3 bring down costs, making the technology more affordable
4 and even more accessible, allowing for fast and
5 convenient refueling experience.

6 In summary, the Council believes that consumer
7 choice is important and that policymakers need to make
8 fuel cell electric vehicles a real, affordable, and
9 accessible choice available to consumers. This comes
10 only by supporting technology in the IEPR and other
11 programs consistently, and with an eye towards higher
12 levels of market penetration.

13 We support the regular and consistent support of
14 fuel cell electric vehicles and supporting
15 infrastructure, things that sent the right signals to
16 the market.

17 MS. MURIMI: Mr. Zobel, your time is concluded.
18 Please finish up your comments.

19 MS. ZOBEL: Yes, ma'am. In closing, we'll point
20 out that it's particularly important to recognize the
21 diversity in consumer needs. Not every consumer and
22 commercial enterprise fits into one box. It will take a
23 host of solutions, including zero emission fuel cell
24 technology to meet our mutual goals. Thank you for the
25 opportunity.

1 MR. MURIMI: Thank you, Mr. Zobel.

2 You will be followed by Joe Gagliano. That's
3 Joe Gagliano. And please make sure you're unmuted on
4 your end. Also, do not use the speaker function on your
5 end. Please state and spell your name. Joe Gagliano,
6 go ahead.

7 MR. GAGLIANO: Hi, this is Joe, J-O-E, Gagliano,
8 G-A-G-L-I-A-N-O. I'm the Business Development Manager
9 with United Hydrogen.

10 United Hydrogen, even though hydrogen is in our
11 name, is supportive of California and all of its ZEV
12 initiatives, and achieving the state's air quality and
13 climate goals. It definitely needs the success of all
14 ZEV platforms, including fuel cell vehicles and battery
15 electric vehicles.

16 And I'd like to talk about, follow up on some
17 conversation and comments earlier from Steve and
18 Commissioner Monahan about cost competitiveness.

19 The cost competitiveness -- or, to be cost
20 competitive with conventional vehicles, overall fuel
21 cell electrical vehicle costs, cost reduction efforts
22 will need a two-pronged approach.

23 One is needed to help achieving meaningful cost
24 reductions for fuel cell technology, continued
25 incentives are need for the purchase and use of light

1 duty fuel cell vehicles by continued development,
2 support for light duty hydrogen fueling stations
3 statewide, and other measures.

4 Additionally, given the expected volumes that we
5 will be seeing from medium and heavy duty fuel cell
6 vehicles to help drive down hydrogen fuel costs,
7 incentives for the purchase and use of medium and heavy
8 duty fuel cell vehicles are needed, again through
9 support for heavy duty hydrogen fueling stations, and
10 other policy measures.

11 Supporting only one segment of the fuel cell
12 market, fuel cell vehicle market will only delay the
13 state meeting its energy and environmental goals, and
14 also will delay important technology and fuel cost
15 reductions.

16 United Hydrogen, therefore, strongly recommends
17 that the state commit to the 1,000 hydrogen fueling
18 station goal by 2030, which will support one million
19 vehicles, all light, medium and heavy duty fuel cell
20 vehicles by 2030 through appropriate policies and
21 financial incentives to help successfully build the fuel
22 cell vehicle market in all vehicle classes. Thank you.

23 MS. MURIMI: Thank you. Next, we'll have Raoul.
24 Please state and spell your name, and state your
25 affiliation, and please make sure you're unmuted on your

1 end as well. Raoul, go ahead.

2 MR. RENAUD: Yes, thank you. This is Raoul
3 Renaud, it's R-A-O-U-L R-E-N-A-U-D. I'm retired. My
4 last employment was at the Energy Commission and I was
5 there for ten years. Hello Commissioners Douglas and
6 Chair Hochschild.

7 I just wanted to touch on the -- back on the
8 previous topic, the access issue, and the question of
9 whether the secondary ought to be used or not. And I'd
10 maybe like to suggest that instead of looking at how old
11 is the zero emission vehicle in question, is it better
12 than what the perspective driver is currently using? As
13 far as I'm concerned any electric vehicle is better than
14 any gasoline vehicle.

15 My three-year-old Clarity fuel cell, I'd take it
16 over any new gasoline vehicle.

17 So, again, I think there's -- particularly the
18 used fuel cell vehicles have a great deal to offer in
19 this area. Considering, for example, look at the Toyota
20 Mirai. The Toyota is reselling the off-lease Mirai's
21 that are three years old for under \$20,000, and those
22 come with three years' of fuel. If you can imagine
23 being able to deploy five of those for under \$100,000,
24 and you could serve the San Joaquin Valley Region just
25 by -- with a handful of hydrogen fueling stations along

1 the, let's say, the 99 corridor and maybe another one on
2 I-5, those customers would not have to worry about
3 fueling infrastructure, or charging infrastructure at
4 home. They'd be able to go wherever they needed to go
5 and get back without worrying about whether or not they
6 needed to recharge while they were at work. And they'd
7 be driving, in the case of a three-year-old Toyota
8 Mirai, or almost any three-year-old vehicle, one that is
9 indistinguishable from new, offers all the latest
10 technology, and is zero emissions.

11 And I just also just want to throw in briefly,
12 since I've been at the session this morning and this
13 one, I'm very impressed with how well Zoom's working
14 compared with the system that we used to use when I was
15 working there. I think this is way better. Thank you.

16 MS. MURIMI: Thank you, Raoul. Next, we'll have
17 David Park.

18 And just again, for folks on the phone, if you
19 would like to make public comment please press star 9.
20 And to allow time for others, please folks stay three
21 minutes -- leave three minutes for your public comments.
22 Thank you.

23 You're up David Park, go ahead.

24 MR. PARK: Hi, good afternoon. This is David
25 Park with the California Fuel Cell Partnership. That's

1 D-A-V-I-D, the last name P-A-R-K.

2 And first of all, thank you very much
3 Commissioner Monahan, Chair Hochschild and Commissioner
4 Douglas for this really valuable session. I want to
5 recognize that the nation's fuel cell market would not
6 be possible without CEC's leadership in funding hydrogen
7 fueling station development through the CEC GFO process.

8 And just recognizing this time of social unrest,
9 as pointed out by Mr. Patel, that there really is a need
10 to insulate ourselves from fake news.

11 I want to thank Commissioner Monahan's reminder
12 this morning that ZEV includes battery electric and fuel
13 cell electric vehicles. And California would not be
14 able to meet its climate improvement goals without both
15 battery and fuel cell electric ZEV technologies.

16 Recognizing that fuel cell electric vehicles are
17 a nascent technology, I don't have to remind you that
18 CEC launched the market in 2009 with the first hydrogen
19 station's GFO. Followed up by the subsequent 2015 GFO
20 and commercial launch of production fuel cell electric
21 vehicles in 2015.

22 With regard to the scale and pace of adoption,
23 fuel cell electric vehicles lagged battery electric
24 vehicles. However, the industry is rapidly accelerating
25 into the light duty space which we expect will be

1 further empowered by CEC in your award of hydrogen
2 station development grants through your GFO-19602
3 process that just closed this May. And congratulations
4 and thank you for that.

5 As you know, Governor Brown signed an executive
6 order directing California to charge to development of
7 200 hydrogen fueling stations to support California's 5
8 million ZEV target by 2030. If California can stand
9 behind that order, it will greatly improve the market
10 conditions for accelerated scale and paces of adoption
11 to a light duty ZEV tipping point.

12 Just to briefly address the social equity topic,
13 recognizing the challenges of charging and fueling
14 infrastructure accessibility in high-density housing,
15 hydrogen fuel cell electric vehicle centralized fueling
16 is well adapted to high-density housing, in a way that
17 other electric vehicle technologies are not.

18 Furthermore, if you connect the dots, if I can
19 quote from the Honda Motor Company fuel cell program
20 head, he stated: In order to develop fuel cell systems
21 for trucks, it has to be done first with passenger
22 vehicles because you cannot mass produce the power
23 plants at a cost effective price and connecting it to
24 the equity and environmental justice neighborhoods. To
25 be able to launch fuel cell electric drayage, trucking

1 for instance in the I-710 corridor, in L.A., as well as
2 introducing electric vehicles into those neighborhoods
3 would greatly improve the condition there.

4 So, thank you very much for the time.

5 MS. MURIMI: Thank you, David Park.

6 Next, we have Jennifer Hamilton. Please spell
7 and state your name, and give your affiliation, and make
8 sure you're unmuted on your end as well. Thank you.

9 MS. HAMILTON: Thank you. Can you hear me?

10 MS. MURIMI: Yes, we can. Go ahead.

11 MS. HAMILTON: Thank you. Jennifer Hamilton, J-
12 E-N-N-I-F-E-R, Hamilton, H-A-M-I-L-T-O-N.

13 I would like to comment today from the point of
14 view of a fuel cell electric vehicle driver. I am a
15 customer of Toyota. I drive a 2017 Mirai fuel cell
16 vehicle. And I am very grateful every day for my zero
17 emission vehicle and for the fact that I can go to one
18 of three stations in my area and fuel quickly, thanks to
19 the funding and support from our state agencies, and
20 from the policies that drive this.

21 And I am very excited and optimistic at the
22 future of electrifying transportation across the board.
23 And I also am very optimistic at the future that this
24 will hold for my six-year-old daughter and my three-
25 year-old son. And I just -- we need to continue this

1 and keep moving on the positive path. Thank you.

2 MS. MURIMI: Thank you, Jennifer.

3 We'll be a moment to see if there's anyone else
4 with public comment. And let me say again, folks who
5 are in the phone you can press star 9 to raise your hand
6 for public comment.

7 Seeing none, I will pass this back to
8 Commissioner Monahan. We are done with public comment
9 at this time.

10 COMMISSIONER MONAHAN: Great. So, thanks
11 everybody for participating and thanks for those who
12 participated all day long. I think tomorrow we have
13 another IEPR workshop. And at that point we're going to
14 do a survey to see how people like this new format,
15 compared to the old format, and maybe we'll ask some
16 questions about how we can make it better going forward.

17 Given that while the shelter in place remains,
18 we're going to be doing these remotely. So, we want to
19 make them as good as possible for making the
20 conversation interesting and informative for all of us.

21 So, thanks to everyone. Hope you have a good
22 evening. And I look forward to tomorrow's session.

23 (Thereupon, the Workshop was adjourned at
24 4:43 p.m.)

25

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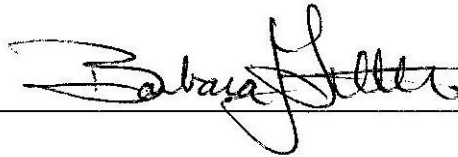
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