

MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

CALEPA HEADQUARTERS
BYRON SHER AUDITORIUM
SECOND FLOOR
1001 I STREET
SACRAMENTO, CALIFORNIA

THURSDAY, JANUARY 23, 2020
9:02 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

A P P E A R A N C E S

BOARD MEMBERS:

Ms. Mary Nichols, Chair
Sandra Berg, Vice Chair
Mr. Hector De La Torre
Mr. John Eisenhut
Supervisor Nathan Fletcher
Senator Dean Florez
Ms. Judy Mitchell
Supervisor Phil Serna
Dr. Alexander Sherriffs
Professor Daniel Sperling
Ms. Diane Takvorian

STAFF:

Mr. Richard Corey, Executive Officer
Ms. Edie Chang, Deputy Executive Officer
Mr. Steve Cliff, Deputy Executive Officer
Mr. Kurt Karperos, Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
Ms. Veronica Eady, Assistant Executive Officer
Ms. Annette Hebert, Assistant Executive Officer
Ms. Analisa Bevan, Assistant Division Chief, Sustainable
Transportation and Communities Division (STCD)
Mr. Joshua Cunningham, Branch Chief, Advanced Clean Cars
Branch, STCD

A P P E A R A N C E S C O N T I N U E D

STAFF:

Mr. Wesley Dyer, Attorney, Legal Office

Mr. Rhead Enion, Senior Attorney, Legal Office

Ms. Jennifer Gress, Division Chief, STCD

Ms. Gloria Pak, Air Resources Engineer, Advanced Clean Car Regulations Section, STCD

Mr. Andrew Panson, Staff Air Pollution Specialist, Mobile Source Control Division

Mr. Sam Pournazeri, Branch Chief, Mobile Source Analysis Branch, Air Quality Planning and Science Division

Ms. Shobna Sahni, Manager, Advanced Clean Car Regulations, STCD

Mr. Ryan Sakasaki, Board Clerk

Ms. Annalisa Schilla, Manager, Transportation Systems Modeling Section, STCD

Ms. Melanie Zauscher, Air Pollution Specialist, Transportation Systems Modeling Section, STCD

ALSO PRESENT:

Ms. Fariya Ali, Pacific Gas and Electric

Mr. Don Anair, Union of Concerned Scientists

Mr. Dave Asti, Southern California Edison

Mr. Will Barrett, American Lung Association

Ms. Roxana Bekemohammadi, Ballard Power Systems

Mr. Timothy Blubaugh, Truck and Engine Manufacturers Association

Mr. Nico Bouwkamp, California Fuel Cell Partnership

A P P E A R A N C E S C O N T I N U E D

ALSO PRESENT:

Ms. Melanie Caton, Nikola

Mr. Glenn Choe, Toyota

Mr. Dave Edwards, Air Liquide

Mr. Tom Fulks, Volvo Group

Ms. Katherine Garcia, Sierra Club California

Mr. Gary Graham Hughes, Biofuelwatch

Mr. Austin Heyworth, Uber

Ms. Judy Kruger, Los Angeles County Economic Development Corporation

Mr. Bill Magavern, Coalition for Clean Air

Mr. Cody Naylor, Transportation Analysis Section, California Public Utilities Commission

Mr. Mike Neuenburg, Sacramento Metropolitan Air Quality Management District

Mr. Scott Powell, Great Sacramento Economic Council

Ms. Katerina Robinson, Office of Senator Nancy Skinner

Mr. Jeffrey Serfass, California Hydrogen Business Council

Ms. Eileen Tutt, California Electric Transportation Coalition

Mr. Brett Williams Center for Sustainable Energy

Mr. David Yow, Port of San Diego

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1 P R O C E E D I N G S

2 CHAIR NICHOLS: Good morning, everybody. The
3 January 23rd, 2020 public meeting of the California Air
4 Resources Board will come to order. Before we do the roll
5 call, we will rise please and say the Pledge of Allegiance
6 to the flag.

7 (Thereupon the Pledge of Allegiance was
8 recited in unison.)

9 CHAIR NICHOLS: All right. The Clerk will please
10 call the roll.

11 BOARD CLERK SAKAZAKI: Dr. Balmes?

12 Mr. De La Torre?

13 BOARD MEMBER DE LA TORRE: Here.

14 BOARD CLERK SAKAZAKI: Mr. Eisenhut?

15 BOARD MEMBER EISENHUT: Here.

16 BOARD CLERK SAKAZAKI: Supervisor Fletcher?

17 BOARD MEMBER FLETCHER: Here.

18 BOARD CLERK SAKAZAKI: Senator Florez?

19 Assembly Member Garcia?

20 Supervise Gioia?

21 Ms. Mitchell?

22 BOARD MEMBER MITCHELL: Did you say my name?

23 (Laughter.)

24 BOARD CLERK SAKAZAKI: Senator Monning?

25 Mrs. Riordan?

Supervisor Serna?

Dr. Sherriffs?

BOARD MEMBER SHERIFFS: Present, a little confused.

BOARD CLERK SAKAZAKI: Professor Sperling?

BOARD MEMBER SPERLING: Here.

BOARD CLERK SAKAZAKI: Ms. Takvorian?

BOARD MEMBER TAKVORIAN: Now, I'm confused. I'm here.

(Laughter.)

BOARD CLERK SAKAZAKI: Vice Chair Berg?

VICE CHAIR BERG: Here.

BOARD CLERK SAKAZAKI: Chair Nichols?

CHAIR NICHOLS: Here.

BOARD CLERK SAKAZAKI: Madam Chair, we have a quorum.

CHAIR NICHOLS: Great. A couple of announcements before we get started. For safety reasons, we ask everybody to note the emergency exit at the rear of the room. And in the event of an alarm that will be very loud, you're required to exit through the lobby and go down the stairs, not taking the elevator, and gather in the park until we get the all-clear signal to come back.

We ask anybody who wishes to testify to fill out a request-to-speak card. They're available in the lobby

1 outside the Board room. Please turn it into a Board
2 assistant over at the table here and do it before the item
3 that you want speak on is called, so that we can put
4 together the list and make sure that we're on it.

5 Also, we ask that everybody be advised that there
6 is a three-minute limit on testimony and that includes the
7 time that it takes you to say your name and all the rest
8 of it. So please, if you possibly can, be ready when your
9 time is called and also when your name is called, and also
10 just summarize your remarks, if you have written
11 testimony. You don't have to read it into the record,
12 since it will be entered into the record if you -- if you
13 give us written testimony.

14 Okay. We have -- our first item this morning is
15 a consent item, which is number 20-2-1, consideration of
16 the proposed research contract with the University of
17 California, Berkeley, entitled "Air Pollution Measurements
18 Exposure Assessment, and Evaluation of the Sources of
19 Particulate Matter in Fresno, California". It's listed on
20 the consent agenda to comply with Board approval
21 requirements from Government Code section 1091, because
22 one of our Board members is affiliated with UC Berkeley.
23 Dr. Balmes isn't here, so I'm not sure that that's
24 relevant, but we can go through it anyway.

25 Have any witnesses signed up to testify on this

1 item?

2 BOARD CLERK SAKAZAKI: (Shake head.)

3 CHAIR NICHOLS: No.

4 Any Board members who would like to see this item
5 removed from the consent calendar?

6 Seeing none. I will close the record on this
7 agenda item, and ask for a motion and a second to approve
8 the contract.

9 VICE CHAIR BERG: So moved.

10 CHAIR NICHOLS: Do I have a second?

11 BOARD MEMBER SPERLING: Second.

12 CHAIR NICHOLS: Second. Thank you.

13 Okay. All in favor please say aye?

14 (Unanimous aye vote.)

15 (Board Members Florez and Serna not present.)

16 CHAIR NICHOLS: Opposed?

17 None.

18 Great.

19 Okay. The first item is done. The second item
20 on the consent calendar is Item number 20-2-2,
21 consideration of the proposed contract with UC Davis
22 titled, "Barriers to Reducing the Carbon Footprint of
23 Transportation Network Companies: A Survey of Drivers and
24 Riders".

25 This item is listed on the consent agenda to

1 comply with the requirements again of section 1091 of the
2 Government Code, because we have two Board members
3 affiliated with UC Davis. Therefore, members Berg and
4 Sperling will abstain from the vote, but will remain at
5 the dais, because these items are on consent.

6 Have any witnesses signed up on this one?

7 BOARD CLERK SAKAZAKI: (Shake head.)

8 CHAIR NICHOLS: No.

9 Okay. Then we will proceed to close the record.
10 And with Members Berg and Sperling not voting. I will ask
11 for a motion.

12 BOARD MEMBER TAKVORIAN: So moved.

13 CHAIR NICHOLS: And a second.

14 BOARD MEMBER MITCHELL: Second.

15 CHAIR NICHOLS: Mrs. Mitchell.

16 Then all in favor, please say aye?

17 (Unanimous aye vote.)

18 (Board Members Berg and Sperling abstaining.)

19 (Board Members Florez and Serna not present.)

20 CHAIR NICHOLS: Opposed?

21 Okay. None. This is done.

22 Great. We're on a roll here.

23 The last item on the consent calendar is Item
24 number 20-2-3, consideration of the Compliance Offsets
25 Protocol Task Force Members and a chair pursuant to

1 Assembly Bill 398. This is the item where we're required
2 by statute to appoint a committee to look at compliance
3 offset protocols. And so we're going to be asked to
4 approve the list of members.

5 Has anyone signed up to testify on this item?

6 BOARD CLERK SAKAZAKI: (Shake head.)

7 CHAIR NICHOLS: No.

8 Are there any Board members who would like to see
9 this item removed the consent calendar?

10 Okay. Seeing none.

11 I will now close the record on this agenda item.
12 Everyone I believe is eligible to vote, if you had chance
13 to review the resolution.

14 So can I have a motion and a second?

15 VICE CHAIR BERG: So moved.

16 BOARD MEMBER SHERIFFS: Second.

17 CHAIR NICHOLS: And second.

18 Al right. All in favor, please say aye?

19 (Unanimous aye vote.)

20 (Board Members Florez and Serna not present.)

21 CHAIR NICHOLS: Opposed?

22 None. Okay. Done.

23 Thank you all.

24 Our next item is 20-2-4, which is a report to the
25 Board on our program priorities for 2020. The staff has

1 prepared a presentation on this. We know that in 2019, we
2 had a very big year and we made some significant progress
3 on our air and climate goals. But in addition to those
4 accomplishments, which we would like to at least briefly
5 review here, we want to talk about some of the key
6 initiatives that are carried over and to take a look at
7 what's ahead in 2020.

8 And Mr. Corey will present this item.

9 (Thereupon an overhead presentation was
10 presented as follows.)

11 EXECUTIVE OFFICER COREY: And good morning, Chair
12 Nichols and members of the Board. I plan to highlight our
13 agency's key challenges, how we've addressed those
14 challenges over the past year, and how we'll continue to
15 make progress in 2020 and beyond.

16 --o0o--

17 EXECUTIVE OFFICER COREY: So 2019 was a
18 productive year, as the Chair just indicated. And as you
19 know, the community air protection program is underway
20 with the ten initial communities selected in 2018. We
21 spent the year working with steering committees, the air
22 districts to build relationships, understand local
23 concerns, and develop strategies to reduce exposure in
24 impacted communities around the state.

25 We also worked to establish a strong foundation

1 for community air quality improvement, and we continue to
2 push for improved air quality across the state.

3 We surpassed our 2020 GHG greenhouse gas emission
4 reduction target, and with formation of our early -- or
5 rather newly created Sustainable Transportation and
6 Communities Division are pursuing a more holistic approach
7 to reducing emissions from the transportation sector.

8 I'll be talking more about that in a minute. But more
9 broadly, we've taken a number of steps towards carbon
10 neutrality.

11 And finally, we've strengthened our relationships
12 with other states, and nations, and continue to serve a
13 world leader in air quality and climate policy.

14 --00--

15 EXECUTIVE OFFICER COREY: We've made remarkable
16 progress in reducing Californian's exposure to ozone,
17 PM2.5, and diesel particulate matter.

18 For example, as shown in the top row, ozone
19 concentrations across the San Joaquin Valley have
20 decreased dramatically in the past decade, with about half
21 of the valley monitoring sites now meeting the 0.08, parts
22 per million eight-hour ozone standard. We've also made
23 progress in South Coast with a significant drop in the
24 highest concentrations and many monitoring sites meeting
25 the same standard. But as you can see, we have a lot more

1 work ahead of us to achieve health air quality throughout
2 the state of California.

3 --00--

4 EXECUTIVE OFFICER COREY: Topography and
5 meteorology make reducing PM2.5 in the San Joaquin Valley
6 a challenge. To further cut PM2.5 levels, the San Joaquin
7 Valley Air Quality Management District adopted a
8 comprehensive strategy in their latest State
9 Implementation Plan in 2018 to accelerate reductions from
10 the -- from agricultural equipment, trucks and buses, and
11 residential wood burning. And as you know, we're working
12 to identify additional opportunities for emission
13 reductions and we'll be reporting back to you within the
14 next few months.

15 Particulate matter levels in South Coast have
16 been reduced substantially over the past two decades and
17 now fall below the 15 microgram annual PM2.5 standard.
18 South Coast and San Joaquin Valley are projected to meet
19 the stringent 12 microgram annual standard in 2025.

20 --00--

21 EXECUTIVE OFFICER COREY: But despite the
22 progress of the past year, we face major challenges in
23 meeting our air quality commitments and achieving our
24 climate goals. Specifically, we will need to enhance our
25 efforts to attain ozone standard in 2023 and 2031 in South

1 coast, and the PM2.5 standards in 2024 and 2025 in the San
2 Joaquin Valley.

3 We'll need to continue making progress through
4 our air quality protection program to reduce the
5 disproportionate air quality burdens in highly impacted
6 communities throughout the state.

7 Our 2030 and 2045 climate goals pose an immense
8 challenge, immense challenge. And we'll need to
9 accelerate greenhouse gas emission reductions across all
10 sect -- all sectors.

11 We also need to recognize the linkage between
12 climate change and air quality, and how changes in
13 climate-related meteorology is growing wildfire seasons
14 and will impact our air quality throughout the State.

15 --00--

16 EXECUTIVE OFFICER COREY: While California is
17 prepared to tackle these challenges, we need support and
18 collaboration instead of resistance and outright
19 opposition from the federal government.

20 Looking to the future, attaining federal ozone
21 standards in South Coast poses a great challenge with
22 significant additional reductions beyond already adopted
23 federal and State regulations. South Coast will need to
24 achieve about a 60 percent reduction in NOx by 2023 to
25 meet the 0.08 parts per million standard, and a 72 percent

1 reduction by 2031 to meet the 75 ppb ozone standard.

2 Absent additional regulations by 2030, NOx
3 emissions from federally regulated sources, such as
4 interstate trucks, plains, trains, and ships will exceed
5 emissions from CARB-regulated mobile sources.

6 --oo--

7 EXECUTIVE OFFICER COREY: We'll continue pursuing
8 strategies to mitigate the effects of climate change while
9 providing clean air for all Californians, while we drive
10 for cleaner transportation through new regulations and by
11 supporting zero-emission technologies, which is crucial
12 for meeting many of CARB's ambitious clean air goals.

13 As we move into the next year of 617, we'll
14 continue promoting community-driven air quality solutions
15 and work towards improving air quality in California's
16 most impacted communities. We're also working to address
17 the growing wildfire seasons by mitigating exposure to
18 smoke and improving public awareness of that exposure.

19 And as we look to the future, we're also making
20 several changes to strengthen our organization that I'll
21 be touching on.

22 --oo--

23 EXECUTIVE OFFICER COREY: But before I address
24 how we'll approach these priorities for the coming year,
25 I'd like to touch on this year's Board's calendar and the

latest state budget.

Here, I've highlighted five regulations you'll be considering over the course of the year:

The second of the two hearings of the Ocean-Going Vessel at Berth reg; the Advanced Clean Truck Regulation; the Heavy-Duty Low NO_x Regulation; amendments to the 2588 Hot Spots Regulation, as well as the Small Off-Road Engines Regulation towards the end of the year; and finally, we'll have the proposed Heavy-Duty Inspection and Maintenance Program Regulation and our first of two meetings for the proposed Zero-Emission Transportation Refrigeration Units Regulation.

This is just a sampler of the very full agenda over the next year.

--○○○--

EXECUTIVE OFFICER COREY: So turning now to the budget. Climate change mitigation and adaptation continue to be a priority in this administration. Governor Newsom's proposed State budget allocates 12.4 billion over five years to address climate change. The budget aligns the Greenhouse Gas Reduction Fund, or GGRF, funded by the cap-and-trade auctions, with a new climate resiliency bond, the general fund and several other expenditures, and a new Climate Catalyst Revolving Loan Fund.

-- 909 --

1 EXECUTIVE OFFICER COREY: With the climate
2 budget, there are changes to the proposed funding levels
3 for some of our programs as compared to last year, as you
4 can see from the table that's projected here.

5 --00--

6 EXECUTIVE OFFICER COREY: Now, I'd like to turn
7 to our 2020 priorities, starting with transportation.
8 CARB's leadership and policies will continue to pave the
9 way for California's adoption of cleaner transportation
10 through testing, promotion, and incentivizing cleaner
11 technologies.

12 --00--

13 EXECUTIVE OFFICER COREY: CARB's testing and
14 promotion of low-emission and zero-emission technologies
15 is instrumental in assisting California's transition to
16 cleaner mobility.

17 For example, over the past few years, we've
18 collaborated closely with the South Coast Air Quality
19 Management District, U.S. EPA, automakers, and the
20 Southwest Research Institute on a heavy-duty low NOx
21 research program.

22 This program has demonstrated the feasibility of
23 using low NOx technologies on on-road heavy-duty trucks.
24 And the results of this program will be used to inform the
25 proposed heavy-duty low NOx regulation coming to the Board

1 later this year.

2 We've also worked hard to support the growth of
3 zero-emission vehicle refueling infrastructure to
4 encourage the adoption of zero-emission light-duty
5 vehicles. For example, since 2016, staff has certified 29
6 hydrogen fueling stations and expect to certify an
7 additional 13 stations this year.

8 But zero is not just about cars and trucks.
9 We're also promoting the adoption of zero-emission lawn
10 and garden equipment, by loaning equipment to over 15
11 universities and municipalities across California in 2019.
12 These efforts will continue to highlight the feasibility
13 of zero-emission lawn and garden equipment in advance of
14 new standards coming to the Board in late 2020.

15 --00--

16 EXECUTIVE OFFICER COREY: Later this year, staff
17 will bring back to you the Advanced Clean Truck
18 Regulation. This regulation sets forth a holistic
19 approach for accelerating the widespread adoption of
20 medium- and heavy-duty zero-emission vehicles.

21 We're also working to establish the Clean Miles
22 Standard, which is the first of its kind, aiming to reduce
23 greenhouse gas emissions from ride-hailing fleets, such as
24 Uber and Lyft. The team will be updating you on our
25 status later today.

1 The Zero-Emission Powertrain Certification
2 requirement was approved by the Board in 2019,
3 establishing a benchmark for heavy-duty electric and fuel
4 cell vehicle powertrains to ensure they are capable of
5 meeting performance and durability expectations.

6 --oo--

7 EXECUTIVE OFFICER COREY: We're also focusing on
8 new partnerships to strengthen CARB's role in land use and
9 transportation planning with the goals of reducing VMT,
10 improving accessibility, and enhancing housing
11 affordability.

12 Some of these key activities this year include:

13 Working with State agencies on their funding
14 programs to improve the linkage of transportation,
15 housing, and climate; tracking regional progress and
16 ensuring achievement of sustainable community goals;
17 expanding research on travel behavior to identify
18 opportunities to reduce VMT and replicate successful
19 projects; strengthening tools to better assess impacts and
20 mitigation for transportation and development projects and
21 plans; and, evaluating key transportation and land use
22 development projects to promote infill and low-carbon
23 communities.

24 Expanded collaboration with other agencies will
25 be fundamental to this work. As an example, the

1 Department of Housing and Community Development has been
2 added to the CARB-CTC meetings, with the first one taking
3 place this coming April.

4 --00--

5 EXECUTIVE OFFICER COREY: We've made a lot of
6 progress on climate over the past decade, but we have a
7 challenging road ahead of us.

8 Let's take a moment to reflect on the progress
9 we've made this year and identify where we need to go to
10 meet future greenhouse gas reduction targets.

11 --00--

12 EXECUTIVE OFFICER COREY: The outcomes of
13 California's robust greenhouse gas policies are clear.
14 Over the past two decades, California has reduced
15 greenhouse gas emissions despite a growing population and
16 economy. We've reduced per person GHG emissions by more
17 than 20 percent and per GDP emissions by over 40 percent
18 since 2000. As a result of these efforts, we met our AB
19 32 2020 emission's target three years early.

20 But much of the success has been due to the
21 adoption of renewables in the electricity sector.
22 Transportation remains a challenge with emissions steadily
23 rising over the past several years.

24 Our work must continue to focus on cutting
25 emissions from the transportation sector by accelerating

1 electric vehicle adoption, and reducing vehicle miles
2 traveled through continued development of sustainable
3 communities.

4 --00--

5 EXECUTIVE OFFICER COREY: And beyond meeting our
6 2020 target, here are a few other stats that showcase our
7 progress on key climate programs.

8 As of August 2019, the climate change investments
9 program has invested over 2.6 billion to benefit priority
10 populations providing relief to communities through
11 support of zero-emission transportation technologies and
12 cleaning up mobile sources.

13 We've also continued to achieve a hundred percent
14 compliance of the Low Carbon Fuel Standard fuel producers
15 and are displacing 2.5 billion gallons -- 2.5 billion of
16 petroleum-based fuels with low-carbon alternatives
17 annually. Since 2018, 11,000 methane leaks in our oil and
18 gas infrastructure have been identified and repaired.

19 Also, as a result of SB 350, 34 percent of the
20 electricity generated in California now comes from
21 renewable sources.

22 --00--

23 EXECUTIVE OFFICER COREY: Our thinking about how
24 to approach the climate challenge is evolving. To achieve
25 carbon neutrality, we must work on both -- both sides of

1 the emissions and sequestration equation. We must
2 continue to reduce greenhouse gas emissions from fossil
3 fuels with a focus on transportation and reduce emissions
4 from natural sources such as wildfires.

5 At the same time, we must increase carbon
6 sequestration by increasing carbon storage in our natural
7 and working lands, and capturing and storing carbon --
8 carbon from large emitters, such as cement plants, and
9 refineries, and carbon from the atmosphere.

10 This will not come easy. Achieving carbon
11 neutrality by 2045 will require the commitment of all
12 sectors of the economy.

13 --00--

14 EXECUTIVE OFFICER COREY: And as an agency, we've
15 historically focused our efforts on improving air quality
16 at a regional level. Now, with the adoption of AB 617 and
17 the added focus of existing carbon programs -- or rather
18 car programs, we're making effective strides toward
19 cleaning up the air in California's most impacted
20 communities.

21 --00--

22 EXECUTIVE OFFICER COREY: The Community Air
23 Protection Program is well underway and has made
24 significant progress in selected communities under really
25 very tight time frames. In February and March, you'll

1 consider the programs for San Joaquin Valley and South
2 Coast communities. And as we continue to support the
3 initial set of communities, you recently added three new
4 communities, including Southwest Stockton, Eastern
5 Coachella Valley, and the Southeast Los Angeles, where
6 we'll have exciting opportunities to apply lessons learned
7 from the first year of implementation.

8 --00--

9 EXECUTIVE OFFICER COREY: We're also working hard
10 to reduce exposure to toxics in communities, including the
11 proposed control measure for ocean-going vessels operating
12 at berth, which will come before you for the second time
13 later this year.

14 A regulation for transitioning transportation
15 refrigeration units to zero-emission technology will also
16 be brought before the Board in 2020. In aggregate, these
17 refrigeration systems lead to significant diesel
18 particulate matter emissions, posing a particular health
19 risk to communities near ports, distribution centers, and
20 other areas with heavy truck traffic. Amendments to the
21 Air Toxics Hot Spots Regulation will be brought to the
22 Board later this year as well, reflecting the latest
23 science regarding children's exposures and the resulting
24 increase in lifetime cancer risk. In addition, we're
25 expanding the list of reportable substances, which

1 lasts -- was last updated in 2007.

2 --oo--

3 EXECUTIVE OFFICER COREY: We've also focused on a
4 range of activities designed to further reduce the impacts
5 of the freight sector on communities. This past year,
6 we've worked closely with the South Coast Air Quality
7 Management District to develop new concepts to further
8 reduce locomotive and railyard emissions. That work will
9 continue this year.

10 We're also currently engaged in technical work to
11 support the development of the upcoming commercial harbor
12 craft regulation concept.

13 We developed materials that will support public
14 discussion on the development of a Freight Handbook to
15 encourage better land-use decisions, cleaner facility
16 operations, and coordination amongst freight stakeholders
17 to protect communities from the harmful effects of freight
18 pollution.

19 This year we'll continue to work with the State
20 and local agency partners to finalize the Freight Handbook
21 and implement sustainability practices it identifies.

22 --oo--

23 EXECUTIVE OFFICER COREY: We're supporting the
24 development of community-driven air quality solutions by
25 providing new sources of monitoring data and tools for

1 analyzing community level data. For example, the SNAPS
2 Program began monitoring in Lost Hills in the spring of
3 2019 and preliminary data are now publicly accessible on
4 our website. Monitoring in the next community, Baldwin
5 Hills, begin this year.

6 This past year, the Enforcement Division -- our
7 Enforcement Division launched a public-based tool for
8 visualizing CARB enforcement activities across the State,
9 including field inspections and case settlements. We're
10 also in the process of developing tools to support AB 617,
11 such as Community Air Quality Viewer, and launched a
12 preliminary version providing public access to AB 617 air
13 quality monitoring data.

14 An updated emission inventory system is being
15 developed as well, along with the emissions control
16 Technology Clearinghouse, which supports air districts and
17 community groups in identifying the best control
18 technologies for facilities in their communities.

19 --oo--

20 EXECUTIVE OFFICER COREY: CARB has partnered with
21 air districts to continue expansion of AB 617 Community
22 Air Protection incentive opportunities. We continue to
23 expand our transportation equity projects with new areas,
24 including a Clean Mobility in Schools Program providing
25 incentives for reducing greenhouse gases from schools in

1 disadvantaged communities, as well as providing access to
2 increased zero- and near zero-emission mobility choices
3 for disadvantaged communities.

4 The Sustainable Transportation Equity Project was
5 also established this past year. The goals of this pilot
6 are to increase access to key destinations, address --
7 address community residents' transportation needs, and
8 reduce greenhouse gas emissions.

9 --00--

10 EXECUTIVE OFFICER COREY: Assembly 1628
11 strengthened the State's environmental justice definition
12 with the addition of meaningful involvement. The intent
13 is to ensure that environmental justice community members
14 have greater opportunities to actively participate in
15 environmental programs and efforts.

16 As part of AB 617, community residents have
17 actively participated on steering committees, and have
18 helped shape air quality plans and emission reduction
19 programs. To assist in this effort, CARB awarded the
20 second-year community air grants, including \$5 million, to
21 29 community-based organizations. In 2020, we'll continue
22 to prioritize actions to reduce cross-border pollution by
23 working with a range of organizations, including U.S. EPA,
24 CalEPA, the Imperial County Air Pollution Control
25 District, the Border Relations Council, and Comite Civico

1 del Valle.

2 --00--

3 EXECUTIVE OFFICER COREY: As you all know,
4 wildfires have been a growing concern for California for
5 nearly a decade. Just last year, unprecedented high-wind
6 events resulted in the most disastrous wildfire season in
7 California's history.

8 --00--

9 EXECUTIVE OFFICER COREY: As the number of
10 wildfires and prescribed burns increase, so does our
11 responsibility for mitigating exposure to smoke and
12 helping keep the public apprised of their local air
13 conditions. As many of you have experienced in response
14 to the risk of large wildfires, utilities have begun using
15 public safety power shutoffs during the high risk
16 weather -- or during high risk weather.

17 CARB staff is working with air districts to
18 identify approaches to quantify, minimize, and mitigate
19 the additional emissions burden from back-up generators
20 used during these events. We're also working with air
21 districts to prepare a wildfire smoke pollution emergency
22 plan as an informational source for local agencies and the
23 public during wildfire smoke emergencies.

24 And under AB 836 CARB will work on a pilot
25 program to create a network of clean air centers in smoke

1 prone areas, utilizing grant funding for retrofits to
2 building ventilation systems.

3 CARB's new Smoke App will launch in 2020
4 demonstrating the importance of prescribed fire as a
5 forest health management tool and providing the means to
6 view smoke plumes and air quality readings in their area
7 via mobile phones.

8 --oo--

9 EXECUTIVE OFFICER COREY: We also have several
10 efforts underway to improve estimates of wildfire and
11 prescribed burn smoke exposure. We're collaborating with
12 the University of California, NOAA, and NASA to improve
13 the wildfire emission inventory.

14 We're also utilizing mobile measurement
15 technologies -- or rather techniques, stationary
16 monitoring, and satellite data to improve our
17 understanding of the effects of wildfires on California's
18 regional air quality and indoor air quality. In 2019, we
19 launched the prescribed fire smoke monitoring program to
20 help implement air quality provisions of the 2018 Forest
21 Carbon Plan.

22 The program provides local air districts with
23 funding, monitoring equipment, and training to improve
24 smoke monitoring of prescribed, and improving public
25 awareness and their benefits and risks.

1

--00--

2 EXECUTIVE OFFICER COREY: Over the past year and
3 looking to the future, we have been taking steps to
4 strengthen the organization by increasing diversity and
5 mentoring our next generation of leaders. In the past
6 year, our team has been strengthened through the addition
7 of leadership, including Annette Hebert who has been
8 promoted to Assistant Executive Officer overseeing our
9 Southern California operations, and many new division
10 chiefs, including Allen Lyons, heading the new Emissions
11 Certification and Compliance Division in Southern
12 California, and Rajinder Sahota of the Industrial
13 Strategies Division.

14

--00--

15 EXECUTIVE OFFICER COREY: Mark Fuentes is now
16 heading the new Mobile Source Laboratory Division in
17 Southern California; And Elizabeth Scheehle, the Research
18 Division; Jennifer Gress, the newly created Sustainable
19 Transportation and Communities Division; and Heather
20 Arias, the Transportation and Toxics Division.

21

--00--

22 EXECUTIVE OFFICER COREY: Looking to the future,
23 we've also implemented several programs to help develop
24 next generation of leaders. With many of the current
25 generation of CARB leaders retiring, we're actively

1 working to implement new strategies for succession
2 planning, such as our Emerging Leaders Program, and other
3 mentorship programs.

4 Our human resources team just launched a new
5 career center and providing career development resources
6 to foster and sustain a highly capable workforce. We're
7 also working to address diversity in the workplace and our
8 hiring practices by collaborating with other agencies.

9 --00--

10 EXECUTIVE OFFICER COREY: Progress on our new
11 Headquarters in Riverside is progressing quickly. First,
12 second, and third floor plans -- or rather pads have been
13 poured and columns are being placed. All six artists
14 commissioned to provide art work are finalizing their
15 designs.

16 Contracts for all the light-duty, heavy-duty, and
17 portable emission measurement equipment have been awarded.
18 Based on our latest discussions with the contractor, we're
19 on track for a February 2021 completion of our Riverside
20 facility.

21 Now, we have a short video to show you how the
22 project is progressing.

23 (Thereupon a video was played.)

24 EXECUTIVE OFFICER COREY: Impressive progress and
25 really the most comprehensive next generation mobile

1 source testing facility in the country and really the
2 world that we learned from people all around the world
3 before we move forward. So very exciting for the State of
4 California and staff.

5 --00--

6 EXECUTIVE OFFICER COREY: To complement our
7 investments in our team and facilities, CARB is poised to
8 leverage new data sources and pursue new innovative,
9 analytical approaches. Here are a few examples.

10 Many of our programs now require analyzing
11 millions, or in the case of the Clean Miles Standard,
12 billions of records. As a result, we're now learning
13 methods of analyzing big data and developing approaches to
14 use machine learning to support our regulatory climate and
15 air quality planning programs.

16 California is committed to working with partners
17 to launch a satellite or constellation of satellites that
18 can detect individual methane plumes. We've deployed a
19 network of instruments that continuously measure mixing
20 heights to facilitate more refined modeling of greenhouse
21 gas emissions sources. In the first quarter of 2020,
22 we'll also begin monitoring of fluorinated greenhouse
23 gases.

24 An abundance of air quality data is now available
25 thanks to the advent of low-cost personal sensors. We're

1 actively working to rigorously evaluate the quality of
2 these sensors through a sensor evaluate program in
3 coordination with South Coast and others.

4 Finally, using automated license plate readers,
5 we've also initiated an effort with the San Diego Air
6 Pollution Control District to better understand the age
7 and types of vehicles traveling through portside
8 environmental justice neighborhoods.

9 --00--

10 EXECUTIVE OFFICER COREY: Our confidence in
11 addressing the considerable challenge ahead of us is built
12 on considering our achievements, which would have not been
13 possible without collaboration with air districts, State
14 and federal agencies, industry representatives, community
15 organizations, the international community, and our
16 research partners including research steering committees
17 and small business. And as you know, the staff of the
18 agency is extraordinary, extraordinary and the key reason
19 for our success.

20 Lastly, I'd like to personally thank all the
21 Board members for your leadership. Your vision, guidance,
22 expertise, advocacy, and boldness, and the push often, has
23 been and continues to be fundamental to CARB's continuing
24 role as a global leader.

25 And with that, thank you and I conclude my

1 remarks.

2 CHAIR NICHOLS: Well, thank you, Mr. Corey. That
3 actually is a highly superficial overview of what's going
4 on around this place, which is just an enormous amount.
5 But I think it at least touches on the major -- the major
6 issues that we're contending with and where the priorities
7 are, as far as the Executive Office sees them. And I'm
8 sure every one of the Board members has some additional
9 thoughts or perspective on all of this. But I'm wondering
10 if we could, as the moment, sort of limit this to just
11 questions or areas where you feel like something has been
12 perhaps omitted that you need to touch on at this -- at
13 this stage. I'm just looking to my left here. There's a
14 lot -- there's a lot in this obviously.

15 BOARD MEMBER SPERLING: How about I'll just make
16 an overarching comment.

17 CHAIR NICHOLS: Okay. Go ahead.

18 BOARD MEMBER SPERLING: You know, having been on
19 the Board for awhile and having studied the Board, you
20 know, before and since, I'm just stunned, struck by the --
21 how much the mission and activities of CARB have expanded,
22 you know, building on what you just said, Chair Nichols.

23 And, you know, just 2006, we didn't even think
24 about climate change. We weren't doing anything until
25 then. And that wasn't so many years ago. Wildfires, AB

1 617, which is really a revolutionary approach that, you
2 know, is so different from how we did it before regulated
3 pollutants; the huge incentive programs that we're
4 managing; the focus on VMT, which is new also and its
5 connection with land use and housing.

6 And all this new leadership is really welcome,
7 because, you know, we are changing and we are adding. So
8 this is -- it's really exciting and impressive what's
9 happening here.

10 CHAIR NICHOLS: Great. Thank you. Mr. Serna.

11 BOARD MEMBER SERNA: Thank you.

12 So I think like every member of this Board and
13 those in the audience viewing the presentation hearing
14 from Richard, I think, we're all very impressed and proud
15 of the work we do.

16 I guess if the Chair is asking the Board for
17 questions at this time, I guess the question I would have
18 is -- I guess would be directed at Richard, and that is,
19 is there anything that we think we can do within the
20 envelope of the mission of this agency that is extremely
21 proactive and innovative in terms of actually going over
22 and above rulemaking, implementing legislation, on
23 occasion appropriate -- on occasion appropriating
24 resources to achieve our goals when it comes to addressing
25 greenhouse gas emissions?

1 And I'm thinking more in terms of working with
2 academia a little bit closer to promote, you know,
3 facilities, initiatives that are intended to actually help
4 us meet the intent to broaden market demand and
5 availability for electric propulsion vehicles, for
6 instance. I just think there's a lot that we've done, but
7 there's also a lot that we can do. So I'd like to hear
8 some thoughts on that.

9 BOARD MEMBER SPERLING: It wasn't enough,
10 Richard.

11 (Laughter.)

12 EXECUTIVE OFFICER COREY: No, it was a great
13 question and I think a few elements to this. And I'm
14 first going to just go back to -- I'm going to make this
15 point. It's going to be embedded in two elements in my
16 response. And it is trans -- it's really transformation
17 of the transportation sector. We don't get to
18 health-based air quality standards, we don't get to our
19 GHG targets, we don't get to community protection, without
20 that transformation.

21 That is local rules, that's regulation, that's
22 incentives, and that's certainly strengthening our
23 partnership with other states and international
24 jurisdictions, because industry responds to leverage. So
25 those partnerships are fundamentally important and

1 strengthen the ability of California's program. And
2 there's a reason why California, I believe, is a magnet
3 for light-duty and heavy-duty electrification. There's a
4 reason why we have a car manufacturer here, zero-emission,
5 zero-emission bus manufacturing coming, zero-emission
6 transit bus, school bus. It's because there's
7 opportunities here. We need to strengthen that signal.

8 But to get to -- to kind of put a point so the
9 question you just posed and the point that I just made
10 about the role transportation plays with some more
11 specificity, 50 percent of our GHG emissions are
12 associated with the transportation sector, if you include
13 upstream, about 80 percent of our NOx, 95 percent of our
14 diesel PM.

15 And clearly, we need, as we are doing,
16 double-down on the technology side. But on local land
17 use, at the same time, we showed you how we've been moving
18 forward in terms of our GHG target, VMT has actually gone
19 up. Our work with you all and your relationship at the
20 local level - cities, counties - that relationship needs
21 to strengthen. I mean, it is an area that we haven't put
22 as much focus on that needs to increase our efforts.

23 Clearly, the CTC ACD is a movement in that
24 direction. But we have not catalyzed -- to me, fully
25 capitalized at all on strengthening that relationship, not

1 to be at odds with one another and point fingers. How can
2 we collaboratively make sure the right signals are there
3 from a development standpoint to support walkable
4 communities to reduce VMT to get at the core of all these
5 problems? That is key and the board is fundamental to us
6 being able to strengthen those relationships.

7 BOARD MEMBER SERRA: Great. Thank you.

8 CHAIR NICHOLS: Yeah, maybe even just to
9 underscore that point a little bit. Every thing that we
10 are able to do here is dependent on the legislation. Of
11 course, that gives us authority. The budget that we have.
12 And then the role that we play within the national
13 program, because of the federal Clean Air Act. And that
14 is an important element behind everything we do.

15 The continuing efforts of the current
16 administration, which I am sure will only accelerate if
17 the same team is there after this year, is the biggest
18 threat probably that we face. There is some objective
19 backdrop to that as well. You know, California, because
20 we were and still are somewhat more than ten percent of
21 the auto market, vehicle market, has an outsized influence
22 on what the manufacturers produce and sell.

23 But the United States, as a whole, is less
24 important in the world than it was when we first started
25 doing this work. And the auto manufacturers, although

1 they continue to participate, and to actively get
2 involved, and respect our programs and our authorities are
3 looking increasingly to China, and to India, and emerging
4 economies as the market that they are really trying to
5 develop for.

6 And all of this just puts an extra premium on the
7 relationships that we have developed up until now, which
8 are quite robust. Thank you, Dr. Sperling and your
9 operation and others. But this is an area where I think
10 we're going to -- we didn't really reference that in your
11 report, but it's pretty clear that we have to be doing
12 more than we have to both influence and coordinate with
13 other countries on these standards, so that we will be
14 able to get the kind of vehicles and systems that we need
15 to address these problems. So other comments from this
16 side here.

17 Yes, Ms. Takvorian, you've -- had your hand up.

18 BOARD MEMBER TAKVORIAN: Go ahead.

19 BOARD MEMBER MITCHELL: Thank you, Richard, for
20 the overview. It does set out a pretty ambitious program
21 for us for the next year. I think as a representative
22 from the South Coast, and probably my colleague Dr.
23 Sherriffs has the same concerns, because we have these
24 imminent deadlines coming up in, for me, 2023, for San
25 Joaquin, 2024. And it's a constant worry.

1 I think, you know, what are we facing? How --
2 can we even get there? What are the consequences of not
3 getting there?

4 And I also feel like here on CARB, we're running
5 as fast as we can. We're trying to get the most -- the
6 cleanest heavy-duty trucks and mobile sources out there,
7 but technology is only going so fast, and -- so we're
8 working on that. Obviously, CARB has put a lot of money
9 into the pilot projects that we're doing. But I guess I
10 would like your comments on that whole aspect of the
11 burden that's on San Joaquin and South Coast, and how
12 we're addressing that, and are we going to be able to
13 resolve that.

14 EXECUTIVE OFFICER COREY: Right. And I -- we
15 discussed with the Board earlier in 2019, both as part of
16 the South Coast SIP, San Joaquin SIP, really a shortfall
17 in terms of the trajectory on NOx and where we were with
18 respect to the trajectory for attainment, recognizing the
19 considerable progress, but the significant gap,
20 particularly in short run, 2023, South Coast, 2024, I
21 think, in San Joaquin.

22 We're engaged with both of those districts and
23 the regions now in preparing for a report back to the
24 Board in spring. And the whole objective of that report
25 is this identification of additional strategies, and a

1 straight up report of here's the process we went through,
2 additional opportunities for reductions, and where that's
3 going to take us. So that is what we're directly engaged
4 in.

5 But to a point you made, and I think this is
6 really important to put on the table clearly is I talked
7 quite a bit about regulations and the transition to zero.
8 No doubt about it. I, you know, didn't pull any punches.
9 That is fundamental to meeting our long-term targets.

10 The challenge on the near-term targets is the
11 vehicle turnover. Turnover only occurs -- for instance,
12 trucks, for instance. So, yes, we can have standards for
13 the purchase, for instance, replacement of new vehicles.
14 But that in-house vehicles, like trucks that we're working
15 through the implementation of our Truck and Bus Regulation
16 right now, and vehicles, what we find often is the
17 vehicles last on the road a long time. And without
18 expediting the turnover, which is often traditionally been
19 the role that incentives have played, meeting those
20 short-term targets, waiting for the new regs to come and
21 play, doesn't square with the slow turnover rate of
22 vehicles.

23 So it really is the handshake of incentives with
24 regulation. And that -- I just underscore that point.
25 And we clearly are looking at that and talking about

1 additional incentive tools.

2 CHAIR NICHOLS: Okay.

3 BOARD MEMBER TAKVORIAN: Well, let me just add my
4 thanks to the report. I think it's really an encouraging
5 report, and also very honest, and straightforward in terms
6 of where we need to go. I really appreciated, first of
7 all, the specific focuses on EJ as you -- on environmental
8 justice, as you pointed out. But I think almost more
9 importantly is the focus, the integration of environmental
10 justice into so many of our programs. It's showing up
11 everywhere. And I think that's really where we get the
12 benefits and that's really where we're going to see the
13 progress. And not that we shouldn't have both, but I
14 think that's where it really counts.

15 And I -- I want to appreciate all the good work
16 on AB 617, but also acknowledge that the Scoping Plan and
17 the EJAC really set the table for that, because a lot of
18 what we're able to implement now in 617 really came from
19 the Scoping Plan. And we're able to use that and feed off
20 of that really for a lot of the good ideas that we have.

21 Transportation being the highest priority, I
22 agree. The one thing I would -- I would add to what you
23 just said, Richard, is I hope that we can incentivize
24 public transit, as well as rapid turnover. We may not
25 need all of those vehicles. So let's think about how we

1 cannot have all those vehicles on -- on the road. Maybe
2 they turn away. I don't know the other way of turn --
3 turning over, but they turn into something else. They
4 turn into public transit. So I think that's critically
5 important. I'm looking forward to the other reports that
6 we have today.

7 The last thing I just wanted to say is I really
8 appreciate, one, that we had the meeting in El Centro last
9 week and I just want to call that out. That's the first
10 time we've been on the border. So it's critically
11 important that we acknowledge the impacts for border
12 communities, and that we have a program that begins to
13 address that.

14 And I want to add that to the list of
15 frustrations that we have with the federal government, at
16 this point. And I know we call those out and have been
17 taking those on in an ambitious and appropriate way, but
18 this is one of them. And I direct an organization that is
19 binational. So we have seen directly the disinvestment
20 from the federal government in Mexico and in the
21 relationship between the U.S. and Mexico, and that
22 includes California and Mexico.

23 So we really need to hang in there, so that when
24 we have the opportunity to have a more robust program,
25 again, like a more robust Border 2020, we have that

1 opportunity for CARB to be helping to lead the way there,
2 because let's remember that's a whole other port --
3 international port at each of those borders that's
4 bringing in trucks that are not compliant and are really
5 impacting our communities. So I really appreciate our
6 staying power there and want to encourage that to
7 continue.

8 Sorry. There's not a question there, but I'd
9 love your comment.

10 EXECUTIVE OFFICER COREY: I can make a very quick
11 observation, a response I wanted to point this out. One,
12 you're speaking our language, in terms of the number of
13 vehicles, because VMT -- most people don't want to spend a
14 few hours a day in a vehicle. In many cases, they don't
15 have alternatives. And transit and alternative forms of
16 mobility are key to getting at that issue.

17 And to your point about environmental justice
18 considerations, really permeating the culture of the
19 organization, and really coming from the conversations
20 with the different committees over the last several years
21 really led to the recommendation that was made to us to
22 establish an Assistant Executive Officer, and executive
23 officer leader in this organization, which is Veronica
24 Eady, three years ago.

25 And I would say that part of that was

1 strengthening our communication and our relationship
2 externally. It was also the internal culture. And I
3 think people are seeing the impact that Veronica has been
4 having across this organization, which has been greatly
5 appreciated and just a privilege to work with her and see
6 how she's executing in this role.

7 BOARD MEMBER TAKVORIAN: Well, said. Thank you,
8 Veronica.

9 CHAIR NICHOLS: Okay. Dr. Sherriffs.

10 BOARD MEMBER SHERRIFFS: Thank you.

11 You know, slide 16, you probably should have
12 reproduced it five times in the report, you know, in case
13 anybody missed the message, transportation. In case you
14 miss the message, transportation.

15 (Laughter.)

16 BOARD MEMBER SHERRIFFS: You don't want people to
17 miss the message.

18 The word "health" is never mentioned. It's
19 implied over and over and over, but it's never mentioned.
20 And again, I think it's well worth making the point and
21 making it very, very, very clear. I mean, why do we talk
22 about toxics? Health. Why do we talk about freight?
23 Health.

24 What motivates communities to get involved in
25 617? It's cause they see or smell something, and what

1 it's doing to my health, what's it doing to my kid's
2 health. But I think it's well worth saying it again, and
3 again, and again.

4 And it's a reminder. You know, I talk about
5 branding and how important it is that we talk about the
6 climate investments, because this is the Cap-and-Trade
7 money coming back into the communities working in our
8 communities. And I think it's important for the public to
9 understand that. And it's not just the branding. But
10 just like scientists are very poor in sharing their
11 information with the public about what it means, I think
12 we could do a much better job in terms of educating the
13 public about our work, about the impact, about why we do
14 it and we need to keep it in mind.

15 Maybe a motto, "ARB, Good for Your Health".

16 (Laughter.)

17 BOARD MEMBER SHERIFFS: I don't know.

18 CHAIR NICHOLS: T-shirts.

19 BOARD MEMBER SHERIFFS: But very, very
20 important. I want to share my appreciation for the visits
21 to the communities. I think it's absolutely correct that
22 we're going to the communities to consider those 617
23 plans, both out of respect for all the effort that the
24 communities have made, but in terms of our understanding,
25 because every community is different. And there's no -- I

1 think there's no substitute for going there. And I really
2 appreciate the effort that staff makes to make those
3 meetings work. The work that the folks on the ground do
4 in terms of the tours how informative those are, and how
5 important.

6 So it's a big deal for all us -- it's different
7 every time, you know, and we trip up on some of the
8 details every time. But it is so worthwhile and thanks to
9 everybody for doing that.

10 So, "ARB, Good for Your Health".

11 (Laughter.)

12 CHAIR NICHOLS: Okay. Thank you.

13 Yes, Mr. Fletcher.

14 BOARD MEMBER FLETCHER: Thank you. I just want
15 to reiterate a point that Mr. Corey made earlier that I
16 think is really important, not just as a Board, but as a
17 state, in that we have these, at times, conflicting or
18 intersecting goals, particularly around housing.

19 We know that as a state, we have to build more
20 housing. We know that that's a -- it's a real challenge.
21 It's not just for the homeless issue. But at 4:00 a.m.
22 this morning in San Diego, we started our point-in-time
23 count to survey the number of homeless people. And it was
24 an important enough problem and issue that the Governor of
25 California was out at 4:00 a.m. in San Diego helping us

1 count homeless people.

2 But as we seek to address that issue, a lot of
3 times the challenges that you get faced, combined with the
4 NIMBYism of neighborhoods and communities, leads folks to
5 put housing in places where it should not go. And we are
6 certainly fighting that battle in San Diego County. And
7 we are not alone in the direction that a lot of housing
8 wants to go. And so when we have a sector -- not to rain
9 on all the great work that's being done, but when we have
10 transportation numbers, GHG numbers that are moving in the
11 wrong direction, when we've recouped tremendous progress
12 from the electrical system and grid, and we have
13 increasing VMTs, and a need for increasing housing, if not
14 put in the right place, if not made the right investments,
15 we are going to face incredibly difficult challenges in
16 terms of where we need to go.

17 And so it really is figuring out as a state how
18 we're going to -- how we're going to take these two goals
19 and have them aligned into one with our climate goals, our
20 greenhouse gas goals, and our housing goals, along with
21 our transportation systems.

22 And I think along with that commitment, one slide
23 that causes me great concern, and this is certainly not
24 the only available pot of money, but the GGRF expenditure
25 plan for CARB proposed 20-21 is \$200 million less than

1 19-20. And that's where we're going to need the active
2 participation and help of the Legislature and others to
3 make sure that we, as an entity, continue to have the
4 investments, so that we continue to provide the
5 incentives, and the technology, and the other things that
6 we need, because I think 2030 is not a long way away, but
7 the 2030 goals are certainly a long way away.

8 And so we have a lot to do. Thank you.

9 CHAIR NICHOLS: Okay. We have one person who
10 signed up to address the Board on this item.

11 Gary Hughes.

12 MR. HUGHES: Thank you, Chair, members of the
13 Board. My name is Gary Hughes. And I work with the
14 organization Biofuelwatch. And it's impressive that I'm
15 the only one up here to make a comment today. Actually, I
16 tried to defer to the amount of work that you have and did
17 not sign up to make comments on the Compliance Offsets
18 Protocol Task Force membership and chair item.

19 I really hope people pay more attention to this
20 issue and that you take a good look at the membership.
21 There's a couple things that stand out, and that there is
22 one organization that has two members of their board of
23 directors on -- on the board there, so -- on that
24 committee, so it's worth looking at.

25 There is a lot of work to be done. I appreciate

1 the presentation. I wanted to draw attention to a couple
2 things that I think really merit more attention. And
3 essentially it's geoengineering, and the fact that
4 geoengineering has now become a part of California's
5 climate agenda, but it's not being called that.

6 Direct air capture, capturing air from the
7 atmosphere, this is carbon dioxide removal, CDR. This is
8 recognized as a geoengineering technology. So I think the
9 members of the Board really could do the public a great
10 service by trying to elevate this reality. That we're now
11 looking to depend on unexisting -- non-existing
12 technologies to respond to the climate crisis. And that
13 also the association of the fossil fuel industry with
14 these technologies over the decades is well recognized,
15 well documented.

16 So I really hope that there's more attention paid
17 to this move towards geoengineering, and really this move
18 towards holding your fingers crossed, that we're able to
19 respond to the climate crisis.

20 With that, also the natural and working lands
21 element is based upon the Forest Carbon Plan, which is
22 very deficient scientifically, very industry friendly.
23 But the natural and working lands, you know, aspect of the
24 Scoping Plan, it's been more than a year since the draft
25 was offered for public comment and nothing has really

1 happened with that. And what happens with this is there's
2 an attrition of public participation, okay, that things
3 kind of just kind of disappear. They fall off the radar
4 screen.

5 And then when it does come back for attention,
6 it's so hard to muster. So I think there's some real
7 questions of the democracy that's involved with that.

8 In my last seconds, I really do want to address
9 the fact that there's so little publicly available
10 information about California's collaboration with other
11 states and nations. And, in particular, Chile's presiding
12 over COP25 this year and California's direct involvement
13 with Chile -- with the Chilean government and the direct
14 relation to climate policy, climate action in Chile with
15 the persecution of environmental defenders.

16 So I think this needs a great more attention.
17 And I'm surprised no one else wants to make any comments
18 today, folks. What's going on?

19 CHAIR NICHOLS: Thank you.

20 No other witnesses have signed up to speak on
21 this item. It is an informational item. I think it gives
22 us a pretty good road map of what's going to be coming
23 before the Board in the coming year and lots to think
24 about.

25 So thank you, Mr. Corey.

1 I think we should move on to the next item. We
2 want -- we'll want to take a break at some point, maybe
3 between the next item and the last one. Although,
4 they're -- they are closely related to each other. But if
5 we can move ahead here on the zero-emission vehicle
6 report. That would be helpful.

7 This is -- this item arises from legislation,
8 which asked us to develop recommendations for how to
9 increase the use of zero-emission vehicles. It's a topic
10 that needless to say we've been spending a lot of time and
11 effort on.

12 We have been taking a multi-pronged approach to
13 reducing emissions from the transportation sector
14 including actions to reduce vehicles miles traveled,
15 targeting new mobility services as we're going to be
16 talking about in the next item, the last item on the
17 agenda, and promoting zero-emission passenger cars, buses,
18 trucks, and every other kind of emitting equipment that we
19 can get our hands on.

20 The Board has adopted a number of complementary
21 regulatory incentive and supporting programs to catalyze
22 zero-emission technologies, in order to achieve the
23 state's air quality and climate controls -- climate goals.
24 And I would say that every time we take action, we find
25 that technology has moved further than we thought it was

1 going to, and that costs have come down, and things that
2 seemed impossible one day, look very possible and maybe
3 even out outmoded, you know, a short time later. So it's
4 a challenging area in which to be a relevant and effective
5 regulatory agency.

6 But in the meantime, we have been playing a key
7 role here in helping to spread technologies, including
8 seeing other transportation sectors beyond the passenger
9 cars where we first started paying attention, and now
10 increasingly looking at zero-emission buses, trucks,
11 heavy-duty equipment, all coming into the market.

12 And this is all very encouraging. But as the
13 last report just pointed out, we're far from where we need
14 to be. So the regulatory landscape has been threatened as
15 well, as a result of the current federal administration,
16 which has issued a final rule that purports to preempt
17 California's passenger vehicle greenhouse gas emissions
18 standards, and our ZEV regulations, and revoke
19 California's waiver under the Clean Air Act to adopt these
20 regulations.

21 Of course, we are challenging this rule in the
22 courts. But with or without the federal government, we
23 remain resolute in doing everything else we can do to
24 promote the transition to a zero-emission future. In
25 doing that, we need to rely on partnerships with some of

1 the same folks that we're suing, frankly. And we have to
2 be sophisticated about how we do that. We also need to be
3 looking at other agencies and local governments, the
4 Legislature, of course, and consumers, and other
5 stakeholders and looking for new tools that we can
6 develop.

7 So to that end, this report recommends a number
8 of policies that the Legislature might wish to consider in
9 order to further accelerate the adoption and use of
10 zero-emission vehicles in California, and to continue
11 fostering the investments and innovation that the ZEV
12 market still needs, if we're going to be successful in
13 achieving our public health, air quality, and climate
14 goals.

15 Mr. Corey, would you please introduce this item?

16 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

17 In 2017, the California Legislature passed Senate
18 Bill 498, directing CARB to review its programs that
19 affect the adoption of light-, medium-, and heavy-duty
20 zero-emission vehicles; compare CARB's zero-emission
21 vehicle programs with those in other states and countries;
22 identify policy recommendations for increasing the use of
23 zero-emission vehicles in the state; and identify actions
24 fleets can take to increase the use of zero-emission
25 vehicles within their operations.

1 SB 498 requires that the Board consider public
2 comments on the policy recommendations prior to submitting
3 the full report to the Legislature. CARB staff developed
4 the policy recommendations based on the review of the
5 Board's zero-emission vehicle programs and has consult --
6 and has consulted with sister agencies, stakeholders, and
7 the public to solicit input.

8 Staff held a public workshop in May of 2019 and
9 in July presented policy concepts to you for your
10 feedback. This work culminated in a report that was
11 released for public review and comment in December of
12 2019. Today, staff will present these policy
13 recommendations.

14 I'll now ask Melanie Zauscher of the Sustainable
15 Transportation and Communities Division to begin the staff
16 presentation.

17 Melanie.

18 (Thereupon and overhead presentation was
19 presented as follows.)

20 AIR POLLUTION SPECIALIST ZAUSCHER: Thank you,
21 Mr. Corey. Good morning.

22 Today, I will present the draft policy
23 recommendations to increase the use of zero-emission
24 vehicles in response to Senate Bill 498 authored by
25 Senator Skinner and signed into law in 2017.

--○○○--

AIR POLLUTION SPECIALIST ZAUSCHER: SB 498
requires CARB to write a report on all our programs that affect the adoption of zero-emission vehicles across the light-, medium-, and heavy-duty sectors.

Specifically, the bill asks CARB to consider public comments at a Board hearing on draft policy recommendations to increase the adoption of ZEVs. So those policy recommendations are the focus of this presentation.

The draft report, which was published in December, is broader and also includes a review of CARB's ZEV Programs, a comparison of our programs with those of other jurisdictions, and actions fleets can take to increase the use of zero-emission vehicles in their operations.

-- 909 --

AIR POLLUTION SPECIALIST ZAUSCHER: As discussed in the previous Board item, and to repeat the message, enabling clean air transportation is critical to California's public health, air quality, and climate goals. The figure on the right shows that mobile sources are the largest contributor of criteria pollutant and greenhouse gas emissions in California.

There are three strategies to cleaning up the

1 transportation sector: using cleaner fuels, driving less,
2 and electrifying vehicles, which includes both electric
3 and hydrogen fuel electric vehicles.

4 California must implement all three of these
5 strategies. But because SB 498 is focused on
6 zero-emission vehicles, the rest of this presentation is
7 too.

8 --00--

9 AIR POLLUTION SPECIALIST ZAUSCHER: There are
10 three types of ZEV programs that complement each other:
11 regulations, incentives, and supporting programs.
12 Regulations help ensure there is a supply of ZEVs by
13 requiring that they are produced. Incentives help
14 encourage consumers and fleet demand for ZEVs. And
15 supporting programs help address market barriers and
16 support ZEV adoption, such as through charging and
17 refueling infrastructure and education.

18 The programs listed on this slide are examples of
19 our ZEV programs. The take-home message here is that the
20 impact of all our programs together on the ZEV market is
21 greater than the impact of the individual programs.

22 --00--

23 AIR POLLUTION SPECIALIST ZAUSCHER: This slide
24 illustrates the stakeholders we engaged with to develop
25 these draft policy recommendations. The policy

1 recommendations build upon the Governor's 2013, 2016, and
2 2018 ZEV action plans; Executive Order N-19-19, which
3 outline actions that State agencies must take to reduce
4 greenhouse gas emissions; and CARB's staff report that
5 identified barriers that low-income Californians face in
6 accessing zero-emission transportation options in response
7 to Senate Bill 350.

8 The process started through bottom-up discussions
9 within CARB staff working on the various ZEV programs.
10 CARB staff then sought feedback from other State agencies
11 involved with ZEVs in recognition that collaboration and
12 coordination among agencies is crucial.

13 Per SB 498, CARB staff consulted with experts at
14 the University of California Institute of Transportation
15 Studies. Stakeholders have been involved through a public
16 workshop held last May and at the Board hearing
17 presentation last July.

18 The policy recommendations are also informed by
19 the review of CARB ZEV programs and comparison with other
20 jurisdictions.

21 The carbon neutrality study being developed by
22 the California Environmental Protection Agency will
23 identify additional strategies to achieve carbon
24 neutrality for the transportation sector.

25 --oo--

1 AIR POLLUTION SPECIALIST ZAUSCHER: CARB staff
2 have identified eight policy areas to increase light-,
3 medium-, and heavy-duty ZEV adoption and use. These would
4 either require or benefit from legislative action.

5 The policy recommendations outline areas of
6 opportunity to grow California's ZEV market, despite the
7 actions by the federal government that threaten to
8 undermine California's momentum on ZEVs.

9 The next few slides will walk through each of
10 these areas.

11 --00--

12 AIR POLLUTION SPECIALIST ZAUSCHER: The first set
13 of recommendations consists of incentives on pricing
14 strategies. ZEVs currently cost more than their
15 conventional counterparts, so a suite of complementary
16 policies is needed to expand the ZEV market beyond early
17 adopters and to ensure equitable access to zero-emission
18 mobility.

19 There are three main ideas:

20 First is to provide CARB with predictable and
21 expanded funding for light-, medium-, and heavy-duty ZEV
22 incentives programs that is sufficient to drive consumer
23 demand. Incentive certainty entices consumers and fleets,
24 nudges manufacturers to invest and innovate to bring a
25 wider array of ZEVs to market, and encourages dealers to

1 promote ZEVs.

2 Next recommendation is to provide CARB with
3 increased incentive funding to ensure priority populations
4 and school districts can access zero-emission
5 transportation.

6 The last recommendation in this category is to
7 establish statewide pricing strategies, such as usage- or
8 emission-based fees or a feebate system that could create
9 a new source of funding for ZEV incentives.

10 Additionally, other pricing strategies, such as
11 exemptions from registration fees and sales taxes, and
12 other non-monetary incentives, such as zero-emission truck
13 lanes along freight corridors could also motivate ZEV
14 adoption

15 --00--

16 AIR POLLUTION SPECIALIST ZAUSCHER: The next
17 policy recommendations category aims to lower ZEV fuel
18 costs. Predictable, cost-competitive, and stable
19 electricity and hydrogen fuel costs are critical to
20 encourage consumers and fleets to choose ZEVs.
21 Electricity costs for transportation electrification are
22 difficult to predict and can be high, especially for
23 commercial entities, due to complex rate structures and
24 demand charges. The California Public Utilities
25 Commission has an open rulemaking to design electricity

1 rates that support transportation electrification.

2 The first recommendation is to define Senate Bill
3 350 transportation electrification to be inclusive of
4 renewable hydrogen. Currently, hydrogen is not explicitly
5 included and thus not eligible for utility investment.

6 Reduced electricity rates that support renewable
7 hydrogen generation could support the fuel cell electric
8 vehicle market by attracting private investments in
9 hydrogen generation and infrastructure.

10 This recommendation could also benefit the
11 electricity grid by encouraging the use of excess
12 renewable electricity that would otherwise be curtailed
13 for the production of hydrogen.

14 Next, is our recommendation to set targets for
15 technologies and strategies to implement vehicle-grid
16 integration, on-site renewable energy generation, energy
17 storage, and other related strategies that could reduce
18 demand charges.

19 The last recommendation in this category is to
20 require the integrated resource plans submitted by
21 publicly-owned utilities to include details of electricity
22 rate design for transportation electrification across the
23 whole transportation system.

24 These integrated resource plans, which describe
25 the path each utility is taking to decarbonize the

1 electricity sector, while simultaneously minimizing costs,
2 ensuring grid reliability, and minimizing negative impacts
3 on priority populations are also required to include
4 information on transportation electrification, but this is
5 limited to the light-duty sector.

6 With this recommendation, POU customers and
7 fleets operating or considering medium-, heavy-duty, and
8 off-road electric vehicles could more clearly predict the
9 cost of paying for electricity for these vehicles.

10 --00--

11 AIR POLLUTION SPECIALIST ZAUSCHER: The third
12 category of recommendations is focused on expanding ZEV
13 refueling infrastructure. Current ZEV infrastructure
14 cannot support the growing ZEV population, and long-term
15 holistic infrastructure planning and investment is
16 critical to giving consumers confidence in ZEVs and to
17 expand ZEVs to more market segments, including heavy-duty
18 applications.

19 This category has the most recommendations
20 underscoring the critical nature that infrastructure plays
21 in the transition to transportation electrification.

22 A is to extend the California Energy Commission's
23 Clean Transportation Program beyond 2023 and promote ZEV
24 fuels to continue closing the gap between needed ZEV
25 refueling infrastructure and the State's ZEV deployment

1 targets.

2 The next recommendation is to convene a
3 multi-agency working group with the goal of accelerating
4 heavy-duty and off-road ZEV infrastructure and especially
5 hydrogen to be on par with the light-duty ZEV
6 infrastructure. There are a number of new and upcoming
7 heavy-duty and off-road ZEV regulations that need
8 infrastructure to be successful. Thanks to AB 1 -- 2127
9 and SB 350, State agencies are collaborating to assess the
10 electric vehicle infrastructure needs across all
11 transportation applications, but there is no similar
12 effort in the hydrogen space.

13 C is to require that electric vehicle charging
14 infrastructure provisions in California's Green Building
15 Standards Code include mandatory installation of level 2
16 charging in new construction and at existing buildings
17 undergoing major renovations.

18 --00--

19 AIR POLLUTION SPECIALIST ZAUSCHER: The next
20 policy recommendation in the infrastructure category is to
21 exempt sales taxes on electric vehicle recharging and
22 hydrogen refueling infrastructure.

23 E is to require charging infrastructure at both
24 new and existing State facilities where feasible in order
25 to support the State fleet, employees, and the public.

1 Another recommendation is to provide CEC with
2 additional funding for the deployment of ZEV
3 infrastructure within and near low-income and
4 disadvantaged communities and schools.

5 G is to direct CEC and the CPUC to identify
6 investment priorities for ZEV infrastructure to serve
7 high-mileage fleets and to build the business case for ZEV
8 infrastructure.

9 --00--

10 AIR POLLUTION SPECIALIST ZAUSCHER: Continuing
11 with infrastructure policy recommendations, H is to
12 increase funding for state-of-the-art ZEV regional
13 readiness planning and implementation, including
14 engagement with local jurisdictions in order to enable
15 support of light-, medium-, and heavy-duty ZEVs within
16 each of California's regions.

17 A related recommendation is to expand the focus
18 of transportation funding to reflect ZEV infrastructure
19 needs at seaports and freight distribution facilities.
20 For example, when improving a conventional roadway in
21 freight areas, an adjacent zero-emission truck parking and
22 refueling facility could also be installed.

23 The last recommendation in this category is to
24 direct the Electric Program Investment Charge, or EPIC,
25 Program, implemented jointly between CEC and the

1 investor-owned utilities, to include research and
2 development into the next generation ZEV infrastructure
3 technologies and operational strategies, including a focus
4 on growing ZEVs in disadvantaged communities.

5 --oo--

6 AIR POLLUTION SPECIALIST ZAUSCHER: The next
7 category involves local governments. Local governments
8 currently do not have explicit authority or a uniform
9 statutory framework to implement policies such as
10 zero-emission zones, road usage, or emission-based
11 pricing. These policies are likely to yield substantial
12 local air quality benefits, could create new local
13 revenue, and would send a strong signal to encourage the
14 use of light-, medium-, and heavy-duty ZEVs. These
15 policies should be developed in the context of the
16 jurisdiction's general plan.

17 The first policy recommendation is to provide
18 explicit authority to local jurisdictions to create
19 zero-emission zones. These zones should be designed with
20 equity considerations to minimize the exposure of
21 sensitive populations to air pollution.

22 Similarly, the next recommendation is to provide
23 explicit authority to local governments to implement
24 equitable pricing mechanisms that favor pooling and ZEVs
25 in a way that meets the mobility needs of priority

1 populations. These could be congestion pricing, cordon
2 pricing, or operating fees on new mobility sources.

3 The last idea in this category is to incentivize
4 local governments to develop local readiness plans that
5 align with the regional plans and implement local policies
6 to encourage the use of ZEVs such as preferential
7 discounted parking programs and curbside charging.

8 --00--

9 AIR POLLUTION SPECIALIST ZAUSCHER: The fifth set
10 of policy recommendations is related to fleets. As a
11 wider array of ZEVs and plug-in hybrid electric vehicles
12 becomes available, light-, medium-, and heavy-duty fleets
13 of all types will have more opportunities to adopt and use
14 them, with the potential to rapidly expand market growth
15 and consumer awareness of ZEVs and zero-emission miles.

16 The first recommendation is to direct CARB to
17 adopt zero-emission mileage requirements in all
18 high-mileage fleets and new mobility fleets, while
19 ensuring that these requirements also aim to minimize
20 vehicle miles traveled overall by building connections to
21 transit and active transportation wherever possible,
22 similar to how the Clean Miles Standard is being
23 developed, which we'll hear about in the next Board item.

24 California's Department of General Services is
25 currently leading by example by requiring all non-public

1 safety sedans purchased by State agencies to be ZEVs. But
2 more can be done, such as establishing zero-emission
3 vehicle miles traveled targets for the State's light-,
4 medium-, and heavy-duty fleet to ensure the use of these
5 vehicles. And setting ZEV targets for other vehicles used
6 by the State, such as rental cars and new mobility
7 services used for State employee travel.

8 And because local governments should also lead by
9 example, the last recommendation in this area is to
10 establish ZEV targets for local government fleets as ZEV
11 models become available to meet their need.

12 --00--

13 AIR POLLUTION SPECIALIST ZAUSCHER: The next set
14 of recommendations is focused on outreach and education.
15 Awareness of light-, medium-, and heavy-duty ZEVs remains
16 low, affecting consumer acceptance and implementation of
17 supporting policies like infrastructure.

18 The first recommendation is to create a State
19 electricity rate ombudsman to provide expertise to
20 fleets that are transitioning to ZEVs on the electricity
21 rate structures and other strategies to optimize charging
22 behavior to minimize fuel costs.

23 Next is to increase funding for existing and new
24 programs for ZEV consumer, and fleet outreach, and
25 education campaigns with a focus on priority populations

1 and heavy-duty fleet operators.

2 C is to fund training for local government
3 inspection, building, and planning officials, and builders
4 and developers about ZEVs and ZEV infrastructure to
5 achieve electric vehicle charging and hydrogen refueling
6 infrastructure permit streamlining for light-, medium-,
7 and heavy-duty applications.

8 The last recommendation of this category is to
9 provide funding for CARB to establish partnerships with
10 industry and the academic community to foster
11 experimentation and innovation, explore sustainable
12 business models for ZEV manufacturers and refueling,
13 assess ZEV opportunities in the freight sector, and
14 provide a forum to share best practices.

15 --00--

16 AIR POLLUTION SPECIALIST ZAUSCHER: This policy
17 recommendation category centers on workforce development.
18 The ZEV transition will require a growing workforce that
19 can manufacturer, service, and operate zero-emission
20 vehicles and infrastructure. With California leading the
21 ZEV market, this can create opportunities for quality job
22 creation and for increased access to quality employment
23 for disadvantaged and underrepresented workers.

24 The first recommendation is to increase
25 investment in existing California Workforce Development

1 Board and Employment Training Panel programs that target
2 occupation and skill gaps and promote job preparation
3 through partnerships between educational institutions and
4 ZEV-related employers.

5 The other recommendation in this category is to
6 fund the California Workforce Development Board to conduct
7 research on the net job benefits from public investments
8 in zero-emission vehicles and infrastructure and identify
9 strategies to maximize the quality and accessibility of
10 these jobs.

11 --00--

12 AIR POLLUTION SPECIALIST ZAUSCHER: The final
13 policy category revolves around increasing ZEV program
14 flexibility. Agencies administering ZEV incentive and
15 infrastructure programs need flexibility and long
16 expenditure deadlines for funding to respond to the
17 rapidly evolving ZEV market, keep programs streamlined and
18 easy to access and understand by consumers, support ZEV
19 development, especially in the earliest stages of
20 commercialization, and respond to the needs from priority
21 populations.

22 First is it explore methods to increase ZEV
23 program flexibility. And a good example of program
24 flexibility needed is to continue providing six years as
25 the deadline to spend ZEV-incentive funding, as was done

1 in the 2019-2020 budget, especially for technology
2 demonstration projects, pilots, and programs that include
3 ZEV refueling infrastructure in order to ensure sufficient
4 time for building pre-commercial vehicles, designing,
5 permitting, and installing ZEV infrastructure and
6 collecting data.

7 These eight sets of policy recommendations build
8 off our current programs and will help further accelerate
9 the adoption and use of ZEVs in California and to continue
10 to foster the environment of investment and innovation
11 that the ZEV market still requires if California is to
12 meet its public health, air quality, and climate goals.
13 But to the extent that the ZEV market is not able to grow
14 as quickly as needed, California will need to take bolder
15 and more aggressive steps.

16 --00--

17 AIR POLLUTION SPECIALIST ZAUSCHER: Through the
18 com -- through the public comment period that closed two
19 days ago and the public workshop in May, we have received
20 supportive and constructive comments in the draft policy
21 recommendations.

22 CARB staff recommend the Board approve resolution
23 20-3, which states that the Board supports the
24 recommendations presented today, that staff will explore
25 actions to implement these, and that staff will evaluate

1 comments received during the public comment period and
2 revise the report as appropriate.

3 Once the report has been revised, we will submit
4 it to the Legislature.

5 Finally, I want to thank everyone that has
6 contributed to this report, CARB staff, staff from other
7 agencies, the academics and the public.

8 This concludes my presentation.

9 CHAIR NICHOLS: Okay. So we will be asked to
10 support the recommendations and transmit them. But before
11 we do that, we need to hear from the public. We have 18
12 commenters who've signed up, so let's get started here.

13 I won't really call everybody's name. You can
14 just look up on the sheet there on the Board and come down
15 when it's your turn.

16 Thank you.

17 MS. ROBINSON: Hello. My name is Katerina
18 Robinson. I'm here on behalf of Senator Nancy Skinner
19 today just to make a few brief comments on this item,
20 which features policy recommendations that flow from her
21 bill SB 498. So thank you to the Board for your
22 indulgence just to make a few quick comments today.

23 First, she wanted to thank the Board staff for
24 diligent implementation of this bill. I know they've all
25 been working hard on these policy recommendations. And

1 we've been asking excitedly for them hoping that we can
2 get some moving, potentially even in this legislative
3 session. So thank you for getting those out before bill
4 introduction deadlines this year.

5 We were particularly interested. There were
6 several unique proposals here, but particularly interested
7 in the items on keeping fuel costs low, and especially in
8 today's climate, where we're increasingly concerned about
9 costs of electricity on the grid and this affect -- may
10 affect green hydrogen costs as well as EV costs. We are
11 reading through those and seeing if there's something that
12 we can do to help move that forward.

13 And finally, we do hope that funding continues to
14 stay strong to help California on its path toward
15 zero-emission vehicles, and that it becomes more robust in
16 the administration's May revise. As CARB notes in this
17 report, there is a strong need for stable purchase
18 incentives for zero-emission vehicles and for their
19 infrastructure. And to Supervisor Fletcher's point, it
20 didn't seem that that was reflected in the January budget.
21 So we hope that continues to be strengthened over time.

22 And we did note, however, that there's this new
23 Climate Catalyst Fund in the January budget and looking
24 forward to that potentially being an innovative new
25 funding source for transportation technologies and other

1 technologies as we move towards zero-emission vehicles.

2 So thank you very much.

3 CHAIR NICHOLS: Thank you. Appreciate your
4 participation, also your indulgence, since the report is
5 late, so -- but we were working hard on it.

6 Yes.

7 MR. NEUENBURG: Good morning, Chair Nichols, CARB
8 Board and staff. My name is Mike Neuenburg and I'm
9 representing the Sacramento Metropolitan Air Quality
10 Management District. It is a pleasure for me to speak to
11 all of you today in support of the proposal to consider
12 policy recommendations to increase the use of
13 zero-emission vehicles per Senate Bill 498 and to share
14 some highlights within the Sacramento region.

15 Transportation emissions are a dominant source of
16 air pollution within the Sacramento region and
17 disadvantaged communities. The policy recommendations
18 outlined today will have a direct immediate impact, while
19 ensuring the long-term sustainability need for
20 zero-emission technology deployment. The Sac Metro Air
21 District in cooperation -- in cooperative efforts with
22 SACOG and local governments is actively deploying and
23 influencing numerous zero-emission projects including well
24 over 100 school buses, 25 transit buses, 75 medium-duty
25 and heavy-duty trucks, plus many infrastructure projects.

1 Examples include:

2 The big Class 8 trucks with Lion and Tesla,
3 microtransit and airport shuttle buses, food delivery, and
4 refuse trucks; reducing overall exposure to air pollution;
5 and, providing economic benefits for the communities we
6 serve.

7 Additionally, we have moved into the light-duty
8 and mobility markets by piloting Our Community CarShare, a
9 unique car-sharing and ride-hailing program; supporting
10 new mobility hubs, such Green Tech; and we are in the
11 final stages of breaking ground with Clean Cars 4 All,
12 furthering assistance to the disadvantaged communities
13 most at need, while also providing education and technical
14 training opportunities.

15 Funding for these programs have come from our
16 local SECAT, Moyer, and Community Air Protection Programs.
17 And new vehicle purchasing without scrap is under SECAT,
18 which operates similar to the State HVIP program, has been
19 extremely successful. This year, within a couple days,
20 the State HVIP for fiscal year 19-20 was fully allocated,
21 highlighting a critical need to identify additional
22 funding sources. Making a minor change to the State Moyer
23 guidelines to allow this provision would accelerate
24 zero-emission deployment and allow fleets additional
25 funding opportunities.

1 This effort would support the Sacramento and West
2 Sacramento's Mayor Climate Commission to get 70 percent of
3 new vehicle registration to be zero-emission vehicles by
4 2030 and 100 percent electrification for all vehicles by
5 2045 to meet the overall goal of being carbon free in
6 2045.

7 Sac Metro Air District supports our partner SMUD
8 in leading the efforts with the California Mobility
9 Center, or CMC. The CMC effort have brought public,
10 private, and academia together to focus on the research,
11 policy, development, and manufacturing of the most
12 innovative zero-emission transportation technologies.
13 Some of our local partners include SMUD, UC Davis, CSU
14 Sacramento, Los Rios community colleges, the Greater
15 Sacramento Economic Council, the City of Sacramento, and
16 many others, pushing transportation -- transportation
17 technology and policy to zero to achieve our California
18 climate goals.

19 And thank you for allowing our agency the
20 opportunity to speak to you today.

21 CHAIR NICHOLS: Thank you.

22 MR. BOUWKAMP: Good morning, Madam Chair, Board
23 members. My name is Nico Bouwkamp and I'm with California
24 Fuel Cell Partnership. And I appreciate we can make
25 comments here.

1 We largely -- while we largely agree on all the
2 recommendations in the report, we have some specific
3 comments that may strengthen -- may add to the
4 strengthening of the report. I have eight points and I'll
5 keep it light, because you have the comments that we
6 submitted, so that it expands more on what I will say.

7 These eight points are not aligned with the
8 presentation of eight points. This is -- that's --
9 there's no connection there.

10 The first one is to authorize and allocate funds
11 to provide certainty of funding. I think we've heard
12 quite a few comments about that, but it's about certainty
13 of funding, that's the main thing. And especially for
14 heavy-duty fuel cell vehicles, these allocations will be
15 critical in helping fleet operators to meet the
16 requirements of the forthcoming Advanced Clean Truck Rule
17 later this year, but already to implement and adopt the
18 Innovate Clean Trans -- Innovative Clean Transit Rule,
19 which transit fleet operators are working on meeting, and
20 also the Zero-Emission Airport Shuttle Rule.

21 The next one is that we need to focus on
22 heavy-duty in addition to light-duty. And our members
23 have had significant experience with that, but they
24 recognize inter -- interdependence between vehicle
25 categories. In simple terms, light-duty vehicles help

1 drive down the cost of the vehicle components, where
2 heavy-duty vehicles will help drive down the cost of
3 hydrogen fuel for light-duty. So both of them should be
4 included.

5 I want to add to this that with regards to cost
6 reduction and cost competitiveness, that the Hydrogen
7 Council recently released a "Path to Hydrogen
8 Competitiveness Report", and this concludes that most
9 hydrogen mobility applications will reach total cost of
10 ownership parity with other low carbon alternatives by
11 2030. That's a note to make it. I also have the report
12 here, so I've submit that in addition to my comments. And
13 I can provide a digital copy as well, if paper is too
14 much.

15 The next one, align State agency's considerations
16 and align public policies to facilitate optimal ZEV
17 rollout to create certainty for private industry to
18 invest. With this, we should give equal considerations to
19 DC fast charging and hydrogen refueling for all vehicle
20 applications.

21 Support renewable hydrogen to allow hundred
22 percent decarbonized hydrogen by 2030. Renewable hydrogen
23 capacity will facilitate also the grid -- the electric
24 grid to expand and integrate a higher count of renewable
25 power and meet their 2045 decarbonization goals.

1 Fifth, the infrastructure first, because with
2 stations, people are willing to buy vehicles. And this
3 needs to be coordinated with the vehicles, the
4 infrastructure, to provide market certainty. Market
5 certainty is one of the most important signals that
6 California can give through policy and funding for
7 industry to invest.

8 And then within the funding programs, prioritize
9 scale focused projects -- may I Finish?

10 CHAIR NICHOLS: Finish the sentence, please.

11 MR. BOUWKAMP: I'll make it a long sentence.

12 (Laughter.)

13 MR. BOUWKAMP: Prioritize scale-focused projects
14 while benchmarking conventional medium- and heavy-duty
15 vehicle operations. Listen to the voice of the consumer,
16 while also establishing a dedicated full-time GO-Biz
17 heavy-duty ZEV position to support meeting these
18 regulations for heavy-duty.

19 Thank you.

20 CHAIR NICHOLS: I would like to say that --
21 sorry. There's a separate effort underway, which the PUC,
22 I believe, is leading, but which we're involved in to look
23 at the role of hydrogen and our future -- our energy
24 future as a state. So this is not the only place in which
25 this topic is being examined.

1 Thank you.

2 MR. BOUWKAMP: Thank you.

3 MR. EDWARDS: Good morning. My name is Dave
4 Edwards. I work for Air Liquide, a hydrogen supplier into
5 the market in California.

6 First off, as a general comment, we appreciate
7 the efforts that are being made by the report and the
8 recommendations that we're generally in support of. The
9 State of California has a track history of supporting and
10 successing with vehicles and markets in this area.

11 What we'd like to recognize is that state success
12 with respect to environment and health outcomes is tied to
13 market success from a private industry perspective, in
14 order to the provide reliable hydrogen fuel supply that is
15 low cost, low carbon, reliable, and scalable. All of
16 those components are necessary for success for the
17 industry and are necessary for success from the state.

18 I'd like to make a couple of comments as we think
19 about the recommendations that come with this report.
20 First off is that the private investment aspect of this is
21 really critical. For every dollar that we anticipate the
22 State putting into these programs, we can anticipate
23 private investment having many dollars of matched funds
24 into the infrastructure that will be required for this.

25 And today, that number is approximately 10 to 1.

1 For every dollar that the State is putting in today, we're
2 seeing matched funding from industry in supply,
3 distribution, production, stations, vehicles at about a 10
4 to 1 rate.

5 If you look at light-duty vehicles, for example,
6 the match of policy, growth opportunity, and customer
7 adoption has led to some success. The AB 8 funding for
8 stations, the ZEV mandate for vehicles, the LCFS fuel
9 programs, for example, are examples of policies that have
10 enabled market certainty. And market certainty follows
11 with investments.

12 As an example, our company has invested in the
13 last year approximately \$200 million in the production,
14 distribution of renewable hydrogen into the California
15 mobility markets. These are the signs of market success.

16 My second comment is respect to the added
17 emphasis of heavy-duty into the mix of vehicles.
18 Historically, we've had a lot of emphasis on light-duty
19 vehicles and we're starting to see the policies catching
20 up in heavy-duty, medium-duty, and transit applications,
21 and we strongly encourage that.

22 But it's not one at the expense of the other. It
23 needs to be inclusive of all. From a hydrogen supply
24 perspective, for example, it is the same fuel, the same
25 production, much of the same distribution networks for

1 example that we can leverage at scale to bring costs down
2 and bring reliability up.

3 My last comment comes down to pathways for
4 renewables. We would like the State to continue to
5 support policies that incentivize the outcomes of low
6 carbon fuels, but not through prescribed pathways.
7 Processes, such as the Low Carbon Fuel Standard, which
8 gives us a target for carbon but doesn't prescribe a
9 pathway that's necessary to meet, allows us the
10 flexibility to provide reliability, make investments, and
11 ensure low cost for our consumers.

12 And lastly, the industry is committed to making
13 this transition to renewables in supplying hydrogen with
14 renewable content that exceeds that of the electric grid
15 today and will continue to for the future.

16 Thank you very much.

17 CHAIR NICHOLS: Thank you.

18 MR. ASTI: That was some perfect timing, wasn't
19 it?

20 Good morning. I'm David Asti with Southern
21 California Edison. Appreciate the opportunity to provide
22 some brief comments this morning. We applaud the staff
23 for the comprehensive and hard look at the policies
24 necessary to support and facilitate this transportation
25 transition. As we've mentioned before, the next three to

1 five years are critical years for the EV market and
2 strong, clear, and consistent funding signals are
3 important.

4 Thus, SCE strongly agrees with the first
5 recommendation included in the report that adequate and
6 reliable funding for incentives are essential. The State
7 has made key investments in EV adoption incentives, but we
8 can't pull back now or slow down any, because the
9 decisions and investments we make now will determine our
10 long-term success.

11 With respect to ZEV fueling infrastructure,
12 investment here is critical to ensuring the State can
13 achieve its ZEV deployment and climate goals. Those
14 infrastructure investment decisions must be informed by a
15 comprehensive and consistent interagency view of
16 infrastructure and system planning needs, a view that is
17 forwarded looking and incorporates all of CARB's mobile
18 source rules and the State's climate and air quality goals
19 and policies.

20 And this comprehensive perspective of
21 infrastructure needs should shape and inform utility
22 programs and investments for the future. We look forward
23 to working with CARB and all of the other critical
24 stakeholders to further these important efforts. And
25 thanks again for the opportunity to provide comments.

1 MS. KRUGER: Good morning, Chair Nichols and
2 Board members. I'm Judy Kruger with the Los Angeles
3 County Economic Development Corporation. And we strongly
4 support the policy recommendations of the ZEV programs in
5 Senate Bill 498. We do also recommend, however,
6 developing additional programs that support the ZEV
7 cluster in California.

8 And I know that CARB is aware of that cluster
9 that's developing, because you referenced it in the draft
10 report. If I could point out to the Board, I submitted
11 this key findings report here. And we're launching an EV
12 ZEV industry economic and jobs report, along with our
13 partners, Southern California Edison, South Coast AQMD,
14 DWP, L.A. Metro, and SCAG. And the report findings show
15 some very interesting figures that you may already know.
16 This industry employs now 275,000 good paying jobs that
17 are about an annual wage of 91,000. These are really good
18 paying jobs.

19 And it's projected to increase about 27 percent
20 over the next few years. But if I could also point out,
21 we are identifying the cluster through the asset maps on
22 the back. And, of course, you may know about Tesla and
23 Faraday Future, but do you also know about Lucid, and
24 Canoo, and the new Fisker, Inc. at a price point at about
25 30,000 per vehicle.

1 We have an exploding industry in the state of
2 California. And as economic developers, we're very much
3 focused on what is happening with this ecosystem, how can
4 we grow these businesses, how can we grow good-paying jobs
5 here in California? So we would strongly recommend
6 policies and programs under Senate Bill 498 and it's
7 funding to grow this system. In particular, I submitted a
8 memo that would include California SmartMatch.

9 We have, over the last couple of years, been
10 meeting with BYD, and Proterra, and Fisker, and saying
11 what do you need as far as local suppliers? Can we match
12 you up with the supply chain that is here in California
13 with minority, women-owned, disadvantaged businesses and
14 grow this ecosystem, mitigate tariffs, help you with
15 production?

16 And so we would submit that that would be an
17 additional program that CARB could partner with us on.
18 Establishing a supplier directory in setting up
19 certification for the minority businesses, and also market
20 a Buy California EV campaign.

21 This is a win-win for the environment and it's a
22 win-win for California businesses.

23 Thank you.

24 CHAIR NICHOLS: Thank you.

25 MS. CATON: Good morning. I'm Melanie Caton on

1 behalf Nikola Motor Company.

2 Light-duty and heavy-duty zero emission vehicles
3 offer a great opportunity to significantly reduce
4 emissions and help California reach their CO₂, PM, and NO_x
5 emission reduction targets.

6 The CARB mandate has been instrumental in
7 accelerating the ZEV progress to these goals. Nikola
8 supports California's new heavy-duty ZEV mandate proposals
9 for both battery and fuel cell electric vehicles for Class
10 8 applications.

11 However, for long-range heavy-duty vehicles,
12 especially Class 8, the only zero-emission technology that
13 can provide comparable payload, range, and fast fueling
14 near and long term is the hydrogen fuel cell electric
15 truck. For these reasons and many others, heavy-duty ZEV
16 programs should focus on hydrogen and fuel cell
17 technologies now, and in the near term to encourage
18 adoption in the long haul trucking industry and support
19 shared hydrogen fueling infrastructure deployment.

20 Thank you

21 CHAIR NICHOLS: Thank you.

22 MR. YOW: Good morning, Chair Nichols, Board
23 members. I'm David Yow with the Port of San Diego.

24 The Port of San Diego is updating currently its
25 2007 Clean Air Action Plan and turning the page in this

1 new year to begin the process on a new maritime clean air
2 strategy. And this is going to be a framework for
3 transitioning to zero and near zero technologies. And I
4 think it will dovetail nicely with what we're hearing
5 today in the plan that you're preparing to release. So a
6 few quick thoughts to add.

7 One, system change for electrification that's
8 taking place right now, and we're talking about electric
9 vehicles and automated -- sorry autonomous vehicles,
10 that's -- that's -- that's as big as the 1900s going from
11 horse and buggy to cars. Lots of unknowns, tremendous
12 opportunity, but there has to be lot of thoughts that go
13 into designing what that system is going to be and how
14 it's going to work. So any prescriptive requirements,
15 thinking about charging locations, anything that could
16 have unforeseen outcomes, just requires us to anticipate
17 in advance that magnitude of what's coming, rather than
18 having to redo things later. And, of course you know
19 this, this is where collaboration with entities like State
20 Lands Commission and others makes a lot of sense and
21 you're doing that.

22 The second point is whenever it comes to funding,
23 there are shortcomings of one-off discretionary grant
24 programs that are based on really a snapshot in time,
25 rather than a formula program the MPOs administer that

1 frankly is -- are more flexible for wholesale innovation
2 and transformative change.

3 In the case of transformative change to a system,
4 it would be helpful to have a regional -- regionally
5 distributed program that can design, permit, and implement
6 and operate these programs.

7 The bottom line is intelligent design of
8 tomorrow's transportation is going to require goals with
9 flexibility.

10 Thank you.

11 MR. CHOE: Good morning, Madam Chair and Board
12 members. My name is Glenn Choe from Toyota Motors North
13 America. Today, I'd like to make a few comments regarding
14 the SB 498 report from staff. In general, we do support
15 many of the items that was proposed within the report.
16 However, I would like to make specific comments on a
17 couple of the line items related to infrastructure and
18 incentives.

19 First, on the incentives, we do support the staff
20 member's recommendation about predictable and expanding
21 the funding for ZEV incentives. We do realize from our
22 experience with Mirai and Prius Prime sales that CVRP is
23 an important component in terms of providing consumers
24 incentives to consider these vehicles. As Mr. Corey
25 mentioned, there is a handshake mechanism that does work

1 with these incentive programs.

2 As Toyota gets ready to release or launch our
3 Prius -- I'm sorry, our RAV4 plug-in hybrid, as well as
4 our next generation Mirai, we're excited to see these
5 programs develop further. However, we are concerned that
6 the budget for CVRP is being shrunken this year.

7 Secondly, in terms of infrastructure, we're
8 grateful to both CARB and CEC for continued support for
9 hydrogen infrastructure. We've certainly -- we have seen
10 the release of the latest GFO for the next tranche of
11 light-duty hydrogen infrastructure.

12 This would really support us as we expand our
13 volumes for Mirai as it comes into market with it capable
14 of going up to 400-mile range.

15 Therefore, we do support staff's recommendation
16 of continuance of the CEC Clean Transportation Program
17 beyond 2023. We do believe it will make a huge difference
18 for both promotion of both hydrogen and also charging
19 infrastructure.

20 And I would like to also explain a little bit
21 further about the fact that we do support some of the
22 sales exemption proposal that staff has written. If we
23 could ask maybe another consideration to make on top of
24 that is to provide incentives for even property owners and
25 also that have business owners, given the fact that we're

1 hearing from a lot of the workshop that some of these
2 entities don't have skin in the game. If we could offer
3 some additional incentive for them, whether it's a
4 property tax break, or even a tax credit for these
5 entities, it may also spur some adoption of this
6 infrastructure.

7 We do believe infrastructure is very critical
8 going forward, given the fact it is a security blanket, to
9 accelerate the ZEV into California's market.

10 Thank you.

11 CHAIR NICHOLS: Hold it. Just a second. Excuse
12 me. We have a question.

13 BOARD MEMBER DE LA TORRE: Yes. Kind of a
14 question and I a comment. So we really like
15 predictability too. We've had that with the deal with
16 Washington for several years. And Toyota was willing to
17 go in a direction that was not predictable in joining up
18 with the Feds against our policies, which are the same
19 policies that your company has been following now for
20 several years. And so, you know, when we get folks coming
21 here asking for predictability, and we're not seeing that
22 elsewhere, that's problematic.

23 In terms of all of those incentive programs -
24 which I absolutely support. I think this Board is very
25 supportive of. Staff works very hard on - the

1 predictability of that deal that we had with the federal
2 government, which Toyota has now gone in the other
3 direction on, goes against everything we just talked
4 about.

5 So California is doing the best it can to be
6 predictable and to follow through on its commitments, yet,
7 we're getting all this flak from Washington.

8 So, you know, appreciate you coming and saying
9 this, but we're very clear about what's going on in the
10 big picture here. We're going to keep doing what we're
11 doing, but it's not helpful to have folks signing up with
12 D.C. and going against the policies that we're doing here
13 in California.

14 MR. CHOE: Thank you. I will note your comments,
15 but it's --

16 CHAIR NICHOLS: Pass it on.

17 MR. CHOE: Will do. Thank you very much.

18 (Laughter.)

19 CHAIR NICHOLS: Okay. Thank you.

20 MR. POWELL: Mary Nichols, members of the Board,
21 my name is Scott Powell. I'm the Senior Vice President of
22 Business Development and Research Analytics for the
23 Greater Sacramento Economic Council.

24 As a new California resident, I want to applaud
25 the CARB Board for being a leader and an innovator, both

1 in air quality, not only for the state of California, but
2 also for the nation.

3 And as your staff laid out in multiple prongs --
4 a multiple-pronged plan includes multiple solutions to
5 increase adoption of zero-emission vehicles. Once such
6 solution within the -- within Sacramento is launching this
7 summer, and that is the California Mobility Center. As
8 mentioned by a commenter earlier, this is a public-private
9 partnership involving industry, academia, and the public
10 sector to help companies start, innovate, and scale in the
11 advanced mobility sector.

12 Mr. Corey mentioned in his comments at the
13 beginning of this meeting that CARB wants to send a signal
14 to industry that they're a partner. This is one such
15 vehicle, if you will, to send that signal, you know, and
16 to help companies grow, to create jobs across all industry
17 sectors, and for California to continue to be a leader in
18 advanced mobility sector.

19 So as your staff is looking for pilots and
20 opportunities to partner with industry, the California
21 Mobility Center, located right here in Sacramento, will be
22 such an opportunity.

23 Thank you, guys, very much and have a great day.

24 CHAIR NICHOLS: Thank you for coming.

25 MS. ALI: Good morning, Chair Nichols and Board

1 members. Fariya Ali on behalf of PG&E. Today, we'd like
2 to reiterate our support for increasing the adoption of
3 clean fuel vehicles in California to help the State meet
4 its climate, air quality, and clean transportation goals.

5 I want to thank staff for their hard work on this
6 report and the thoughtful recommendations which we largely
7 support. I'm going to highlight three areas of the
8 recommendations, those around fuel costs, electricity rate
9 ombudsperson, and ZEV infrastructure.

10 On fuel costs, we agree with the report that cost
11 competitive and stable fuel costs are critical for
12 encouraging customers to choose ZEVs. PG&E believes the
13 most effective way to lower costs and provide
14 predictability is to integrate EVs into the grid through
15 rate design and load management strategies.

16 PG&E has offered two EV rate plans to residential
17 customers for over a decade. And we are launching a
18 first-of-its-kind commercial EV rate for medium- and
19 heavy-duty operators later this year.

20 Related to this topic of fuel costs, we
21 acknowledge the intent behind the recommendation for a
22 State electricity rate ombudsperson to help support
23 consumers. Given the complex nature of rates and how they
24 vary across the state however, we believe that the
25 utilities are best positioned to provide the most accurate

1 and up-to-date information on rates, including impacts to
2 the entire bill.

3 Thus, if such a role were to be created, it
4 should be clearly defined. And we would just want to make
5 sure that it does not supersede the utility's
6 experience -- expertise.

7 And third, we agree with the report's
8 recommendations around the critical need for large-scale
9 deployment of ZEV infrastructure. And, in particular, we
10 strongly support the creation of a multi-agency and
11 multi-stakeholder work group on ZEV infrastructure, not
12 only for medium-duty and heavy-duty, but also for
13 light-duty.

14 Last year, PG&E launched its EV fleet program
15 aimed at supporting electrification of medium- and
16 heavy-duty, and off-road vehicles. And we would look
17 forward to sharing the insights we've already gained from
18 this program in such a work group.

19 In closing, we appreciate the time and effort
20 spent on this report and we look forward to the
21 implementation of many of these recommendations, as soon
22 as possible.

23 Thank you.

24 CHAIR NICHOLS: Thank you.

25 I have a question for you actually.

1 MS. ALI: Yes.

2 CHAIR NICHOLS: It relates to the use of ZEV
3 vehicles as storage for electricity that's generated from
4 renewables at times, when the state is oversupplied and is
5 dumping -- currently dumping solar and wind energy,
6 because there's no place for them on the grid.

7 MS. ALI: Um-hmm.

8 CHAIR NICHOLS: And I know there's work going on.
9 At the moment, there's a proceeding that's trying to look
10 at all of this. But I just would welcome your comment on
11 whether you see this as a priority, something that's
12 likely to actually be useful in the near future?

13 MS. ALI: Absolutely. I think the proceeding
14 that you're talking about is the vehicle grid integration
15 proceeding --

16 CHAIR NICHOLS: Yes.

17 MS. ALI: -- at the CPUC. We are actively
18 involved in that work group and we encourage CARB to
19 collaborate with CPUC and CEC in that proceeding, as we do
20 think that it's a really important way to not only
21 incentivize more EVs, but be able to take advantage of
22 their capabilities to help balance the grid exactly as you
23 were you talking about.

24 CHAIR NICHOLS: Right. Thank you.

25 MS. ALI: Um-hmm.

1 CHAIR NICHOLS: This is not Bill Magavern.

2 MR. SERFASS: No. This is Jeff Serfass.

3 CHAIR NICHOLS: Oh, sorry. Jeff Serfass, you're
4 next. Sorry. I skipped a -- skipped a line here. Good.

5 MR. SERFASS: That's fine.

6 Chair Nichols, members of the Board, thank you.
7 I'm Jeff Serfass, Executive Director of the California
8 Hydrogen Business Council. We're very thankful for the
9 opportunity to provide comments on this very good policy
10 recommendations report to increase, you know, the number
11 of ZEVs in response to Senator Skinner's bill Senate Bill
12 498. Thank you.

13 We are very supportive. We list in our comments
14 a number of specific points made in the report that we
15 think address well hydrogen opportunities. I want to make
16 three points in addition to that this morning. The first
17 is we, as the Business Council, continue to advocate and
18 request parity in State support of hydrogen fuel cell
19 electric technologies, compared to other zero-emission
20 options, namely those that are battery electric, emphasis
21 on parity. The State ought to also encourage technology
22 neutrality in the local government policies and grant
23 opportunities in the transit sector.

24 My second point is we also request that the Board
25 and staff support access to wholesale electricity rates

1 for electrolytic hydrogen production that would allow the
2 decarbonized hydrogen to more rapidly become competitive
3 with traditional fuels recognizing that electrolyzers can
4 also provide numerous grid benefits and are interruptible.
5 These rates should also be extended to electricity
6 consumption at hydrogen fueling stations to help reduce
7 operational costs for this developing technology.

8 And my third point is that we recommend that
9 hydrogen be held to the same standard to increase its
10 renewable content as grid electricity is held to a
11 standard, not to a higher standard. Renewable hydrogen
12 could match the renewable content provided in grid
13 electricity over the next decade. We already exceed the
14 required proportion of renewable hydrogen fuel in hydrogen
15 stations. And we support the Hydrogen Council's goal,
16 which we endorsed it in 2018, that already targets that
17 all hydrogen for transportation be decarbonized by 2030.

18 We look forward to working with the Board and
19 staff on implementing the recommendations in the report
20 and the work that will come from it.

21 Thank you.

22 CHAIR NICHOLS: Thank you.

23 MR. MAGAVERN: Good morning. Bill Magavern with
24 the Coalition for Clean Air. We support almost all the
25 recommendations in this report. And we are also advocates

1 of predictable and expanded funding sources for
2 incentives, so I want to strongly agree with comments made
3 by Supervisor Fletcher and Katerina Robinson that the
4 proposal that the Governor made in his budget is really
5 inadequate for our needs and we need to be working to make
6 sure that it's significantly raised by the time the final
7 budget is passed.

8 Also, we strongly favor the authorization for
9 local governments to create zero-emission zones and to
10 include in the definition of transportation
11 electrification renewable hydrogen. I do want to call
12 attention to one area of disagreement and then also some
13 additional proposals that we have.

14 We do not agree that income caps for Clean
15 Vehicle Rebate Project are statutory barriers that should
16 be removed. In fact, the income caps have allowed CVRP to
17 live within its means, instead of running out of money
18 months and months early, which would have happened without
19 the income caps.

20 And, in fact, research has demonstrated that the
21 non-income capped EV incentives tend to concentrate at
22 higher wealth levels, even though non-wealthy consumers
23 are more influenced by the incentives. So we think the
24 Legislature wants to keep the income caps, so I'm not too
25 worried that that will change, but I wanted to make our

1 point on that.

2 And then a few additional recommendations of some
3 actual statutory barriers that should be removed.
4 Starting this year, there is a flat registration fee for
5 all EVs and plug-in hybrids, which is arbitrary and
6 particularly unfair for the owners of plug-in hybrids who
7 are paying the gas tax when they buy gasoline and still
8 paying this arbitrary EV registration fee, which is a
9 disincentive for people wanting to buy and use electric
10 vehicles. There are other ways and the report that UC
11 Davis ITS did pursuant to SB 1 has some alternative ways
12 to help fund the roads.

13 We also recommend that legislation authorized
14 local governments to tax transportation network carriers.
15 San Francisco has done this. And we think that tax should
16 be tiered, so that the shared EV rides pay no tax and the
17 highest taxes are on single occupant internal combustion
18 engine rides.

19 So thank you for considering our views.

20 CHAIR NICHOLS: Thank you.

21 MR. FULKS: Madam Chair, Board members, my name
22 is Tom Fulks. I'm here today representing Volvo Group of
23 North America.

24 Volvo appreciates the opportunity to comment
25 today. We have submitted formal written comments for the

1 docket that goes into great detail about some of our
2 following remarks.

3 In general, Volvo Group supports many of the
4 recommendations in this -- in this report. And we are
5 here to address a couple of them specifically.

6 Volvo is currently operating with 15 partners on
7 an electric heavy truck program called the Volvo LIGHTS
8 Project. It's CARB funded. And Volvo, without a doubt,
9 appreciates that support very much. Volvo is one of the
10 world's leading manufacturers of trucks, buses,
11 construction equipment, and marine and industrial engines.
12 It's been in the heavy manufacturing industry for more
13 than a hundred years, so it knows how to make things.

14 That said, we've got a couple of concerns that we
15 wanted to bring to your attention. We want to stipulate
16 and agree with every previous commentator about the need
17 for sustained purchase incentive funding. Absolutely.
18 And we agree with Bill Magavern in terms of the budget
19 cuts that were -- that occurred to your low carbon
20 investment plan. We -- what can we do to help, because we
21 think more money is necessary for that.

22 Specifically with regard to charging
23 infrastructure, there's not enough money for charging
24 infrastructure right now, for grid upgrades, and for
25 equipment installation.

1 One thing that hasn't been really drawn to your
2 attention is the permitting and entitlement process at the
3 local level. It's one thing to have EV zones. It's
4 another to get into the permitting areas within cities and
5 counties and say, people, this is a new thing. You've got
6 to get on board. We've encountered this with the LIGHTS
7 Project and it has caused serious delays and money.

8 Again, with regard to incentive funding, we'll
9 just stipulate that more is necessary. Fleets do need
10 coonfidence. But we have some -- four specific points
11 that we wanted to highlight.

12 One, develop a formal structure and process that
13 coordinates funding incentives for ZEV vehicles and
14 infrastructure from State agencies. We -- we're looking
15 for -- our fleet buyers want one single place to turn to
16 for incentive funding for charging infrastructure and
17 trucks. Bouncing around between the CEC, ARB, CPUC is
18 not -- the color of the money doesn't make a difference to
19 our fleet people. It's just what do you want them to do?
20 And make it easy for them. Don't make it difficult for
21 them.

22 Secondly, encourage closer collaboration between
23 CARB staff and industry to share what we've learned from
24 the current ZANZEFF and inform future regulations based on
25 that knowledge.

1 And then lastly, we besiege you to find a way to
2 provide for your ACT Rule compliance purchase incentives
3 beyond the passage of the rule itself. Waive the
4 prohibition against using incentive funding for regulatory
5 compliance in this instance.

6 Because we have such a huge change in the
7 paradigm, it's necessary, if you really want to make the
8 heavy-duty space work and electrify it, deal with that
9 prohibition against using purchase incentive funding for
10 regulatory compliance, in this instance only.

11 Thank you.

12 BOARD MEMBER DE LA TORRE: Mary.

13 Mary.

14 CHAIR NICHOLS: Sorry. Excuse me, I think we
15 have a questions here.

16 BOARD MEMBER DE LA TORRE: Well, it's a
17 clarification.

18 CHAIR NICHOLS: A clarification.

19 BOARD MEMBER DE LA TORRE: Lest any of you -- any
20 of you think I'm playing favorites. Volvo heavy-duty
21 truck is separate from Volvo passenger vehicle. It's the
22 other one that would have gotten something similar to what
23 Toyota just received.

24 MR. FULKS: No, I do not --

25 BOARD MEMBER DE LA TORRE: You're a completely

1 different --

2 MR. FULKS: I'm a completely different company.

3 BOARD MEMBER DE LA TORRE: That's what I'm
4 saying.

5 (Laughter.)

6 BOARD MEMBER DE LA TORRE: So those of you who
7 don't know --

8 CHAIR NICHOLS: So you've escaped.

9 BOARD MEMBER DE LA TORRE: -- that they're two
10 separate companies, they are. So thank you.

11 MR. FULKS: Thank you.

12 BOARD MEMBER DE LA TORRE: Keep up the good work.

13 (Laughter.)

14 MR. FULKS: I didn't want to have to say what I'm
15 not, because --

16 (Laughter.)

17 MR. FULKS: So thank you.

18 CHAIR NICHOLS: Thank you.

19 MS. TUTT: Good morning. This is Eileen Tutt
20 with the California Electric Transportation Coalition.
21 Thank you, Madam Chair and Board members, and thank you to
22 the staff for this report. I think it was very well done.
23 And in all honesty, I take responsibility, because I wish
24 I would have been more involved in the creation of the
25 report.

1 We do have a few suggestions. First and
2 foremost, I just want to say the Governor's budget that
3 was released in January is well below what we need to
4 invest as a state in transportation electrification, well,
5 well below. Not only what was the GGRF funding cut to
6 these very, very critical programs that you all run, but
7 we need substantial funding beyond Greenhouse Gas
8 Reduction Fund if we're going to meet our ZEV goals. And
9 that's in incentives for vehicles and infrastructure as
10 well as a huge investment, as my colleague from the L.A.
11 EDC said, in workforce training.

12 This transition, this transformation of the
13 transportation sector provides such a tremendous
14 opportunity for workforce and economic growth in this
15 State in communities that are economically disadvantaged
16 that this budget and this plan actually need to reflect
17 that more fully. And that is not upon you, but we just
18 want you to know that we are working on that along with
19 many others that you've heard before here.

20 I do have a suggestion, because CalETC was one of
21 the advocates for this working group on infrastructure,
22 and really appreciated seeing it in the report very much
23 so. So thank you.

24 We do -- we do think that this idea that
25 heavy-duty needs to be on par with light-duty is nowhere

1 near what the scope and scale of the challenge is. We
2 are -- we are so far beyond what is needed on the
3 light-duty side and we have to seriously accelerate
4 infrastructure investments on the light-duty side to get
5 to five million vehicles by 2030.

6 So we need to go well beyond on par and we need
7 this work group to focus on not just heavy-duty, but
8 light-duty, medium-duty, and things like port equipment as
9 well. So the scope and the scale of the challenge is
10 huge, and it's not quite adequately reflected in the
11 purview of this working group. So we'd like to see the
12 working group expanded in terms of scope and scale.

13 The report also -- let's see. We also want to
14 just say that from -- from our perspective, the work group
15 does need to focus on this workforce challenge and we'd
16 like to see them do that. We also do want to suggest that
17 although I -- we are with our colleagues in the hydrogen
18 world, we definitely need more hydrogen infrastructure.
19 We are nowhere we need to be on the electricity
20 infrastructure side either. And the utilities and CalEETC
21 are very committed to providing that infrastructure and
22 helping with that. But it is not -- we are not there and
23 this work group needs to include that.

24 So with that, I thank you very much and I really
25 want to thank the staff again. I think this was a very

1 excellently done effort.

2 CHAIR NICHOLS: Thank you.

3 MR. BARRETT: Good morning. I'm Will Barrett
4 with the American Lung Association.

5 First of all, thank staff for the great work that
6 went into this report. We think it's very important.

7 As noted in the report, California will simply
8 not achieve our clean air and climate standards without
9 the widespread and rapid transition to zero-emission
10 transportation technologies.

11 Transportation is by far the leading source of
12 harmful pollution as discussed earlier by Mr. Corey in his
13 presentation, in terms of smog-forming emissions, particle
14 pollution, and climate forcing pollutants.

15 The recommendations related to reliable funding
16 in the report are critically important and we will
17 certainly be working with you all to make sure that those
18 recommendations move forward.

19 We're deeply disappointed in the Governor's
20 proposal to cut key zero-emission transportation
21 resources. And as discussed earlier, I think you've heard
22 from others speakers and members of the Board, there's a
23 shared concern that without adequate and reliable funding,
24 2030 is going to get here sooner than we'd like. So we're
25 prioritizing the budget. We're prioritizing looking at

1 ways that we can try to influence the development of the
2 Climate Catalyst Fund to really emphasize transportation
3 projects that will help us meet our clean air and climate
4 standards.

5 We think that that fund is an opportunity that we
6 should be looking at, but we also need to have certainty
7 that it will support transportation programs.

8 The direct measures that CARB is designing and
9 implementing now are critical. We're working with your
10 board and staff on many of those and we're happy to see
11 progress on many of these great programs moving forward,
12 including the Advanced Clean Truck Program that you'll
13 hear in a few months.

14 We do support strongly the inclusion of outreach
15 and education recommendations in the report, as well as
16 the local government implementation recommendations that
17 Mr. Magavern pointed out. We know that we need local
18 governments to have the authority to do more to support
19 the transition to zero emission and to really support
20 clean air programs and climate programs to support public
21 health.

22 We believe the training -- workforce training,
23 technical assistance, local code changes are all important
24 to supporting the transition to zero-emission
25 technologies, to supporting the deployment of

1 zero-emission charging stations to implementation of
2 hydrogen refueling stations. We know that these outreach
3 efforts and the technical support are going to be really
4 important for heavy-duty operators, for school districts,
5 transit operators, and others to make sure that no one is
6 being missed out on the transition to zero.

7 So in closing, thank you for the opportunity to
8 speak. We know that the Legislature has a lot to think
9 about with these recommendations. And we do appreciate
10 the ongoing support of the Board and staff for driving as
11 hard as we can to achieving our clean air standards to
12 protect public health for every Californian.

13 So thank you very much.

14 MR. ANAIR: Hi. Good morning. My name is Don
15 Anair. I'm with the Union of Concerned Scientists.

16 I just wanted to generally express our strong
17 support for the work that staff has done in putting this
18 comprehensive report together on what's needed to
19 accelerate electrification in California.

20 Really, in terms of meeting our climate and air
21 quality goals by 2030, and even more particularly by 2045,
22 it's going to require these type of concerted actions. I
23 think it's helpful to think about where we were a decade
24 go, since we're entering a new decade. And we've come a
25 long way on this. One or two models were available in the

1 2010 time frame. Obviously, have dozens of zero-emission
2 vehicle models available today. Costs are coming down on
3 the technology in a significant way.

4 But we're not there yet. And I think this is
5 where the next decade is really the critical point in
6 reaching a tipping point on zero-emission vehicle
7 technologies. We have to do that. We have to do that
8 this decade or we're not going to be on track to meet our
9 decarbonization goals.

10 And so I think a couple of key things I just
11 wanted to point out. You know, what does that tipping
12 point look like? It looks like on a cost perspective,
13 obviously, the cost has to be competitive with
14 zero-emission vehicle technologies with internal
15 combustion vehicle technologies. It also means the
16 experience, the refueling ability for consumers and for
17 fleets needs to be seamless. So the focus on both the
18 infrastructure and vehicle side in the -- in the next few
19 years is really critical.

20 A combination of strong regulatory requirements
21 coupled with smart incentive programs is key. And I think
22 you've laid out a lot of the strategies here in this
23 report that are going to be important.

24 One strategy I do want to call out, which will
25 become increasingly important and I think increasingly

1 able to impact is making sure that the benefits of
2 zero-emission vehicles are getting to the impacted
3 communities that need that most, both from a light-duty
4 perspective with more lower cost vehicles coming to market
5 and used vehicles, as well as on the heavy-duty side.

6 And then finally just one specific recommendation
7 on the report and some -- evaluating the benefits of some
8 of the light-duty vehicle programs. The time frame for
9 those benefits were evaluated on a two and a half to three
10 year time frame. We understand why staff did this. We
11 think we should also present the lifetime benefits of
12 those projects to not undersell and underestimate the
13 important impacts that these programs have been having.

14 Thank you.

15 CHAIR NICHOLS: Thanks.

16 MR. BLUBAUGH: Good morning. I'm Tim Blubaugh
17 speaking on behalf of the Truck and Engine Manufacturers
18 Association.

19 All EMA members are investing in, developing, and
20 marketing zero-emission powertrains and commercial
21 vehicles. As such, we support, strongly support,
22 increasing the use of medium- and heavy-duty ZEVs in the
23 state.

24 A sustainable zero-emission vehicle
25 marketplace -- zero-emission commercial vehicle

1 marketplace will require three critical elements.

2 First, product offerings must meet the needs of
3 fleet customers and EMA members are developing those
4 trucks. Second, fleets need to transform their operations
5 to be able to use ZEVs. Third, an adequate charging
6 infrastructure must be in place at each fleet facility.

7 In our comments on the proposed Advanced Clean
8 Trucks Rule, we pointed out that the most effective way to
9 establish a sustainable zero-emission commercial vehicle
10 marketplace is to achieve all three elements in
11 prioritized specific market segments that are most readily
12 suitable for ZEV technology. By holistically establishing
13 those beachhead markets, we stand the best chance for a
14 successful ACT Rule and for achieving the goals in Senate
15 Bill 498.

16 Please note that commercial vehicles are not just
17 big cars. They represent about two percent of passenger
18 car sales, yet come in a wide variety of configurations
19 for a very broad range of unique applications.

20 Most importantly, commercial trucks are
21 capital -- capital assets purchased by businesses to
22 increase profits. They are not chosen based on subjective
23 criteria such as style, or comfort, but solely based on
24 performance and cost effectiveness.

25 Therefore, until performance and lifecycle costs

1 of zero-emission commercial vehicles are competitive,
2 businesses that operate trucks will not begin converting
3 their fleets to ZEV technology. To overcome the cost and
4 operational challenges of ZEVs, the State Legislature must
5 allocate sufficient and sustained funding for the
6 zero-emission commercial vehicle marketplace.

7 Fleets will need purchase incentives for -- to
8 purchase new vehicles, money for new maintenance
9 facilities and employee training, and capital to
10 construct, maintain, and expand the charging
11 infrastructure at facilities where they operate trucks.

12 We urge the Board to direct staff to include in
13 the SB 498 report the need to develop the zero-emission
14 commercial vehicle marketplace by prioritizing the most
15 suitable beachhead market segments and to recommend that
16 the Legislature allocate adequate funding to sustain those
17 markets until ZEVs are cost competitive for the businesses
18 that operate trucks.

19 Thank you.

20 CHAIR NICHOLS: Thank you.

21 I believe number 19 is next.

22 MS. BEKEMOHAMMADI: Yes.

23 CHAIR NICHOLS: Yes.

24 MR. WILLIAMS: So good morning.

25 CHAIR NICHOLS: Roxana?

1 MS. BEKEMOHAMMADI: Thank you. Good morning,
2 Madam Chair and Board members. My name is Roxana
3 Bekemohammadi here on behalf of Ballard Power Systems a
4 global fuel cell manufacturer.

5 We applaud staff for their nuanced and accurate
6 depiction of some of the challenges that the hydrogen
7 industry faces and providing meaningful recommendations
8 that we believe should be implemented. We would also like
9 to thank the Senator from Berkeley for her dedication to
10 these issues. Ballad Power Systems supports the approval
11 of this draft report.

12 Thank you so much for your consideration.

13 CHAIR NICHOLS: Thank you. Okay.

14 MR. WILLIAMS: Good morning. My apologies to
15 Roxana. This is not an excuse. I didn't do my homework,
16 Professor Sperling. I just got off a plane and I was
17 playing EMT helping the flight attendants. It had a happy
18 ending, but it threw me off my game a little bit here,
19 so...

20 My name is Brett Williams. I am the principal
21 advisor for electric vehicles at the Center for
22 Sustainable Energy. And, in essence, what that means is I
23 help wrangle and make meaning from data produced by five
24 statewide electric vehicle rebate programs.

25 So the first thing I'd like to do is just

1 congratulate the staff on a monumental effort. I believe
2 we will be submitting -- our policy team at CSE will be
3 submitting some comments applauding the effort and
4 supporting a lot of the recommendations. And my primary
5 purpose of being here today is just to highlight that
6 fact.

7 If there is some time, I would like to drill down
8 a little bit more from a researcher perspective on what
9 Don Anair said earlier. And that is just to provide a
10 little bit of user guide advice to the report. There's a
11 lot in there, of course, right? It's difficult to digest
12 it all. And one detail that is easy to lose in the
13 footnotes is this quantification period from emissions
14 reduction from light-duty vehicles.

15 It -- from its own perspective, it was set on a
16 very commendably conservative perspective, according to
17 program requirements that incentivized consumers own the
18 vehicle for three years.

19 Of course, vehicles, light-duty as well as
20 heavy-duty can have useful lives that provide benefits to
21 California much beyond that. And so just to highlight
22 that quantification period is three years for light-duty
23 vehicles. In the same report, that quantification period
24 for heavy-duty vehicles is 15 years.

25 And so just from a practical policymaker point of

1 view, it does complicate sort of the decision-maker's
2 direct comparison of programs when it comes to cost
3 effectiveness metrics as well. And so there's lots of
4 ways you can think about that. Other than highlighting
5 it, I can just, off the cuff, say a couple of things I do
6 in my head are to multiply up the greenhouse gas
7 reductions of light-duty vehicles by approximately 2X.
8 That brings it more in line with average car ownership
9 duration, which is about 6.6 years, as opposed to three
10 years.

11 So that's the type of thing you can do. You can
12 do what Don Anair suggested, which is focus on full-life
13 benefits of EVs, which speak to their absolute impact, but
14 there's uncertainties, of course, to whether those will be
15 fully realized or not. Or you could do something which
16 we've done in the appendices of this report, which is to
17 look at year one benefits for the purposes of standardized
18 cross-comparison of programs. So the benefits that a
19 vehicle provides in its first year of use, look at that
20 across the board for standardization, and then go from
21 there and tailor it from there.

22 So those are just some thoughts from a good-faith
23 researcher point of view highlighting that detail. The
24 good news is all of the measures of impact are high. And
25 that is a finding we are seeing be true across all five

1 states of our electric vehicle rebate program.

2 So take courage from that. Thank you very much.

3 CHAIR NICHOLS: Okay. Thank you.

4 Questions.

5 BOARD MEMBER SPERLING: Brett, you were always a
6 great student.

7 (Laughter.)

8 MR. WILLIAMS: Can I say thank you then?

9 Thank you.

10 (Laughter.)

11 CHAIR NICHOLS: All right. Okay. That concludes
12 the list of witnesses. I believe that some Board members
13 have additional comments or suggestions on the resolution
14 starting with Mr. Serna.

15 BOARD MEMBER SERNA: Thank you, Chair.

16 I'd like to start by thanking staff for the
17 report. I think it was very thorough. I had a very good
18 conversation with Andrew, Melanie, and Annalisa yesterday
19 about this.

20 I also want to thank the speakers, especially the
21 two speakers here from the area that I represent, one from
22 the local air district and the other from the greater
23 Sacramento Economic Council who made specific mention of
24 an initiative that is local but certainly has statewide
25 consequence, and that's the California Mobility Center,

1 which I, along with some of my colleagues on the
2 Sacramento City Council, have been advocating for now a
3 couple of years, taking a couple of trips to Germany even
4 to see how the relationship between Aachen University and
5 Aachen, Germany is working with OEMs in terms of how best
6 to incubate new technologies when it comes to electric
7 mobility, something that we want to not only replicate but
8 enhance here in the Sacramento region.

9 And to freely admit this, the reason I asked the
10 earlier question of Mr. Corey when it came to our 2020 --
11 the discussion of our 2020 priorities, is I wanted to kind
12 of tee up what I'm about to introduce in terms of an
13 amendment to the resolution, and that is I think this
14 agency -- I feel strongly that this agency has a distinct
15 opportunity, if not a responsibility, to really promote
16 innovative thinking when it comes to how we incubate the
17 technologies that are going to be necessary, as one
18 speaker mentioned, to make electric mobility especially in
19 the medium- and heavy-duty sectors competitive.

20 And so what I'd like to respectfully ask of my
21 colleagues for consideration is that we add to the fifth
22 whereas, there's a list basically of kind of policy
23 priorities here. And one of -- one that I think is kind
24 of necessary here is to add technology incubation to that
25 list.

1 And I would again respectfully ask the Board to
2 consider that. I would like to -- I know there's are
3 others that are -- that are going to speak, Madam Chair.
4 But I'd like to move the resolution with that addition
5 and, of course, keep it open for discussion.

6 CHAIR NICHOLS: Thank you. If we'll have second.

7 BOARD MEMBER SPERLING: Second.

8 CHAIR NICHOLS: Any other additions or changes to
9 the report that anybody -- or to the resolution rather,
10 than anybody wishes to put forward at this time?

11 I guess I was struck by the presence of a couple
12 of different witnesses who were here to talk about the
13 growing ZEV economy in California, in terms of
14 manufacturing and jobs that are associated with this
15 industry. And it reminded me of the early stages of what
16 became AB 32, and then SB 32 and how critical the presence
17 of the Silicon Valley industry was in promoting that kind
18 of policy.

19 And I just wonder if we are giving too short
20 shrift to the importance of recognizing the need to at
21 least acknowledge these folks and the fact that, you know,
22 it's -- it really is remarkable that years ago you would
23 have expected anything that was talking about ZEV mandates
24 and ARB policies to attract nothing but opposition. And
25 here we are at a point where we now have enough of an

1 ecosystem around support for our ZEV mandate, and our ZEV
2 programs that we've got people coming up from the economic
3 development world, you know, asking for more and for
4 increased involvement and partnership.

5 It just seems to me that we could put something
6 into the resolution that would highlight that point that
7 this is not just about the vehicles themselves but about
8 the production of them as well. I don't have language to
9 propose, but it could go along with what you're suggesting
10 as well.

11 BOARD MEMBER SERNA: Sure. Something specific to
12 kind of the economic development benefit that comes with
13 this.

14 CHAIR NICHOLS: Right.

15 Mr. Sperling.

16 BOARD MEMBER SPERLING: Yeah. And I support
17 that. You know, the L.A. -- the L.A. initiatives, I
18 think, are going in the right direction.

19 CHAIR NICHOLS: Um-hmm.

20 BOARD MEMBER SPERLING: And, you know, we need
21 to -- I guess I would elaborate a little bit on what you
22 just said to say that this is to support the initiatives
23 by local governments --

24 CHAIR NICHOLS: Yes.

25 BOARD MEMBER SPERLING: -- and local

1 initiatives --

2 CHAIR NICHOLS: Right.

3 BOARD MEMBER SPERLING: -- you know, in -- you
4 know, in generating jobs, in attracting these companies
5 and supporting them, and so.

6 CHAIR NICHOLS: Um-hmm. Yeah, the local could go
7 in there as well.

8 Other thoughts, comments?

9 If not, we can just approve the resolution.

10 This report definitely needs to go. It's been
11 marinating for a long time.

12 So we have a motion and a second on the table.

13 I think we can just call for the vote.

14 All right. All in favor, please signify by
15 saying aye?

16 (Unanimous aye vote.)

17 CHAIR NICHOLS: Any opposed?

18 Any abstentions?

19 I don't know why there should be.

20 Okay. I am going to suggest that we give
21 ourselves a break. I know that there's -- Board members
22 have the opportunity to also have a bite of lunch. But,
23 you know, we don't want to prolong this meeting
24 unnecessarily. But I think if we gave ourselves a half an
25 hour, we could get a break, and stretch, and then come

1 back and do the last report, if that's okay.

2 All right. We'll do that then. We'll talk a
3 half hour break and come back at noon.

4 Thank you.

5 (Off record: 11:29 a.m.)

6 (Thereupon a lunch break was taken.)

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1 A F T E R N O O N S E S S I O N

2 (On record: 12:07 p.m.)

3 CHAIR NICHOLS: All right. We have sound. We're
4 back in action.5 Our next item, and our last item for this
6 meeting, is number 20-2-7, which is an informational
7 update -- excuse me, Board members -- an informational
8 update on the new Clean Miles Standard, which establishes
9 requirements to reduce greenhouse gas emissions and
10 increase electric miles from ride-hailing companies, such
11 as Uber and Lyft. This, as we've been discussing all
12 along, difficult but essential that we find ways to reduce
13 emissions from transportation.14 Vehicle technology changes alone will not get us
15 to our climate and air quality goals. We also need to
16 reduce vehicle miles traveled. We need to make fuel
17 available -- fueling available. We need to get the clean
18 vehicles into the customer's hands.19 The rise of ride-hailing companies creates new
20 demand in the transportation system that is making this
21 more difficult. In California, the growth of the miles
22 from these companies has been exponential and is expected
23 to continue. As more and more Californians embrace
24 ride-hailing and other new services in transportation, we
25 have an important opportunity to increase awareness and

1 accelerate the adoption of ZEV vehicles.

2 What I like about this proposal is that it will
3 be designed is to promote zero-emission technologies,
4 while also reducing vehicles miles traveled, a two-fer.
5 It's a groundbreaking concept in that for the first time
6 we will be regulating on-demand transportation services,
7 and that is, as we know, an increasingly common way to
8 move people. But in the future and even in the present,
9 it is also looking like it's going to be a more common way
10 to move goods around as well.

11 So this is a really groundbreaking regulation.
12 And it's part of our multi-pronged strategy to reduce
13 emissions from passenger transportation.

14 Mr. Corey, would you please introduce this item?

15 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.
16 This Board item rounds out today's agenda on sustainable
17 transportation and communities. In 2018, the California
18 Legislature passed Senate Bill 1014 directing CARB to
19 adopt and the California Public Utilities Commission to,
20 or PUC to implement a greenhouse gas emission reduction
21 program for transportation network companies, or TNCs,
22 which include Uber and Lyft among others.

23 The statute requires that by January 2021, CARB
24 set annual targets to reduce greenhouse gas emissions per
25 passenger mile traveled in ride-hailing services, while

1 also increasing electric vehicle miles. TNC compliance
2 strategies to meet these two targets can include
3 increasing the use of electric vehicles, reducing vehicle
4 miles without passengers, and increasing the number of
5 passengers or pooling in vehicle trips.

6 This informational Board item will provide
7 background on the statute, its goals, and the status of
8 developing the Clean Miles Standard, including the 2018
9 base year greenhouse gas emission inventory statewide and
10 the corresponding vehicle activity of ride-hailing
11 services.

12 With this item, we do have a resolution for the
13 Board, which outlines the principles that the staff will
14 be using to develop the regulation. Staff are set to
15 bring a regulation package back to the Board near the end
16 of this year.

17 After the staff presentation, Cody Naylor of the
18 California Public Utilities Commission, will present the
19 process for conducting their proceedings, and -- because
20 as I noted, PUC has a role in implementing the regulation.

21 I'll now ask Gloria Pak of the Sustainable
22 Transportation and Communities Division to give the staff
23 presentation.

24 Gloria.

25 (Thereupon an overhead presentation was

1 presented as follows.)

2 AIR RESOURCES ENGINEER PAK: Thank you, Mr.
3 Corey.

4 Good afternoon. Today, I will be presenting an
5 informational Update on the Clean Miles Standard Program
6 for ride-hailing services. Ride-hailing services are also
7 called transportation network companies, or TNCs, who
8 provide prearranged transportation using an on-line
9 application to connect passengers with drivers using a
10 personal vehicle. This program is being developed per the
11 direction of Senate Bill 1014.

--○○○--

22 After analyzing the data to set the targets
23 required by the bill, staff will discuss three compliance
24 strategies we are evaluating, which include
25 electrification, increasing passengers per trip, and

1 reducing deadheading miles.

2 We will briefly discuss potential regulatory
3 credit incentives being considered, followed by an outline
4 of our next steps in our process of developing the
5 regulation. Finally, we will summarize the proposed
6 resolution brought before the Board today.

7 --00--

8 AIR RESOURCES ENGINEER PAK: SB 1014, or the
9 Clean Miles Standard, requires CARB to adopt GHG reduction
10 targets for TNCs, and the CPUC to implement the program,
11 given that it already manages the operating permits for
12 TNCs in California.

13 Staff collected trip level data from the TNC
14 fleet to establish the 2018 base-year emissions and
15 released a white paper, thereby meeting the first
16 statutory deadline of January 2020.

17 Continuing to work with the 2018 data, staff will
18 evaluate and adopt annual targets by January 2021. Staff
19 will bring a regulatory package to the Board in late 2020
20 to meet this deadline.

21 The TNCs will be required to meet their first
22 annual targets in 2023, when CPUC Implements the Clean
23 Miles Standard Program.

24 --00--

25 AIR RESOURCES ENGINEER PAK: The Clean Miles

1 Standard Program will include two compliance targets: a
2 greenhouse gas reduction target in the metric of gram CO2
3 per passenger mile, and electric miles driven by
4 zero-emission vehicles, which include fuel cell vehicles.

5 This program is only applicable to passenger
6 service on TNC platforms, meaning that miles traveled by
7 TNC drivers for food or goods delivery are not captured in
8 this program. Key goals for this program are promoting
9 zero-emission vehicles, or ZEVs, and reducing vehicle
10 miles traveled, or VMT.

11 Because larger cities of our state, in
12 particular, are heavily impacted by ever-increasing
13 congestion and vehicle emissions, reducing VMT would serve
14 to mitigate these issues that impact public health and
15 quality of life.

16 Staff will also strive to align the Clean Miles
17 Standard with SB 375, SB 350, and the Zero-Emission
18 Vehicle Action Plan through collaborative engagement with
19 the respective program staff.

20 --00--

21 AIR RESOURCES ENGINEER PAK: As previously
22 mentioned, staff have established a base-year inventory of
23 TNC emissions. Presented here are some highlights of the
24 TNC activity extracted from trip record data. This TNC
25 data set from the 20 -- from 2018 included about 1.4

1 billion trip records. From the data, we learned that TNC
2 operations contributed 4.3 billion miles to the state in
3 2018, which amounts to about one and a quarter percent of
4 the State's light-duty vehicle miles.

5 Of the 4.3 billion miles, 38 percent of those
6 were without a passenger, known as deadhead miles.
7 Deadhead miles result from a driver cruising while waiting
8 for a ride request, and while en route to a rider after a
9 request was accepted.

10 Of the 62 percent of miles with passengers, about
11 a fifth were from pool-requested rides. A pool request
12 may not always get matched with multiple riders, if there
13 are no others near a route to join the trip. Therefore, a
14 pool-requested trip could still have just one passenger.
15 Additionally, pooling service is only offered in select
16 areas of the state based on demand.

17 We have observed significant growth of TNCs since
18 their inception and we expect to see continued growth of
19 TNCs in California and globally.

20 --00--

21 AIR RESOURCES ENGINEER PAK: Here, we show the
22 2018 base year greenhouse gas emissions from TNCs compared
23 to the California fleet. TNCs contributed 301 grams CO₂
24 per passenger mile traveled. In contrast, the California
25 fleet is at 203 grams CO₂ per passenger mile. A factor

that contributes to this difference is the deadheading miles in TNC operations shown on the previous slide as 38 percent of TNCs total miles.

Deadheading is assumed to be zero for the California fleet with most of the VMT being from personal vehicle travel. With respect to emissions per mile, the TNC fleet tends to have lower CO₂ emissions, 287 grams per mile compared to the 341 grams per mile for the California average.

The lower emissions of TNCs can be attributed to newer vehicles in the fleet and having a higher passenger car to light-duty truck mix.

To put into context, TNCs' contribution to the state's GHG emissions in the light-duty sector was one percent. Detailed analyses and assumptions used in determining the base-year emissions can be found in the staff white paper.

--○○○--

AIR RESOURCES ENGINEER PAK: Staff have identified a set of principles to guide the development of the Clean Miles Standard Regulation and to ensure that the program supports the fundamental goals of SB 1014.

The first of these guiding principles is to decrease greenhouse gas emissions and encourage TNC fleets to increase zero-emission options. The program should

1 promote pooling, active transport, and use of transit,
2 thus fostering strategies for reduction of VMT while
3 supporting passenger miles traveled.

4 Additionally, the program should prepare for a
5 mobility future that includes shared automated vehicles in
6 TNT fleets and other emerging modes of transportation.

7 --00--

8 AIR RESOURCES ENGINEER PAK: The work ahead
9 involves evaluating the appropriate stringencies of annual
10 GHG reduction targets. Staff have thought about ways in
11 which TNCs can comply with those targets and identify
12 three primary strategies.

13 The first strategy, which we believe may be the
14 most impactful in reducing greenhouse gas emissions for
15 TNCs is electrification. Increasing zero-emission miles
16 will be part of the annual requirements that TNCs will be
17 held to, per the direction of SB 10 14.

18 The second strategy is to increase pooling, in
19 other words, increasing the number of passengers per trip.

20 Third is reducing deadhead miles, or miles
21 traveled without a passenger in the vehicle. Reducing
22 deadhead miles can make an impact not only on reducing
23 greenhouse gas per passenger mile, but also on reducing
24 VMT and congestion.

25 CARB staff are currently evaluating the

1 feasibility of each strategy by developing tools to model
2 various scenarios and evaluate the associated costs.

3 --00--

4 AIR RESOURCES ENGINEER PAK: The Clean Miles
5 Standard will require increases in percent annual electric
6 vehicle miles traveled, which we refer to as eVMT. This
7 means putting more ZEVs in the hands of TNC Drivers. To
8 accelerate the conversion to EVs, TNC companies may remove
9 the capital cost barrier of purchasing an EV and provide
10 EVs and partner rental fleets. To date, there have been
11 several cities outside of California where EV rentals for
12 TNC driving were made available on a small to medium
13 scale.

14 However, even after overcoming the high capital
15 cost of switching to an EV, the current price of DC fast
16 charging is near the price of gasoline in some markets.
17 Subsidizing fast charging until it becomes more affordable
18 may encourage drivers to make the switch earlier. Staff
19 are cognizant of the fact that many drivers may not be
20 aware of the State, federal, and local incentive --
21 incentives available to EV purchasers. Improving access
22 to EV information and education may be a cost-effective
23 way to increase EV uptake by more consumers.

24 To determine an appropriate eVMT target, staff
25 are evaluating the challenges of increasing

electrification and ways to overcome those challenges.

—○○○—

AIR RESOURCES ENGINEER PAK: A second strategy to reduce greenhouse gas per passenger mile is to increase the passengers in the car. Pooling services are where drivers are matched with multiple riders along a similar route. A rider who requests a pooled service is given a discounted fare for opting to share their trip with other riders.

The Clean Miles Standard Program will encourage strategies, such as favorable pricing and picking up riders at a TNC hub, as well as expanding pooling services to areas that don't currently have it, such as the City of Sacramento.

There are, however, challenges to increasing demand for pooling as riders often cite reasons such as uncertain trip times and having to share a ride with a stranger as being deterrents. Though a lower priced fair is an incentive to pooling, the cost of a ride can only go down so low before it negatively impacts the driver.

Additionally, some literature points to a potential impact on other modes of transportation as the use of pooling increases. Nevertheless, getting passengers to share rides is important for GHG and VMT reduction benefits.

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AIR RESOURCES ENGINEER PAK: The third strategy for achieving lower GHGs per passenger mile is reducing deadhead miles. Methods that should be tested include prioritizing ride matches for drivers who choose to park and wait versus cruising around.

Additionally, TNCs have control over balancing supply versus demand by capping the number of drivers in an area and times when supply is high.

Current literature indicates that oversaturation of TNC drivers in a market inherently results in increased deadheading. One challenge of deadhead reduction is that places to park temporarily for free are very limited in urban areas. This is where agreements between TNCs and cities would be beneficial to both parties. Cities would benefit from reduced congestion and TNCs would reduce their GHGs per passenger mile emissions.

Another challenge is the uncertainty of whether or not parking and waiting would correlate with lower driver revenue due to lower ride -- lower ride-match rates.

Lastly, reducing the amount of drivers constantly cruising around may potentially result in longer average wait times for riders.

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1 AIR RESOURCES ENGINEER PAK: In addition to
2 promoting ZEVs and reducing VMT, we must ask how can we
3 use this regulation to promote a more efficient
4 transportation system overall?

5 To that end, we are considering the inclusion of
6 transit and active transportation miles, including
7 micro-mobility and walking facilitated by TNCs. These
8 miles can potentially be credited in the form of
9 zero-emission passenger miles traveled feeding directly
10 into the GHG per passenger mile compliance metric or as
11 GHG credits that lower their annual emissions.

12 CARB staff have conducted numerous interviews
13 with local transit agencies, MPOs, and private sector
14 partners to seek information and data on current and past
15 transit pilot programs. Partnerships between TNCs and
16 transit are being tested in many areas across the state,
17 often to address the first- and last-mile connections.

18 CARB staff are actively seeking data from such
19 partnership to inform how to best incorporate these
20 passenger miles into the Clean Miles Standard to support
21 transportation system efficiency.

22 When it comes to active transportation, such as
23 shared e-bikes and e-scooters, their nascency and
24 occasional volatility in local markets means data is
25 currently limited.

1 Staff are evaluating how to best incorporate
2 active transportation and will continue to monitor its
3 developments.

4 --00--

5 AIR RESOURCES ENGINEER PAK: Before we conclude,
6 we would like to share our process going forward. CARB
7 staff will hold public workshops in early 2020 to present
8 and receive feedback on the regulation design and
9 preliminary targets. We plan to complete all analyses and
10 develop a proposed regulation in the second quarter of
11 2020.

12 Staff will finalize a regulatory proposal by fall
13 2020 and present a regulatory package for the Board's
14 consideration in December 2020.

15 --00--

16 AIR RESOURCES ENGINEER PAK: Today, CARB staff is
17 bringing a proposed resolution to the Board that
18 encompasses the guiding principles for developing the
19 Clean Miles Standard Program and directs staff to design
20 the regulation to consistent with SB 1014. The new
21 regulation should support CARB's mission as well as adapt
22 to the new mobility landscape. The regulation should
23 encourage TNC fleets to provide clean mobility options,
24 including pooling, zero-emission vehicles, connections to
25 transit, and active transportation, all while reducing

1 VMT.

2 --00--

3 AIR RESOURCES ENGINEER PAK: CARB staff looks
4 forward to bringing you and our stakeholders a
5 first-of-its-kind proposed regulation for the Clean Miles
6 Standard later this year.

7 Now, we will introduce Mr. Cody Naylor,
8 Supervisor of CPUC's Transportation Analysis Section, who
9 will present CPUC's process for developing and
10 implementing the Clean Miles Standard Program.

11 (Thereupon an overhead presentation was
12 presented as follows.)

13 MR. NAYLOR: Good afternoon, Chair Nichols, Board
14 Members, staff, and members of the public. It is a
15 pleasure to address you today. This is my first time
16 appearing before you, but hopefully not my last. I love
17 your emphasis on transportation.

18 My name is Cody Naylor and I supervise the
19 Transportation Analysis Section of the California Public
20 Utilities Commission. My team advises the Commission on
21 the regulation of transportation, and we will be
22 supporting the Commission's work and implementation of the
23 Clean Miles Standard.

24 We are part of the Commission's Consumer
25 Protection and Enforcement Division that is led by

1 Director Doug Ito, a name that may be familiar to many of
2 you, as he was most recently a branch chief here.

3 Unfortunately, Doug could not be here today, but
4 he sends both his regards and his regrets. He really
5 wanted to be here. I think he misses you all.

6 (Laughter.)

7 MR. NAYLOR: My brief presentation today focuses
8 on two areas. First, the Commission's statutory roles
9 under SB 1014, the California Clean Miles Standard and
10 Incentive Program, and second, the general procedural
11 steps that the Commission would take to implement its
12 responsibilities under the Clean Miles Standard Program.

13 Next slide, please.

14 --00--

15 MR. NAYLOR: Under SB 1014, the Commission is
16 tasked to implement the greenhouse gas emission reduction
17 goals adopted by the Board next year. Through the
18 Commission's regulation of TNCs, we will need to address
19 matters, including how to verify, monitor, and enforce
20 compliance by the TNCs with respect to their plans on how
21 they will meet the Board's targets and goals for reducing
22 greenhouse gas emissions.

23 The statute further tasks the Commission broadly
24 to address the impact of the Clean Miles Standard Program
25 on low-income and moderate-income drivers, as well as to

1 ensure that it complements the sustainable land-use
2 objectives of SB 375 and that it supports the clean
3 mobility goals for low- and moderate-income individuals.

4 Furthermore, the statute tasks the Commission to
5 advance the goals of the Clean Miles Standard Program in
6 reviewing utility transportation electrification
7 applications. This work is primarily addressed by the
8 Commission's Energy Division, with which my team
9 collaborates, and we will ensure that this team and energy
10 also stays involved in the regulation design work that
11 CARB staff will be conducting throughout 2020.

12 Since the statute requires the Commission
13 implement the law by 2023, which is not far away at all,
14 my team will continue the staff-level coordination with
15 CARB that was initiated back in the fall of 2018 and that
16 continues to this day.

17 Throughout 2019, Commission staff was notably
18 involved in the collection of extensive data from TNCs
19 that was then shared with CARB for purposes of calculating
20 the emissions' baseline presented today. We also
21 participated in the many meetings, workshops, and
22 engagement with experts led by CARB staff throughout 2018
23 and 2019. I think we've gotten to know each other quite
24 well.

25 I want to take a moment just to express my

1 gratitude to the CARB staff working on the Clean Miles
2 Standard, of which there have been many for how easy this
3 interagency collaboration has been. I hope that CARB
4 staff would agree that we are building on a solid
5 foundation of working together.

6 My team will continue to work very closely with
7 CARB staff even more so in 2020 than in 2019 throughout
8 the regulation design phases, so that we are developing
9 our policy recommendations in parallel throughout the year
10 with the intention that when the time comes for the
11 Commission to initiate its formal rulemaking after the
12 Board adopts its reduction goals, our Commissioners will
13 have clear guidance from staff informed by our engagement
14 with CARB staff and by the Board's actions from the outset
15 of our formal rulemaking process.

16 And with that, I'd like to move on to discussing
17 the Commission's formal processes.

18 Next slide, please.

19 --o0o--

20 MR. NAYLOR: The Commission has numerous types of
21 proceedings. Implementation of the Clean Miles Standard,
22 what occurred through an Order Instituting Rulemaking, or
23 OIR, by the Commission. Our Commission, which has five
24 Commissioners, each of whom was appointed by the Governor
25 and confirmed by the State Senate, has to vote to open a

1 formal rulemaking. Comments are then solicited on the
2 rulemaking, particularly on the issues proposed to be
3 captured within the scope of the proceeding.

4 Entities that participate in our formal process
5 are referred to as "parties". After the OIR is issued,
6 one of our Commissioners is assigned by the Commission
7 President to oversee the proceeding, and an administrative
8 law judge is also assigned to manage the rulemaking
9 process and the development of the written record.

10 My team advises these decision makers at the
11 Commission and further engage with stakeholders and the
12 public to inform the Commission's decision-making process.

13 After a Commissioner and an ALJ are assigned, a
14 public meeting called a prehearing conference is held to
15 enable interested stakeholders become formal parties to
16 the proceeding and to discuss the schedule and scope of
17 the proceeding, including the need for hearings. The
18 assigned Commissioner then issues a scoping memo that
19 identifies the schedule for the proceeding and the set of
20 issues that will be addressed in the rulemaking, after
21 which written comments are invited from parties on the
22 scoping memo.

23 After that memo is issued, the focus then turns
24 to the construction of the written record of Commission
25 uses as the basis for its decisions. This is the core of

1 the Commission's formal public process. Commission staff
2 regularly engage with the public and with parties in
3 numerous forums, including meetings, working groups, and
4 public workshops. Then, based on the written record, a
5 proposed decision is issued for a minimum of 30 days of
6 public review before the Commission can vote on the item,
7 after which time the proposed decision may be adopted.

8 Next slide, please.

9 --00--

10 MR. NAYLOR: And the concludes my presentation
11 today. Thank you again for the opportunity to address
12 you. We look forward to continuing our work with CARB on
13 joint implementation of this important program and I'm
14 happy to receive any comments or answer any questions that
15 I can at this time.

16 Thank you.

17 CHAIR NICHOLS: Thank you. I hope you'll stay
18 with us then for the rest of this meeting. I suspect
19 we'll have some questions at the end or comments.

20 BOARD MEMBER SPERLING: Chair -- Chair Nichols, I
21 have a question about pro --

22 CHAIR NICHOLS: Yes.

23 BOARD MEMBER SPERLING: I have a question about
24 process.

25 CHAIR NICHOLS: Go ahead, yes.

1 BOARD MEMBER SPERLING: So what I don't
2 understand. There were some words you used about how
3 these two are going to be coordinated, because, you know,
4 we're going to vote on one thing -- we're going to vote on
5 the -- basically, one part of it. But the PUC is going to
6 be setting the targets, as I understand, the specific
7 targets. And there's going to be the enforcement that
8 goes along with it.

9 And when we've -- at least when I look at that,
10 I'm going to have to -- when I vote on it, I want to know
11 exactly what the targets are that I'm voting on and I want
12 to know how the enforcement is going to take place,
13 because we have some interesting innovations being
14 designed in this. And it's unclear how that
15 enforcement -- how effective it would be and how it would
16 be done.

17 So the question is how are these two coming
18 together and just looking at it parochially from me voting
19 on it, for instance.

20 MR. NAYLOR: Well, to clarify under the statute,
21 the adoption of the reduction targets and goals will
22 actually be CARB's decision. What the Commission will do
23 in its implementation action will be dealing with
24 compliance monitoring and then ultimately enforcement.

25 But the planned approach is that within our

1 formal rule-making process, we will incorporate the
2 decisions that CARB has made into the evidentiary record,
3 so that the Commission can then make its separate
4 decisions about how compliance, verification, monitoring,
5 and then ultimately enforcement will occur.

6 So there is that separation in the enforcement
7 actions, given the Commission's regulation of the TNCs.

8 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:

9 You want further clarification on that?

10 BOARD MEMBER SPERLING: Well, okay, just my
11 understanding then is CARB is designing it, CARB is
12 setting the targets, and PUC is figuring out how to
13 enforce it, is that right?

14 MR. NAYLOR: Correct.

15 BOARD MEMBER SPERLING: Okay.

16 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:

17 That's correct.

18 MR. NAYLOR: And the work that my staff will be
19 doing as the CARB staff developed the regulations
20 throughout 2020 is to really prioritize what enforcement
21 mechanisms they feel may be necessary for the Commission
22 to consider in its adoption of its regulations.

23 BOARD MEMBER SPERLING: Okay. Thank you.

24 MR. NAYLOR: Thank you.

25 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:

1 Yeah. And just to add to that, you can expect
2 when we come back to the full Board later this year, that
3 the regulatory proposal will look quite similar to other
4 regulatory items that we typically do. So it will be a
5 regulation. You'll have required emissions per passenger
6 mile traveled. It's called targets in the statute, but we
7 are taking that as a regulation. Those will be
8 requirements annually. So we will establish those for
9 your consideration. And then as Mr. Naylor mentioned,
10 they would have their proceedings, develop enforcement,
11 and the compliance mechanisms.

12 BOARD MEMBER SPERLING: So just one last
13 question. So part of how we design it is going to depend
14 on how we think it could be enforced. When you talk
15 about, you know, transit access and pooling, it's not
16 obvious how you enforce that. And so, I mean, I think we
17 need to have some sense of -- we need to understand what
18 those enforcement and compliance strategies are and how
19 effective they're likely to be.

20 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:
21 Yes. We will be working very closely, as Cody
22 mentioned, with the PUC throughout the year. Part of --
23 part of our consideration, as you're describing, is how
24 enforceable it will be. So that will affect both the kind
25 of flexibilities and credits we put into the program, the

1 data requirements that we would require. So we would
2 define all that.

3 But as we make those decisions, we do have to
4 have some consideration whether we think it's enforceable
5 and implementable. So that's absolutely correct.

6 BOARD MEMBER SPERLING: Thank you.

7 CHAIR NICHOLS: Okay. I think we'll have more
8 conversation about this as time goes on. But, yes, go
9 ahead, Judy.

10 BOARD MEMBER MITCHELL: So I'm kind of trying to
11 wrap my head around this whole idea, because it seems to
12 me the way it's designed is a reduction in the CO2
13 emissions, probably annually a certain percentage comes
14 down. But the fleets themselves are pretty fluid. I
15 would guess you've got drivers coming in and out of those
16 fleets and even the vehicles themselves changing rather
17 frequently.

18 Will we be doing some kind of emissions inventory
19 to determine what those emissions are and how often will
20 we have to be adjusting those?

21 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:

22 Yeah. When we establish our regulatory proposal
23 for your consideration, we will have in it requirements
24 for -- I believe we're going to require annual data
25 submissions. And that's not just for the PUC to be able

1 to implement, but it's also for ARB to be able to have
2 ongoing learnings on developing our inventory, seeing
3 where the trends are, and whether we need to revise the
4 regulation if future years.

5 CHAIR NICHOLS: This is not a workable
6 arrangement let me just say clearly. It's not. It was
7 not designed, frankly, with that in mind. I think it's
8 fair to say that, you know, the author did the best she
9 could, given what the situation was at the time, in terms
10 how to allocate responsibility. And this is with all due
11 respect to our friends at the PUC who have the direct
12 responsibility for regulating this industry. They -- the
13 ride-sharing companies, ride-hailing companies are under
14 their jurisdiction.

15 But the PUC is not a regulatory agency in this
16 way, and they're not an enforcement agency in the way that
17 we are. And melding these two types of programs together,
18 I, frankly, don't think is going to work. But I think
19 that the efforts that are being made by the staff with
20 good will, and energy, and the commissioners also, by the
21 way. I'm not -- not knocking the PUC at all is -- I think
22 are intended to move us in the right direction. So I
23 think, you know, everybody is going to try to make
24 something happen here that makes sense.

25 I'm mostly upset by how long this is going to

1 take to happen, period. I mean, the problem with the
2 vehicles that are out there riding around today with no
3 passengers in them is happening right now. And as far as
4 I can tell, it's years before we think we could get a
5 handle on this.

6 So I am hoping that we're going to find a way to
7 get some action taken on this. But in the meantime, I
8 think it's worth listening to the ideas that the staff
9 have come up with in terms of how you would do a Clean
10 Miles Standard, because that is something never been done
11 before. It's new, it's different, it's interesting, and
12 valuable.

13 And so I think we should proceed, you know, to --
14 as best we can to try to carry this out.

15 BOARD MEMBER SPERLING: Just to allay the Board's
16 concerns here, so I've followed this very carefully. I've
17 been very involved --

18 CHAIR NICHOLS: Yeah.

19 BOARD MEMBER SPERLING: -- in this idea and --
20 all the way. And I think the staff has done a -- I mean,
21 it's a brilliant, innovative, unique --

22 CHAIR NICHOLS: Um-hmm.

23 BOARD MEMBER SPERLING -- and hugely --
24 potentially hugely important in the long run.

25 CHAIR NICHOLS: Um-hmm.

1 BOARD MEMBER SPERLING: But I think the staff has
2 done a -- you know, a fantastic job in terms of getting
3 the data together, understanding it, being creative. So I
4 just want to, you know, set the stage as we go forward,
5 you know.

6 CHAIR NICHOLS: Okay. Right.

7 BOARD MEMBER SPERLING: There's been a really
8 good effort with really good work done.

9 CHAIR NICHOLS: Yes.

10 Yes, Phil.

11 BOARD MEMBER SERNA: Thank you, Chair. So on
12 this item as well, we had a very rich conversation during
13 our briefing yesterday. And I think this is one of the
14 most fascinating areas for CARB with our sister agency to
15 be considering. I understand and respect the comments
16 made by our Chair about the difficulty -- the inherent
17 difficulty of this.

18 But one of the things I'm going to be very
19 interested in hearing back about is kind of the internet
20 of things and how that affects where we go with this,
21 because, as we know, technology, when it comes to the
22 internet, happens very swiftly. And this has everything
23 to do with that angle. We talked, for instance, during
24 our briefing about whether or not to, you know, lower the
25 number of deadhead trips. Is there a new -- is there a

1 new protocol that could be applied using current or
2 anticipated GPS technology, so that you don't have folks
3 chasing rides around at great distances, and therefore
4 increasing VMT? Is there a way to, you know, monitor how
5 fast these vehicles are going, and therefore how
6 efficient -- fuel efficient they are when they're going to
7 pick up rides or when they're taking patrons to their
8 destination?

9 So I think there, necessarily just because of the
10 nature of the subject matter, has to be a somewhat rich
11 discussion, at some point, about how the, you know, the
12 fast -- the quickly-changing internet applicability here
13 is going to affect the opportunity to really achieve the
14 objectives that staff has articulated today.

15 CHAIR NICHOLS: Thank you.

16 Can we now move to the witnesses then, beginning
17 with the author's representative.

18 MS. ROBINSON: Good afternoon. I'm getting a
19 two-for-one deal on legislative oversight today. So thank
20 you again for allowing me to make some comments on behalf
21 of Senator Skinner. And again, thank you to the Board and
22 to the staff for implementation of Senator Skinner's bill
23 SB 1014. And particularly on this bill, I'd also like to
24 thank the stakeholders, both the transportation network
25 companies and the other clean air non-profits and third

1 parties who have been participating in the staff workshops
2 and sharing data. We're glad to see that that process was
3 relatively smooth with the Board and hope that all parties
4 will continue to work productively with the Board to
5 implement this -- this important bill.

6 So we know -- all of us know that emissions from
7 the transportation sector just continue to rise.

8 Unfortunately, we were making progress on this until
9 probably about 2016 and then now we're going back up in
10 emissions. And so from Senator Skinner's perspective, we
11 need every tool in the toolbox to tackle emissions from
12 the transportation sector.

13 And particularly, it will be more and more
14 important, as we are -- and continue to work in this new
15 technological revolution in transportation, to keep an eye
16 on these sectors that are changing dramatically and
17 quickly. And we have an opportunity here to either
18 influence those technological changes to dramatically
19 reduce emissions or the opposite. And so this was our
20 first attempt, through the Legislature, to try to get a
21 handle on these emissions. And I do think, you know, this
22 is just the beginning.

23 So CARB's findings that the emissions per
24 passenger mile for ride-sharing vehicles are over 50
25 percent higher than regular vehicles is very concerning.

1 And the trends that -- the trend conflicts with
2 California's air quality and climate protection goals.
3 And for these reasons, we hope that the Board will
4 continue to move forward with strong goals in reducing
5 emissions per passenger mile traveled from transportation
6 network companies and that the Board pushes toward a
7 future where eventually a hundred percent of rides shared
8 take place in zero-emission vehicles.

9 And we know there's a lot of work to still be
10 done, and the State, in some ways, shares that burden, in
11 helping ensure there's infrastructure and vehicle
12 incentives to purchase those.

13 But we look forward to continuing to work with
14 the Board on this.

15 Thank you.

16 CHAIR NICHOLS: Thank you.

17 MR. MAGAVERN: Hello, again. Bill Magavern with
18 the Coalition for Clean Air. And we strongly supported
19 this bill when it was in the Legislature. And Katerina
20 and Senator Skinner did a really skillful job of steering
21 it through the process and to being signed into law
22 actually during the climate summit on a hybrid ferry out
23 in San Francisco Bay. One of the more memorable --

24 CHAIR NICHOLS: I was there.

25 MR. MAGAVERN: Yes, I remember. Yeah.

1 So we really see this as a great opportunity to
2 reduce emissions from the transportation sector, as many
3 have said. And what I want to emphasize is the importance
4 of electrification. Obviously, we can use this to reduce
5 VMT, and also to get progress towards our ZEV goals. I
6 think the staff presentation was excellent and really
7 point out that electrification might be the best
8 opportunity.

9 We think that that could be reflected more
10 strongly in the resolution that's before you. And the
11 letter that we've sent, a number of groups have sent to
12 you, asks for a comprehensive evaluation of a hundred
13 percent electrification of the TNC fleet by 2030.

14 We think TNCs are really ripe for
15 electrification. They're on the road so much that the
16 fuel savings add up very quickly. In fact, the analysis
17 by ICCT found that operating cost per mile of electrified
18 TNCs could be similar to those of hybrids within the next
19 few years.

20 I also want to note our colleagues from NextGen
21 California couldn't be here today, but asked me to pass on
22 that they agree with the comments that we've made and
23 they've joined with the letter. And they also see that
24 there's great potential for near-term emission reductions
25 by setting an ambitious 2023 standard, because this sector

1 can achieve those emission reductions even more quickly
2 than the rest of the passenger car fleet.

3 Thank you.

4 CHAIR NICHOLS: I want to hold you up here for a
5 minute, just because you were -- were centrally involved
6 in all of this. How do you think this is actually going
7 to work? What's -- what's going to happen?

8 VICE CHAIR BERG: To the drivers.

9 CHAIR NICHOLS: To the drivers, the people who
10 are actually out there with these cars, their own cars?

11 VICE CHAIR BERG: And they're lower income.

12 MR. MAGAVERN: Right. I think that it would be a
13 mistake to assume that the business model of these
14 companies will be the same as it is now. And I don't know
15 what it's going to be, and we're about to hear from one of
16 the companies. But AB 5 has a big impact on that and this
17 I think will have an impact on it.

18 So, you know, it's -- I don't think it's going to
19 be a static situation. I don't know what the answer, but
20 I do think that it's absolutely fair and ripe for us to
21 ask for this sector to do its part, because we've seen
22 what the impacts have been.

23 CHAIR NICHOLS: We should do the same thing for
24 taxis too then. It's the same deal. It's a bunch of
25 vehicles out there emitting stuff.

1 MR. MAGAVERN: No, I absolutely agree with that.
2 Right now, taxis, in some jurisdictions, are actually held
3 to a higher standard --

4 CHAIR NICHOLS: I know.

5 MR. MAGAVERN: -- than the ride-hailing
6 companies. I think we should absolutely level that
7 playing field.

8 CHAIR NICHOLS: Okay. Thank you.

9 Hi.

10 MR. HEYWORTH: Good afternoon. My name is Austin
11 Heyworth with Uber Technologies. I will strive to be as
12 brief as possible, but I do want to try to touch on many
13 of the themes that were brought up.

14 CHAIR NICHOLS: Thank you.

15 MR. HEYWORTH: So I will try to hustle through
16 this.

17 We're serious about our environmental impact.
18 Our eyes are open about these data as well. Our goal is
19 to reduce our emissions per passenger mile over time and
20 report on the progress as we go. And that includes beyond
21 the scope of this program we're working on with CARB and
22 the PUC. We'll begin reporting our sustainability in a
23 transparent way, in a way that serves all cities, and that
24 can be tracked, you know, over time. And I think we're
25 excited about doing that.

1 Over the next three decades, we see a tripling of
2 mobility demand and a need to drop emissions in the
3 transportation sector by 60 to 80 -- 60 to 80 percent at
4 2010 levels and that's never been done before. Though we
5 look forward to demonstrating a partnership with CARB that
6 ride sharing and platformability in general can be a
7 really useful tool in this effort, not just because it
8 could be measured very accurately with the smartphone data
9 as has been discussed before, but because it's a way to
10 harness demand and use this sort of demand for convenience
11 in a way that can push towards better outcomes.

12 Long way -- long-winded way of saying we support
13 the Clean Miles Standard and applaud both the work of CARB
14 staff and the author of really getting this right in a lot
15 of ways. And we look forward in collaborating and
16 providing all the necessary data to build out this program
17 as we go.

18 In particular, we applaud the use of carbon
19 intensity and the center piece of the policy. Carbon
20 intensity is an outcomes based performance-driven metric.
21 And as illustrated in the latest baseline report, there
22 are multiple paths for us to use to drive down our carbon
23 intensity over time, enabling more passenger mobility and
24 access. So it's not just about electrification and use of
25 EVs. It's not just about pooling. It's not just about

1 deadhead management. And it's not just about connectivity
2 to transit and micro-mobility options like the red bikes
3 you see outside, it's all of those things.

4 And the outcomes based metrics and policies
5 allows us to continue to innovate and find approaches that
6 work rather than prescribing, you know, what -- one
7 strategy about doing that. It's also worth noting, I
8 think as was mentioned a minute ago by staff, this is the
9 first of its kind in the entire world. We operate in over
10 65 countries today and this is the first sort of
11 regulatory structure like this that evaluates real world
12 transit data -- or travel data.

13 As the staff report noted, we remain a small
14 portion of VMT and light-duty emissions, but we're up to
15 the challenge, as an industry, of having this applied to
16 us first. But we will continue to urge CARB and the Board
17 to apply similar approaches to all modes of mobility.
18 Measuring VMT, and as a subset of that, passenger miles
19 traveled, of real-world mobility will be an incredible
20 tool for evaluating private car use, transit, taxi, you
21 name it of other ways of lowering carbon opportunities.

22 Also give our industry the opportunity -- it will
23 also give our industry the opportunity to benchmark
24 performance in a more apples-to-apple fashion. We believe
25 this is the right direction and we will continue to

1 support this here and in other markets. It's worth noting
2 that the state of Washington has an almost identical piece
3 of legislation moving currently, which we're supporting as
4 well. So this is being duplicated elsewhere and we're
5 happy to see that happening.

6 We're also continuing to invest in product
7 innovations that will improve these metrics.

8 Apologies. One moment here.

9 CHAIR NICHOLS: Why don't you finish --

10 MR. HEYWORTH: That includes a lot of things.
11 You know, the heavy focus today is on pooling concepts,
12 public and private EV partnerships, micro-mobility, as I
13 mentioned, we have a new transit product, and increasing
14 ways to manage deadheading, which was mentioned by, I
15 think, a Board member a minute ago, particularly in areas
16 like airports and where there's a concert venue, for
17 example. There's huge opportunities there.

18 To develop these new approaches, we also need
19 help. Public policy conducive on all these fronts. There
20 are not yet a lot of targeted incentives here as part of
21 this program. And I'd emphasize that this still requires
22 economically-driven decisions by a bunch of individual
23 actors that use our platform, both riders and drivers.

24 But we're bullish. Again, cutting ahead a little
25 here. Research out of UC Davis shows there's a lot of

1 promise of investing in all three factors that we're
2 investing in. Shared electrification, pooling, and
3 automation has a lot of promise on this front.

4 And a final point, carbon intensity is a shared
5 metric, driven by our actions as a platform, but also a
6 lot of decisions made up and down the transit station
7 value chain. So urban density matters, white zone space
8 at curbs really matters in affecting deadhead rates.
9 Consumer behavior impacts, you know, pooling. There's
10 cultural dynamics in place there as well.

11 The design of vehicles, you know, generally built
12 for drivers impacts the ability to do pooling as well.
13 And drivers affordable access to EVs continues to be a
14 challenge. We're transitioning folks in an EV, where
15 people are, you know, oftentimes using their own personal
16 vehicle they've purchased for other reasons has a lot of
17 headwinds that come with it.

18 And we can't internalize all those externalities.
19 But as I mentioned, we are optimistic that we can provide
20 a tool not just to measure this, but also to drive things
21 in the right direction.

22 Thank you.

23 CHAIR NICHOLS: Thank you. Just to be clear, and
24 I think building on Professor Sperling's comments, this is
25 an area that we are embarking on for the first time and

1 there are a lot of really exciting and interesting issues,
2 and a lot of really exciting and interesting research
3 that's already been done, and more to be done, I'm sure.
4 And we need to be able to collaborate with you and other
5 folks that are in this industry. I very much appreciate
6 your coming -- your coming and your comments. I think
7 they're really helpful, but I am anxious that we make some
8 progress quickly, and not study this for many more years,
9 while we wait around to try to figure out someway to
10 actually get a handle on the emissions.

11 MR. HEYWORTH: If I could just end with one
12 comment. Your concern about this taking years I think is
13 valid. A lot of these things that can actually be drivers
14 in the right direction don't take years. In some ways, we
15 actually need the help of policymakers to clear the road
16 on some of these areas and we're looking forward to
17 discussing that in more detail.

18 CHAIR NICHOLS: Thank you.

19 MR. HEYWORTH: Thank you.

20 BOARD MEMBER TAKVORIAN: So could I just -- can I
21 ask him a questions. I'm sorry.

22 CHAIR NICHOLS: Oh, sorry. Go ahead.

23 BOARD MEMBER TAKVORIAN: So what measures --
24 actions have you taken to increase the number of EVs that
25 your drivers use?

1 MR. HEYWORTH: Yeah, that's a good question.
2 There's been a lot of different pilot efforts all over the
3 world actually. In parts of Europe, we have a product
4 where you can order just an electric vehicle specifically.
5 In a place like San Francisco, that would create
6 challenges with even more deadheading while certain
7 vehicles are traveling around.

8 In Sacramento, we've had a partnership with SMUD
9 for the last year and a half where EV drivers, in a fully
10 battery electric vehicle, get a \$2 per trip incentive.
11 And that has driven be incrementality over time. We've
12 also -- have private partnerships with EV charging
13 providers, like EVgo. The biggest challenge that EV
14 drivers face is, unlike someone in a Prius that can stop
15 at the many gases stations, is charging in public and
16 charging fast in a way that's conducive to the way they
17 work.

18 So we've also worked on incentive programs in
19 those areas. So it's bit of a hodgepodge, but it's been
20 in a larger research effort to understand what makes it
21 easier. Right now, EV drivers have a little bit of an
22 economic disadvantage to the folks that are driving a
23 combustion engine.

24 CHAIR NICHOLS: Yes, Judy.

25 | BOARD MEMBER TAKVORIAN: Are you going to ask the

1 question I want to ask?

2 BOARD MEMBER MITCHELL: I don't know.

3 BOARD MEMBER TAKVORIAN: Go ahead.

4 BOARD MEMBER MITCHELL: The question I want to
5 ask is how many cars does Uber have operating in
6 California?

7 MR. HEYWORTH: So we don't own vehicles.

8 BOARD MEMBER MITCHELL: No, but you --

9 MR. HEYWORTH: Drivers, I think, as you mentioned
10 a moment ago, come on and off the platform.

11 BOARD MEMBER MITCHELL: Yeah.

12 MR. HEYWORTH: We define active drivers as
13 someone who's done four trips or more in the last month.
14 And there's a huge amount of variance there. But it's
15 around 150,000 drivers in California. But many of those
16 folks are doing as little as four trips a month. And so
17 it's largely folks doing this part time for additional
18 income.

19 So that -- it's hard to sort of answer it in
20 terms of just vehicles. At any point in time, that's
21 obviously very different than that number or in a given
22 day, for example.

23 BOARD MEMBER MITCHELL: And then what
24 measurements do you have in your own data files on the
25 miles that each of those drivers have driven for Uber?

1 MR. HEYWORTH: Well, those inputs are really what
2 went into the CARB report here. So we were able to
3 measure that pretty specifically when people are on the
4 app, not when they're off the app obviously. But the
5 amount of miles - I think it was reported in the staff
6 report - it is a large number.

7 It's also still a small proportion of, you know,
8 overall VMT on California roads. We certainly want to
9 drive up utilization. That's aligned with our business
10 interests, right, the busier drivers, the better it is for
11 everybody involved. But there is a level of granularity
12 that's I think would be surprising in most cases.

13 BOARD MEMBER MITCHELL: Thank you.

14 BOARD MEMBER TAKVORIAN: That wasn't it, but
15 that's okay. So do you have criteria for the types of
16 cars that your drivers use?

17 MR. HEYWORTH: We do. Yeah. I have to check.
18 Again, I don't want to misstate anything here. But there
19 is, I think, a ten-year period of time. So vehicles older
20 than ten years are not eligible on the platform. We also
21 do a vehicle inspection. So they look at a 19-point
22 factor to make sure the vehicle checks a lot of boxes.

23 While there's not criteria in terms of like fuel
24 efficiency, for example, you do see a skew towards a
25 cleaner type of vehicle type on our platform. It's,

1 again, people just making rational decisions that a more
2 fuel efficient vehicle is better for somebody who's, you
3 know, getting paid as they drive, right? You save money
4 the more you save in gas, for example, so -- but no hard
5 criteria in that regard.

6 BOARD MEMBER TAKVORIAN: Thank you.

7 CHAIR NICHOLS: Okay. Thanks.

8 Hi, Will.

9 MR. BARRETT: Hi. Good afternoon. Will Barrett
10 at the American Lung Association.

11 The Lung Association was also heavily involved in
12 the development of the legislation and really appreciated
13 all the work that went into that. And we're glad that it
14 was passed and move to this point.

15 We also think that the Clean Miles Standard is a
16 really important early task for the new division at ARB,
17 coming out of the gate with something that can both
18 support zero-emission vehicles and VMT reduction. We know
19 we won't hit our clean air and climate standards without
20 both pieces of the puzzle, the electrification and the VMT
21 reduction. Chair Nichols noted this is a two-fer and an
22 urgent one, as the TNC sector grows. So we are looking
23 forward to working with you on that.

24 We are deeply concerned with the findings in the
25 report that TNC miles -- passenger miles are about 50

1 percent more polluting than the average car trip in
2 California. So we think that really underscores the
3 urgency of moving forward. Also, the fact that these
4 trips tend to be in more heavily populated urban areas
5 points to the fact that the direction to zero emission in
6 this sector can really accelerate clean air and climate
7 benefits in a targeted way in these locations.

8 I wanted to note the SB 375 implementation
9 report, the SB 150 report from 2018, and that pointed out
10 kind of the stark choice around this sector, basically
11 saying that TNCs offer great promise that is still largely
12 untapped improving mobility or TNCs may be putting former
13 transit riders and cyclists back into automobiles
14 increasing congestion, risking increasing VMTs, and
15 leaving low-income people behind.

16 So a really clear fork in the road here and we're
17 glad that you're digging into this as earnestly as you
18 are.

19 As the Board moves forward, we would agree that
20 looking at ways that the direction can be to near-term
21 zero-emission vehicle targets, including a scenario for a
22 hundred percent zero-emission targets by 2030. We think
23 that's an important element of moving this process
24 forward. We also see the incredibly important role of
25 making sure as this sector grows that we are controlling

1 VMT and deadhead miles to really ensure that we're being
2 as efficient as possible as we transition to a sustainable
3 transportation sector for Californians.

4 In closing, just to elevate that point, in the SB
5 150 report, it was very clearly stated carefully crafted
6 policy will be needed to unsure TNCs help, rather than
7 undermine, State goals for climate, health, and the
8 environment.

9 Again, there's a really clear choice that we need
10 to make here as this sector grows, as the gap in pollution
11 levels from these types of vehicles grow -- is uncovered.
12 We think that there's a real opportunity here to make the
13 right choices to support zero-emission and support all of
14 the sustainability community health benefits that we know
15 are possible, if we move forward correctly.

16 So thank you very much.

17 CHAIR NICHOLS: Thank you.

18 MR. ANAIR: Hi. Good afternoon. Don Anair with
19 the Union of Concerned Scientists. I'm happy to provide
20 comments today on this topic. This is really a critical
21 issue that is going to be -- as I was saying earlier, this
22 decade of transportation solutions, this is going to be
23 part of -- part of our way to get to a low carbon
24 transportation system.

25 Ride-hailing is growing as a mode of transport.

1 The current companies certainly have plans to continue to
2 grow and we're also likely to see the introduction of
3 autonomous vehicles over the next decade as well, which
4 this regulatory regulation would have -- would impact as
5 well.

6 We are concerned about the data -- this is really
7 the first time where the data has been available to
8 evaluate the emissions from ride-hailing companies. And
9 they're showing a 50 percent increase compared to the
10 average car trip in California. When you look at the fact
11 that not every ride-hailing trip is displacing a car trip,
12 in fact, many of them are displaying transit and other
13 modes of transportation, that impact is likely
14 significantly more.

15 On the other hand, ride-hailing is providing
16 mobility options that were never really available before,
17 and they're convenient. I, today, used one myself to get
18 from a BART train to an Amtrak on time. So that's an
19 indication where that was enabling me to take a transit
20 drip.

21 So I think ride-hailing is and can be a part of a
22 low carbon transportation system in California, but we
23 need to make sure it's getting on track to low emissions
24 and electrification.

25 So we support, as others have commented, as part

1 of this rulemaking process to look at an ambitious target
2 to essentially getting to the equivalent of a hundred
3 percent electrification by 2030. We think this is the
4 venue to have that conversation. It's the venue where the
5 staff have data they can look at to some of these
6 questions you've raised about low-income drivers. What's
7 the percentage of travel happening by these vehicles? If
8 you electrify ten percent of them, can you get 30 percent
9 of the benefit, because they're traveling more?

10 And by evaluating that level of a target, we can
11 understand what are the costs and what are the potential
12 savings. We're actually looking at by 2030 these -- in
13 this application we can be seeing significant benefits.
14 It may require companies to subsidize drivers, so that
15 they can use an EV. How much is that going to cost? Is
16 it worth the cost? Are we getting significant benefits
17 from that?

18 So we really think it's critical that that
19 aggressive target be part of the evaluation of the
20 standard going forward, so we can have that dialogue and
21 really understand what it would take.

22 So with that, I would just say, you know, this
23 isn't the only policy that's going to get us on a
24 sustainable path. We clearly need policies that are going
25 to help support, along with incentives, local policies

1 that can help as well. That came up earlier in the
2 discussion around electric vehicle and zero-emission
3 vehicle policies.

4 But we think this is absolutely critical to get
5 this right and to be ambitious.

6 Thank you

7 CHAIR NICHOLS: Thank you.

8 Hi.

9 MS. GARCIA: Good afternoon. I'm Katherine
10 Garcia, policy advocate for Sierra Club California,
11 representing 500,000 members and supporters statewide.
12 Thank you to staff for their work on this regulation and
13 for their focus on reducing deadhead miles, increasing
14 pooling, and increasing electrification.

15 As transportation network companies contribute to
16 more of the transportation mix, California must ensure
17 that TNCs are driving clean miles on our roads and not
18 adding to the already health-threatening level of air
19 pollution.

20 To effectively comply with SB 1014, CARB should
21 address -- excuse me, CARB should assess a transition to
22 full electrification of TNCs by 2030 with bold benchmarks
23 starting in 2023. According to a study by UC Davis
24 Institute of Transportation studies researchers, the
25 environmental benefits for TNC electrification is enormous

1 due to the sheer volume of TNC rides in California.

2 Researchers found that the emissions benefits per
3 vehicle are approximately three times higher for EVs being
4 used by ride-hailing companies in California, compared to
5 regular EV usage.

6 TNCs are already looking at how to expand EV
7 deployment in certain markets. For example, Lyft just
8 launched the Express Drive rental program in Denver last
9 December, which added 200 EVs to their fleet. This
10 initiative has rapidly increased EV accessibility for Lyft
11 drivers in Denver. This program could be replicated in
12 cities in California, but the TNCs need encouragement, and
13 strong interim targets starting in 2023 could provide this
14 encouragement.

15 Given the urgent need to rapidly electrify the
16 transportation sector in California to meet air quality
17 and climate goals, it is critical that CARB put TNCs on
18 the road to full electrification.

19 Thank you.

20 CHAIR NICHOLS: Thank you.

21 That concludes the list of witnesses that we
22 have. Does staff want to add any additional comments at
23 this point?

24 MR. NAYLOR: Chair Nichols, I'm happy to just
25 make a final comment. First of all, thank you again for

1 allowing me the privilege of presenting before you today.

2 I think the Board members have identified some
3 real valid challenges to how the State will be able to
4 implement this new law. But on behalf of my team, we look
5 forward to rising to this challenge and working very
6 closely with CARB staff and with the Board to ensure that
7 we can coordinate our efforts effectively, and we are
8 really encouraged by the collaboration that's occurred to
9 date. And we look forward to a very productive 2020 and a
10 really strong set of rules that can make this as effective
11 of a program as possible.

12 Thank you.

13 CHAIR NICHOLS: Thank you. I appreciate that.

14 And I think I'm probably feeling a certain amount
15 of personal angst about all of this, because at least once
16 a week I take a Lyft car from my home in Los Angeles to
17 either Burbank or LAX. I have never had the same driver
18 twice and I've never been in a car that was a ZEV. And I
19 leave my own ZEV in my driveway when I do this, because I
20 don't like the hassle of trying to park and, you know,
21 take myself to the airport. So I'm feeling like I am
22 contributing to this problem. And I, therefore, am
23 anxious to try to get it fixed.

24 BOARD MEMBER SPERLING: Can I -- can I make you
25 feel better about that, Chair Nichols?

1 (Laughter.)

2 BOARD MEMBER SPERLING: The answer is that -- you
3 know, this whole idea of mobility service companies, TNCs,
4 is really -- in my experience, all my research, everything
5 I know is by far the best opportunity we have to reduce
6 VMT, to improve social equity and accessibility, there's
7 nothing even close --

8 CHAIR NICHOLS: Um-hmm.

9 BOARD MEMBER SPERLING: -- And -- to reduce
10 greenhouse gases and create truly sustainable
11 transportation.

12 The challenge -- so what -- you know, I look at
13 this as a little speed bump that you're -- you know,
14 you're addressing personally. And so the challenge for us
15 is how to get to this future. We want these future
16 vehicles to be electric and pooled --

17 CHAIR NICHOLS: Um-hmm.

18 BOARD MEMBER SPERLING: -- which happen to be the
19 title of a book I did recently.

20 (Laughter.)

21 CHAIR NICHOLS: Yes, I think I heard that.

22 BOARD MEMBER SPERLING: And -- but it -- you
23 know, seriously, that's -- and what we're here doing is
24 creating that, you know, first policy step to move in that
25 direction. And so what we want is more TNCs doing more

1 pooling with electric vehicles. And eventually, they're
2 going to be automated, and that's where the social equity
3 benefit comes in, because the costs will come down in a
4 way that allows a lot more people to get a lot better
5 transportation and a lot better accessibility.

6 You know, even taxis now, you know, something
7 like on average -- until recently, something like 35
8 percent of taxi rides were by low-income people. And the
9 problem is they don't have other good options. So what
10 you're describing and, you know, what Don Anair described
11 is we're increasing the mobility options. And it's not
12 just the TNCs, it's the bikes, and so I think -- so what
13 we're doing here is so important and we ought to -- you
14 know, we want to get it right and we want to do it fast,
15 as we said, but I think everything this -- and it's even
16 more important than that, because what we do here for
17 California is still a tiny change.

18 What we do here is if it's mod -- if it's picked
19 up by other states, other countries, we're going to have a
20 much bet -- bigger impact. And when eventually automation
21 comes along, then it's going to be a huge impact, and it's
22 going to bring all these benefits. And, you know, maybe
23 it won't play out in such a rosy way. But if it doesn't,
24 that's bad news for all of us, because there aren't any
25 other good options.

1 CHAIR NICHOLS: Right.

2 BOARD MEMBER SPERLING: And so that's why -- so
3 to respond to your concern and Vice Chair concern about
4 the drivers, is what's -- the way this is going to work is
5 the companies are going to adjust their incentives. So we
6 give them a performance standard, and they -- they need to
7 have drivers, and they need to meet performance the
8 standard. So they're going to change the incentives so
9 that, you know, there is a stronger benefit from having an
10 electric car. They're going to have to figure out exactly
11 how to do that.

12 We're not smart enough to be able to prescribe
13 everything. And that's -- you know, and they're going to
14 change the incentives. They're going to reduce deadhead
15 miles. So the only point I would have about the report --
16 the staff report, where I would take issue is where it
17 said that have more -- have TNC cars park. All -- that's
18 not the way it's going to happen. What is going to happen
19 is already happening is they're adapting their algorithms,
20 so that if a driver is doing something that we don't like,
21 like going to San Francis -- like some of my grad
22 students. They drive to San Francisco to get more revenue
23 there.

24 So now what they do in the algorithm say if
25 you're going to San Francisco, we'll find you a ride for

1 someone going there. So they're reducing the deadhead
2 miles already. And that's probably why they're not too
3 upset with what we're proposing.

4 So there's a lot -- they -- they're tremendously
5 creative companies, and we just need to direct them, you
6 know, toward pooling, toward electrification. And that's
7 why this pol -- you know, I know this is my little speech
8 here, but --

9 (Laughter.)

10 BOARD MEMBER SPERLING: -- but I've devoted my
11 last five years to this, so -- but it's this -- you know,
12 I think the staff proposal is exactly right and I strongly
13 support it.

14 CHAIR NICHOLS: Okay. Thank you. Sorry, I
15 was -- I was hung up on the line about how you had
16 students -- or grad students who were driving to San
17 Francisco to make a better income and wondering why it is
18 that their fellowships, or grants, or something --

19 (Laughter.)

20 BOARD MEMBER FLETCHER: Pay your grad students
21 better.

22 CHAIR NICHOLS: -- aren't paying for them to live
23 and get a graduate degree, rather than -- unless, of
24 course, they're doing research as -- this is part of their
25 research assignment?

1 BOARD MEMBER SPERLING: Actually, just
2 anecdotally, there was one graduate student, not mine,
3 that did his entire dissertation as an Uber driver --

4 CHAIR NICHOLS: Uh-huh,

5 BOARD MEMBER SPERLING: -- and he surveyed every
6 passenger. And he's actually one of the most important
7 research pieces behind this. So, yes, it can...

8 CHAIR NICHOLS: You know, I had a friend in law
9 school who made his living by going out to Vegas every
10 summer and playing poker. He was really good.

11 (Laughter.)

12 CHAIR NICHOLS: He was really good. I don't
13 know, that required more talent, I think. Maybe not.

14 Anyway. Okay. So I'm taking it that we're going
15 to move along with this resolution, but just expressing
16 our concerns.

17 Supervisor Fletcher.

18 BOARD MEMBER FLETCHER: Thank you.

19 No. I think I share some of the concerns about
20 the maybe clunky nature of this process with the PUC and
21 CARB. And I think to the point that was raised, the
22 effectiveness of any of this is really contingent upon the
23 enforceability of it and the incredible partners and
24 well-intentioned folks at PUC. But is that the best place
25 to have enforcement? That is where we have it and so we

1 have to try and figure out how we do it.

2 And then the speed at which we can move to put in
3 place these goals will accelerate the speed at which a
4 profit motivated industry will do things that may be not
5 be in the interest of profit, but have that. And so if we
6 have a long period of time to drag out, we could see a
7 longer period of time before we begin to see compliance.

8 And if there's not strict enforcement then we
9 could also see a long period of time before we see
10 meaningful compliance with what's happening. And so I
11 think we're right to be concerned there. It's also a
12 little concerning in terms of the delivery aspect. I
13 think we're all guilty of overutilization of delivery.
14 And that's kind of an interesting area too, when you look
15 at the role that these kind of play in delivery with that
16 not being a part of it.

17 And then I am certainly incredibly well aware and
18 well versed in the ongoing debate over the structure of
19 these entities. And I'm just reminded a little bit of the
20 UC Berkeley study that we talked about last month about
21 the extreme difference in compliance with CARB regulations
22 between trucking companies that are employees versus
23 trucking companies that are independent contractors.

24 And those that are employers had a much greater
25 compliance rate. And I think when you -- we are going to

1 have additional challenges when it comes to this -- when
2 you have entities who continue to say, well, they're not
3 our cars and they're not our drivers, they're a unique
4 relationship between them and their passenger in terms of
5 who ultimately bears responsibility for the compliance.
6 And it's not an insurmountable task. We regulate other
7 entities that are in similar things, but I think they're
8 things that we -- we just need to be aware of.

9 And then I'll -- I'll give an anecdotal example
10 of success we had in San Diego with our taxi fleets. We
11 came in through our airport, a partnership with our APCD,
12 along with the airport authority and we provided some
13 incentives. At the time, it was to get to hybrids, but we
14 also had pricing. The pick-up fee is exponentially less
15 if that taxi is a hybrid, or a electric, or a plug-in
16 electric, or a ZEV vehicle. It's significantly,
17 financially incentivized, both for the passenger who's
18 taking it and for the driver. And now, the overwhelming
19 majority of the taxis who come to our airport are not your
20 traditional gasoline engines.

21 And at the time that we did that, we have now
22 systematically undercut that entire industry by having
23 vehicles come in that have no incentives, and no
24 requirements, and no financial pricing. And so we are --
25 we are in large part setting back our progress we made in

1 one to replace the other.

2 And so it would be my hope that we could move
3 swiftly. And I think pricing is going to be a part of
4 this. I think it's going to have to be a mix of the
5 compliance and the incentives. I -- you know, I
6 appreciate that if you have an app and you can pick an
7 electric vehicle. But if a tiny fraction of the total are
8 electric vehicles, you're not going to wait for 95 minutes
9 to get the one electric vehicle, if that's the only
10 option.

11 And so merely adding that as an option, if you
12 don't have a systematic effort to increase the electric
13 fleet, is that market is just not going to be there. And
14 so I would hope we would be very aggressive along with
15 very thoughtful, and intentional, and enforcement. And
16 perhaps as we go through this, there may be a need for
17 some legislative tweaking to this to ensure that we can
18 get where we need to be.

19 CHAIR NICHOLS: Thank you.

20 Other comments?

21 Yes, Diane.

22 BOARD MEMBER TAKVORIAN: Thank you.

23 Yeah, I -- I want to support, I think, the -- I
24 want to support the overall resolution, but I'd like to
25 explore the suggestion that I think this group of

1 environmental organizations made, and see if we can't --
2 what I'm -- what I'm understanding and I think it's right
3 is can we evaluate a hundred percent ZEV by 2030 and put
4 that into the resolution as a marker, so that we can take
5 a look a it. It's not committing to that, but it's saying
6 let's look at that as a goal. So I wanted to get a
7 response to that from staff, and then I have another
8 comment.

9 STCD DIVISION CHIEF GRESS: Yeah, I mean, that is
10 something that we could explore. If you wanted to put it
11 in the resolution, it's something we would evaluate.

12 BOARD MEMBER TAKVORIAN: Okay. So I'd like to
13 ask that that get added to the resolution to evaluate the
14 potential -- the feasibility for a hundred percent ZEV
15 with the TNCs by 2030.

16 And so do I do that now or at the -- is that okay
17 or till we make the motion for the -- do I need to wait
18 till motion is being made and then add it then or can I
19 just --

20 CHAIR NICHOLS: Yeah, I think procedurally that's
21 probably the right way to do it.

22 BOARD MEMBER TAKVORIAN: Okay. So I would move
23 the resolution with the amendment that we also add an
24 evaluation of the feasibility of a hundred percent ZEV by
25 2030?

1 BOARD MEMBER EISENHUT: Second.

2 CHAIR NICHOLS: That's been seconded. Moved and
3 seconded.

4 BOARD MEMBER TAKVORIAN: Okay. Then the other --

5 CHAIR NICHOLS: Go ahead.

6 BOARD MEMBER TAKVORIAN: Just the other comment I
7 wanted to make was I feel like there's -- I would like to
8 make sure that as we're looking at incentives, because
9 that seems to be a major potential strategy, that we're
10 also -- I think there's systemic problems and Judy has
11 talked about some of those. But if we have folks that are
12 driving four times a month --

13 CHAIR NICHOLS: Um-hmm.

14 BOARD MEMBER TAKVORIAN: -- then I don't think
15 they are the ones that we would think about as being the
16 ones that could qualify for incentives. So I think
17 there's systemic infrastructure problems here with this --
18 the whole corporate model, frankly, and so I think those
19 have to be taken into consideration.

20 At the same time, I think there are low-income
21 drivers who couldn't afford a ZEV and for whom this could
22 be a good potential. So those might be conflicting
23 statements, but I'm hoping that we can get a little more
24 clarification and insight about that, because I think
25 there's some potential here. And we'd -- I'd like to see

1 that explored a little bit more.

2 CHAIR NICHOLS: It seems to me that's a design
3 issue, which has to be addressed, but would be part of
4 their thinking in doing that, yeah.

5 Okay.

6 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:

7 Yeah, would like staff response to that, is that
8 what you're looking for?

9 BOARD MEMBER TAKVORIAN: If you have it now,
10 that's great. I just thought as you're exploring the
11 design for the incentives, I just wanted to ask you to
12 take that consideration.

13 BOARD MEMBER SHERRIFFS: Overwhelming enthusiasm
14 will be accepted.

15 (Laughter.)

16 CHAIR NICHOLS: So just yes, we'll do it.

17 STCD ADVANCED CLEAN CARS BRANCH CHIEF CUNNINGHAM:
18 Yeah. Yeah, of course. Of course.

19 CHAIR NICHOLS: Okay. Great.

20 Yes, Dr. Sherriffs.

21 BOARD MEMBER SHERRIFFS: Once again, setting good
22 goals is really important. And I would like to add to the
23 two goals of -- that we think the future that we want is a
24 hundred percent zero emissions, parentheses electric,
25 pooled. And I don't know how to measure the pooled. But

1 thinking somewhere in this, just as we've said, well, what
2 if we say a hundred percent electric by 2030, what can we
3 say about pooling that may be more specific.

4 But the third item is connected to transit. And,
5 you know, I salute the staff, because once again as they
6 think about a problem, they think broadly. And the
7 context of this is how the policy -- part of it is how
8 this policy can support the other policies we're involved
9 in. So thank you for that third guiding principle in
10 terms of promoting pooling, active transport, and transit
11 usage, because indeed that is -- that is critical.

12 Thinking a little bit about, you know, 2023.
13 Well, I think the sense, the bar at 2023 coming into the
14 gait should be pretty high, because people have fair
15 warning this is the direction we're moving. And, you
16 know, it's not that people would have seven years to
17 achieve 100 percent electrification. But, you know, at
18 2023, we're already incentivized and at a significant
19 level of penetration, if you will, because 2023 seems like
20 actually pretty far off. Although, there's a lot of work
21 to do and I admire staff for accepting the challenge
22 enthusiastically and digging -- digging in.

23 You know, obviously from our standpoint,
24 enforceability, if the measure is just electrification,
25 that's a pretty easy measure.

1 And the other -- the comments that have been
2 made, you know, the TNCs, they are in the business of
3 data, and we should use that. Let them collect the data.
4 They're good at that. That helps drive their model. That
5 helps them be successful. And I don't think we
6 necessarily have to worry about collecting the data.
7 Although, we do have to, from an enforceability
8 standpoint, be able to verify what they're telling us.

9 But, you know, they live on data and we can use
10 that beneficially to the public and to the work that we
11 need to accomplish or we don't have to worry about doing
12 it again ourselves.

13 So thank you.

14 CHAIR NICHOLS: Any additional -- yes.

15 VICE CHAIR BERG: Yes, I have a comment.

16 CHAIR NICHOLS: Oh, I'm sorry. Ms. Berg first
17 and then Dr. Sperling.

18 VICE CHAIR BERG: So I really want to focus my
19 comments specifically on do no harm to the drivers out the
20 gate. And I have the same concerns, as Chair Nichols, on
21 everything else. I do think my fellow Board members have
22 run the gamut from being pretty concerned, very concerned
23 about this to optimistic, because there is optimism in the
24 room.

25 I really appreciated Mr. Naylor's highlighting

1 the fact that the senator did recognize that there is
2 going to be an impact on the lower income drivers. And --
3 and also, we have the off -- the opposite, that it's going
4 to -- as Dr. Sperling pointed out, that there is going to
5 be increased mobility.

6 So it does seem that we do have a tremendous
7 opportunity here. And maybe that opportunity is also
8 working interagency, because truly we are going to have to
9 get better at that, as we really want to tackle and get to
10 a hundred percent or carbon neutrality. So maybe that's
11 going to give us some real opportunity as well.

12 But I get back very concerned, as we're saying,
13 okay, now we're going to look into a hundred percent by
14 2030, so in ten years. Right now, it was surprising to me
15 a hundred and fifty thousand drivers and four trips or
16 more a month. This is really feeling like the truck and
17 bus, 50 percent of the drivers had one to three trucks.

18 And so we're going to change the model again.
19 We're going to affect people that have an instrument right
20 now to go out and make extra money where they wouldn't
21 have other jobs. This really, really concerns me.

22 And it also concerns me that I honestly believe
23 that in the regulation it has to be a hundred percent
24 incumbent on the TNC companies. So Lyft and Uber, because
25 those are the names we know - I think there's going to be

1 others involved in the regulation - have to be responsible
2 for the electric fleet. And if that -- I loved your
3 rental idea. You know, if it is full-time drivers, that
4 they can help subsidize and get into electric vehicles,
5 that's great. But we really, really do not want a
6 financial burden, because it looks like a shiny new thing
7 that they can somehow get into between our incentives and
8 somebody else, and all of sudden then they're not driving.
9 They can't afford the insurance. And you've got a lot of
10 people, and it is -- it's just -- we need to be careful
11 that we are promoting, in a very positive way, these
12 electric vehicles to a constituent, in my opinion, that
13 are challenged all the time.

14 I know in my electric experience, I've gone 12
15 weeks without a car, because I couldn't get the part for
16 12 weeks. So there -- there is issues. And I just hope
17 that we can be sensitive to -- I appreciate and agree with
18 Dr. Sperling that this is a performance standard. Both
19 Lyft and Uber really smart people. They -- they're going
20 to figure this out, but let's -- they're going to protect
21 their business model. And however all that works out, I
22 appreciate Supervisor Fletcher.

23 And I think also a comment was made we don't know
24 what this is going to look like. So let's just make sure
25 CARB thinks over the next few years that we are going to

1 protect those drivers.

2 Okay. Thanks.

3 CHAIR NICHOLS: Okay.

4 BOARD MEMBER SPERLING: I just wanted to make one
5 suggestion for a small change in the resolution -- a
6 proposed change in the resolution.

7 CHAIR NICHOLS: Yes.

8 BOARD MEMBER SPERLING: That the language be
9 not -- not an analysis of a hundred percent ZEVs, but an
10 analysis of the equivalent of a hundred percent ZEVs, you
11 know, following the spirit of this law and that it's a
12 performance standard. So if they can get it by a lot of
13 more pooling, or getting people to use a lot more transit,
14 then, you know, that would be the scenario we look at, you
15 know, just as a modification of that proposal.

16 CHAIR NICHOLS: Do you want to Accept that
17 revision to your suggestion or not?

18 BOARD MEMBER SHERRIFFS: I think the staff can
19 consider --

20 BOARD MEMBER TAKVORIAN: Yeah, I -- you know, it
21 would be -- that's good. They could consider. I'm just
22 not sure how you'd do that, because if they're taking
23 riders away from transit, which seems like what's
24 happening now --

25 CHAIR NICHOLS: Yes.

1 BOARD MEMBER TAKVORIAN: -- then I'm not sure how
2 you put it back. And maybe that's just my limited brain.
3 But if it could be in addition, could we also consider
4 that as to how they contribute to -- I don't see how you
5 get to zero if you're not driving a ZEV. So I guess I'm
6 having trouble with that.

7 BOARD MEMBER SPERLING: They'd just do a
8 benchmark. You'd just do a benchmark and you say, okay,
9 what's the equivalent emissions? And, of course, it's
10 zero emissions, and -- but you can get -- you know, you
11 can see how much that incremental change is.

12 Well, we've got a smart staff here. They'll
13 figure it out. That's, you know --

14 BOARD MEMBER TAKVORIAN: Can we just have that go
15 as a comment and ask staff to include that? I just don't
16 know where we start from a baseline, because it seems like
17 they've upped the baseline in terms of --

18 CHAIR NICHOLS: Let's -- let's stick with the
19 zero and interpret it, if need be, later on, if that's
20 okay.

21 All right. So we have a resolution in front of
22 us with additional language. And I think we're prepared
23 to call for a vote then.

24 All in favor please say aye?

25 (Ayes.)

1 (Board Member Florez not present.)

2 CHAIR NICHOLS: Opposed?

3 None.

4 Thank you very much, all.

5 And that's the final item on our agenda.

6 Is there any public comment -- general public
7 comment?

8 BOARD CLERK SAKAZAKI: (Shake head.)

9 CHAIR NICHOLS: There is not.

10 Okay. Then we are done.

11 Thank you very much.

12 (Thereupon the Air Resources Board meeting
13 adjourned at 1:30 p.m.)

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1 C E R T I F I C A T E O F R E P O R T E R

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3 Reporter of the State of California, do hereby certify:4 That I am a disinterested person herein; that the
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